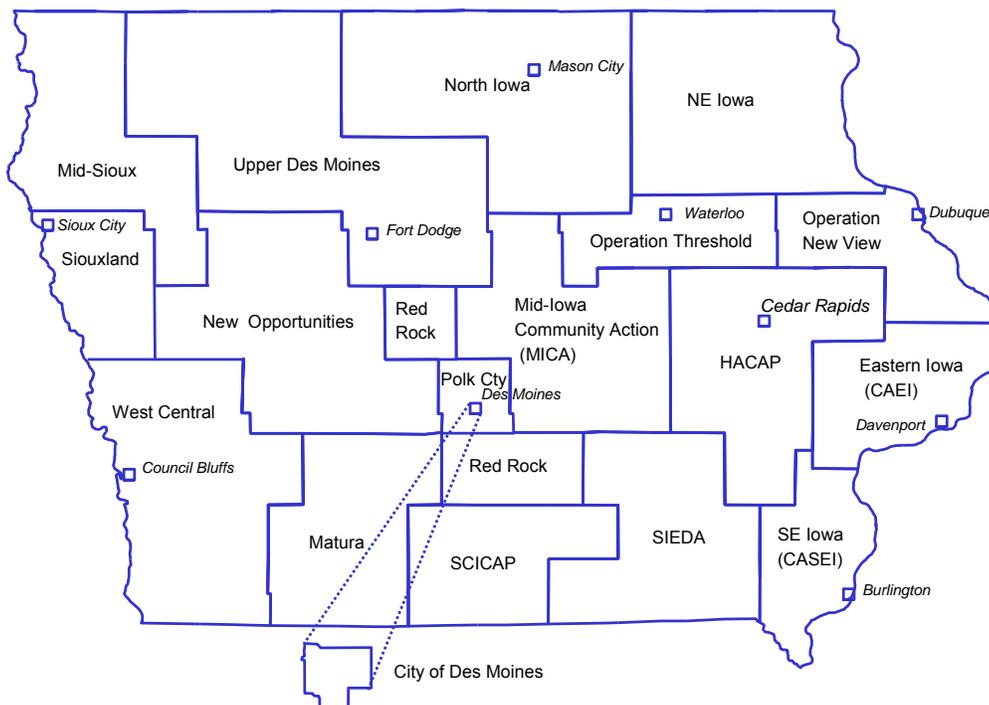


REPORT ON THE IMPACTS AND COSTS OF THE IOWA LOW-INCOME WEATHERIZATION PROGRAM -- Calendar Year 2014

Final

July 27, 2016

Iowa Local Weatherization Agencies



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Calendar Year 2014**

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

by

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EXECUTIVE SUMMARY

This report summarizes the state and utility low-income weatherization program activity for low-income dwellings weatherized to completion in Iowa during calendar year 2014 through the Iowa Weatherization Assistance Program. The report includes state, utility, and agency summaries of spending and impacts by measure, end-use, and fuel type. The base data consists of statewide program tracking databases of spending and measure installations maintained by the Iowa Division of Community Action Agencies. Fuel consumption histories were provided by the three co-funding utilities, including by Black Hills Energy, Interstate Power and Light Company, and MidAmerican Energy.

We estimated energy and coincident demand impacts for the program participants by using algorithms developed as part of the study of the calendar year 2007 program¹. The estimated impacts were adjusted using billing analysis of the program clients.

PROGRAM COSTS AND IMPACTS

The WAP program installed measures in 1,667 dwellings during calendar year (CY) 2014. Program spending totaled \$18,718,201 for materials, labor, and support in houses weatherized to completion during calendar year (CY) 2013. Spending was 6% more than in 2013. Federal and state funding accounted for 69% of overall expenditures

The average household expenditures for materials, labor, and support increased by 17% to \$11,233 from \$9,580 in 2013. The major measures installed by the program in 2014 are essentially unchanged from the 2013 program.

First-year savings totaled 371,200 therms; 1,260,600 kWh electricity; 42,800 gallons of propane; and 680 gallons of fuel oil. First-year peak demand savings totaled 3,890 therms, 300 kW summer demand, and 350 kW winter demand.

Average savings were 757 kWh of electricity for 1,666 dwellings with electricity impacts. The program saved an average of 265 therms of natural gas for 1,403 dwellings with gas impacts. In addition, the program delivered first-year savings of 280 gallons of propane in 153 dwellings with propane impacts, and 171 gallons of fuel oil in 4 dwellings with fuel oil impacts.

¹ Dalhoff Associates, LLC. Report on the Impacts and Costs of the Iowa Low-Income Weatherization Program – Calendar Year 2007, October 15, 2008.

First-year client energy cost savings totaled \$488,700, averaging \$293 for dwellings weatherized in the CY 2014 program.

Summary of Program Impacts and Costs

Overall Program Impacts

	Electricity (kWh and kW)			Natural Gas (therms)			Propane (gals)	Fuel Oil (gals)
	Overall	DCAA	Utility	Overall	DCAA	Utility	DCAA	DCAA
Energy	1,260,600	549,900	710,700	371,200	142,700	228,500	42,800	700
Summer Demand	300	120	170	NA	NA	NA	NA	NA
Winter Demand	350	170	180	3,890	1,480	2,410	NA	NA

Average Impacts¹ per Dwelling (for those receiving measures with a given fuel type)

	Electricity (kWh)			Natural Gas (therms)			Propane (gals)	Fuel Oil (gals)
	Overall	DCAA	Utility	Overall	DCAA	Utility	DCAA	DCAA
Energy	757	339	659	265	104	229	280	171
Summer Demand	0.179	0.077	0.161	NA	NA	NA	NA	NA
Winter Demand	0.208	0.102	0.168	2.8	1.1	2.4	NA	NA

Expenditures and First Year Client Fuel Bill Savings

Totals	Overall	DCAA	Utility	Averages	Overall	DCAA	Utility
Expenditures	\$18,718,200	\$12,831,700	\$5,886,500	Expenditures	\$11,230	\$7,700	\$4,600
Client Fuel Savings	\$488,700	\$239,100	\$249,600	Client Fuel Savings	\$293	\$143	\$195

¹ Average impacts are for dwellings that received the measures, and so the averages of the Utility and DCAA will not total to the statewide average

UTILITY EXPENDITURES AND IMPACTS

The three major investor-owned utilities that provide gas and electricity in Iowa, Alliant-IPL, MidAmerican Energy, and Black Hills Energy, contributed \$5,886,500, accounting for 31% of total program expenditures. The utility expenditures averaged \$4,600 for the 1,279 dwellings that received utility-funded measures.

Utility-funded measures accounted for 56% of all energy savings for electricity and 62% of gas savings. Utility-funded measures saved a total of 710,700 kWh, averaging of 660 kWh of electricity for the 1,079 dwellings with utility-funded electricity measures. Utility funded measures also saved a total of 228,500 therms, averaging 229 therms of natural gas for the 1,000 dwellings with utility-funded natural gas

measures. Utility-funded measures reduced peak electricity demand by 170 kW in the summer and 180 kW in the winter, and provided 2,410 peak-day therms of gas savings.

Utility-funded measures yielded first-year client bill savings of \$249,600, averaging \$195 per dwelling that received utility-funded efficiency measures. Electricity bill savings averaged \$68 per household for utility-funded electricity measures. Gas bill savings averaged \$177 for those with utility-funded gas measures.

FUEL CONSUMPTION ANALYSIS RESULTS

The natural gas savings reported herein were first estimated using the measure-specific revised algorithms developed for the CY 2007 program, and then adjusted based upon a billing analysis of the weatherization clients. The factors were applied to the estimated electricity, 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.

Natural gas savings for single family site-built dwellings averaged 267 therms \pm 15 at 90% confidence. This represents a 26.6% savings \pm 1.2% at 90% confidence for natural gas measures. Mobile home savings averaged 123 therms \pm 33 at 90% confidence, equating to a 15.2% savings \pm 3.5%.

Electricity savings were initially estimated using algorithms developed from savings of the 2005 and 2006 program. These estimates were adjusted based upon a billing analysis of electricity impacts of the 2012 and 2013 programs. The billing analysis for the CY 2014 program found that savings averaged 3,050 kWh \pm 908 for dwellings with electric main heat, and 664 kWh \pm 187 for dwellings heating without electric main heat.

CHANGES IN PROGRAM DELIVERY AND REPORTING

There were no significant changes in measures delivered for the CY 2014 program, as compared to the CY 2013 program.

Organization of the Report

Section 1, Summary of Program Impacts and Expenditures, provides the overall findings of the study, and relates these to prior year results. In addition, it provides broad summaries of impacts and costs for the agencies.

Section 2, Fuel Consumption Analysis and Assessment of Agency-Level Savings Adjustment Factors, details the methodology and results of the fuel consumption analysis. A standard comparison-adjusted pre/post weather-normalization methodology was used to assess impacts.

Section 3, Detailed Spending and Impact Profiles by Funding Entity provides detailed result tables for the overall program, state funding, and for each of the three funding utilities. These tables include counts of installations and totals and average energy savings, demand impacts, and program expenditures by measure.

Section 4, Detailed Spending and Impact Profiles by Agency provides tables similar to those in Section 4 for each weatherization agency, for all measures installed.

Section 5, Detailed Spending and Impact Profiles by Agency for Utility Expenditures provides similar detail by agency, but is limited to measures funded by the utilities.

Appendix A provides a characterization of households and dwellings weatherized during 2014.

1. SUMMARY OF PROGRAM IMPACTS AND EXPENDITURES

AGGREGATE PROGRAM EXPENDITURES AND IMPACTS

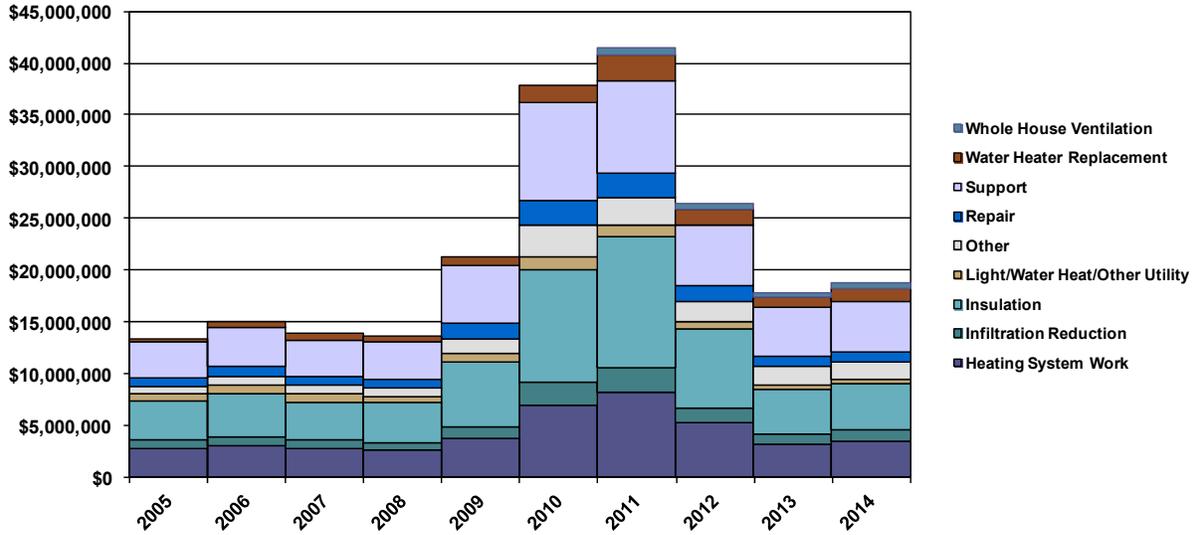


Figure 1.1a Overall Program Expenditures

Program spending totaled \$18,718,200 for materials, labor, and support in houses weatherized to completion during calendar year (CY) 2014, increasing by 5.6 percent from \$17,721,600 spent in 2013 (see Figure 1.1a, totals exclude administration expenditures). Spending is roughly 20% higher than pre-ARRA spending levels (pre-2009).

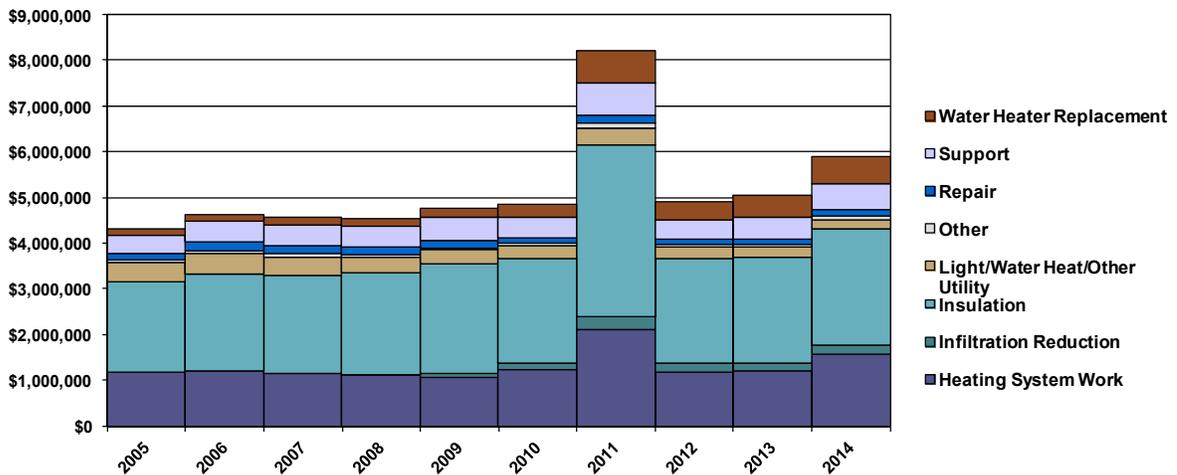


Figure 1.1b Utility Expenditures

A total of 1,667 dwellings were weatherized in 2014, compared to 1,850 in 2013. The utilities funded measures in 1,279 dwellings (77%).

The utilities spent \$5,886,492 in 2014, which was an increase in \$862,192 (17%). (Figure 1.1b). Utility expenditures accounted for 31% of the total low-income program expenditures.

First year natural gas savings totaled 371,190 therms for the program overall (Figure 1.2a) – utility funding was credited with 228,500 therms, or 62% of the total (Fig 1.2b).

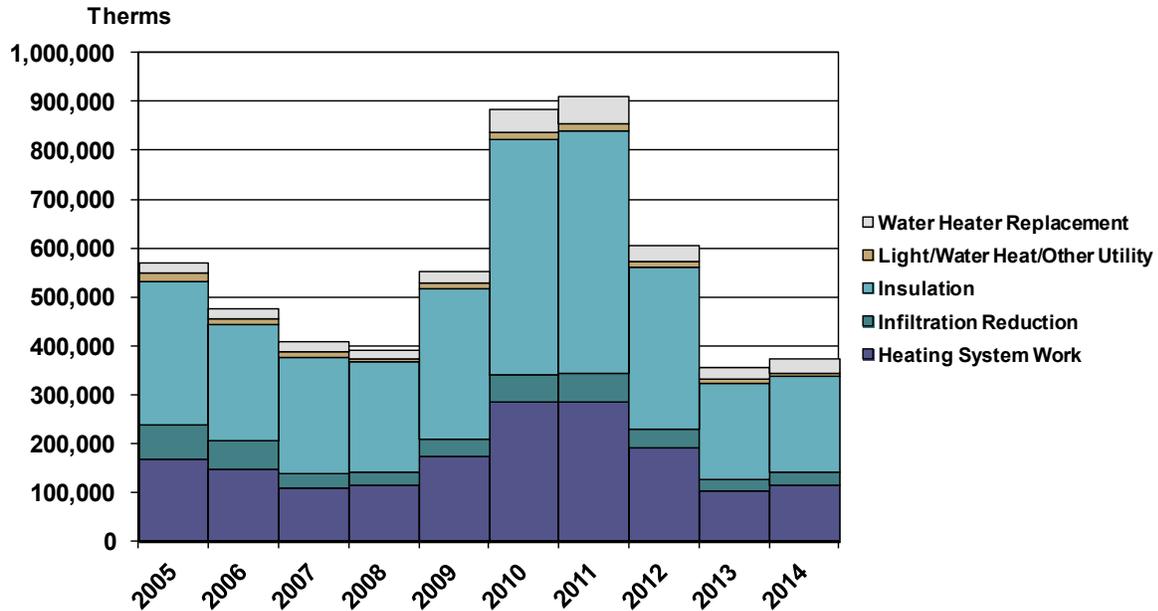


Figure 1.2a First Year Energy Savings (therms)

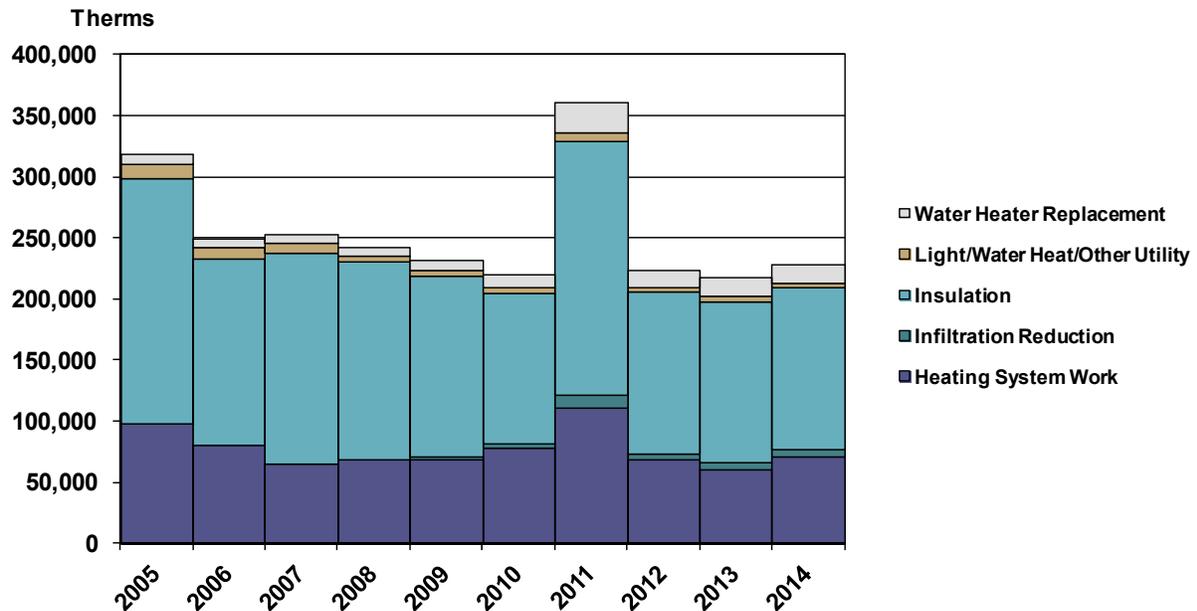


Figure 1.2b Utility First Year Energy Savings (therms)

Electricity savings totaled 1,260,563 kWh for the program overall (Figure 1.2c) – utility funding was credited with 710,704, or 56% of the total (Fig 1.2d).

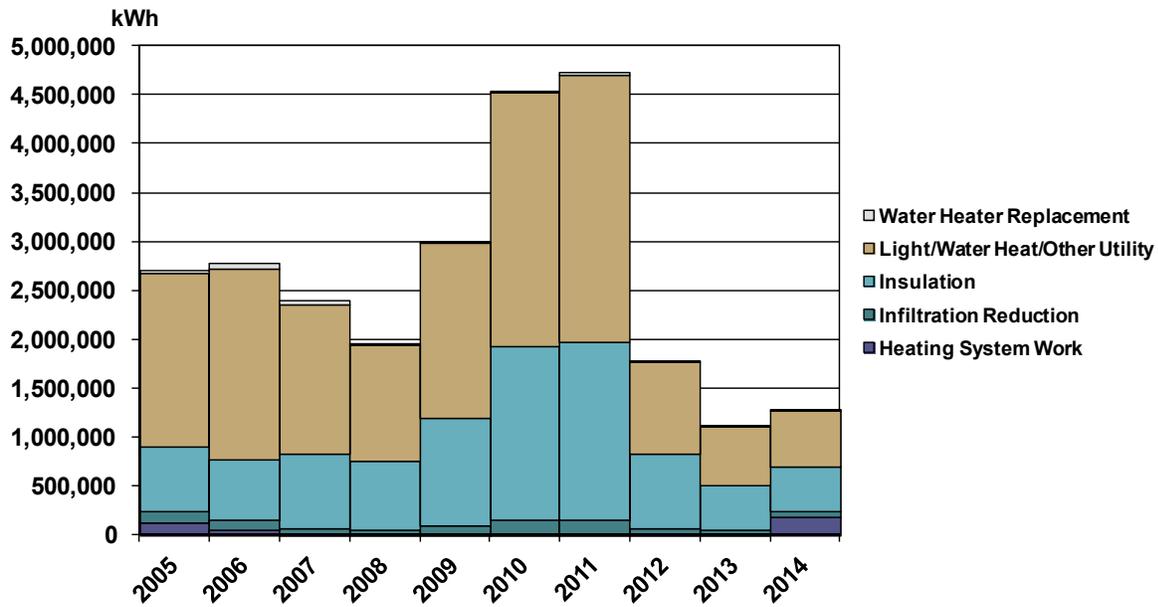


Figure 1.2c First Year Energy Savings (kWh)

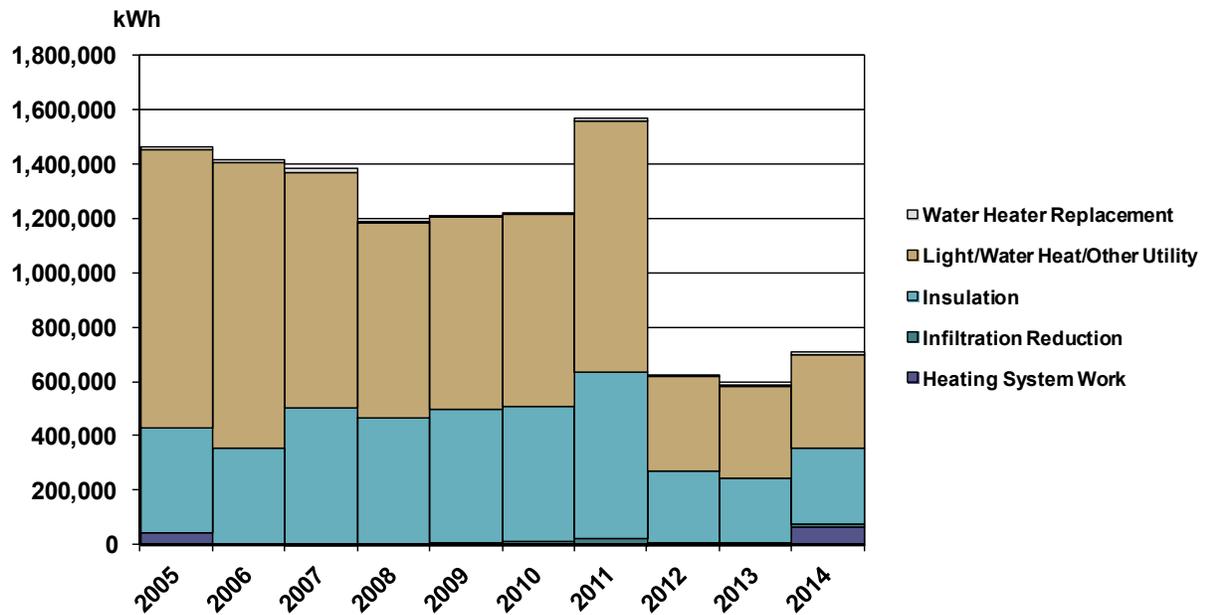


Figure 1.2d Utility First Year Energy Savings (kWh)

ENERGY SAVINGS BY END-USE AND FUEL TYPE

Heating system and shell measures savings accounted for 85.6% of the program savings on an MBtu basis, while domestic hot water measures accounted for 8.3%, refrigeration measures 1.4%, lighting 2.6%.

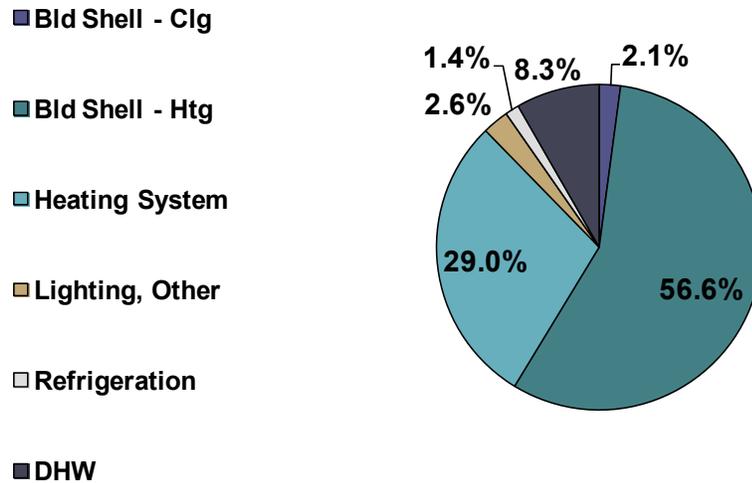


Figure 1.3a Program Energy Savings by End-Use

Natural gas savings accounted for 81.7% of savings on an MBtu basis, electricity savings accounted for 9.5% of savings, and propane savings accounted for 8.6%. First-year savings totaled 371,190 therms; 1,260,563 kWh electricity; 42,785 gallons of propane; and 684 gallons of fuel oil. First-year peak demand savings totaled 3,894 therms, 298 kW summer demand, and 346 kW winter demand.

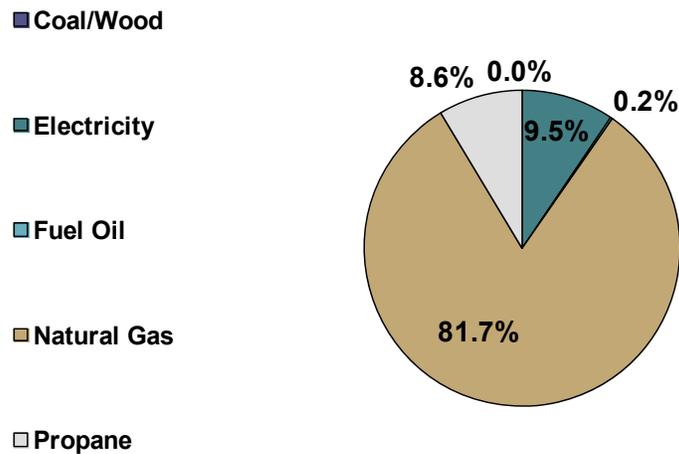


Figure 1.3b Program Energy Savings by Fuel Type

CLIENT BILL SAVINGS

Client fuel bill savings were estimated using Department of Energy’s Energy Information Agency (EIA) state monthly average prices for electricity and natural gas, and seasonal fuel costs for propane and fuel oil. The savings for each measure are allocated by month so that the estimated bill savings reflect the seasonal fluctuations in fuel prices.

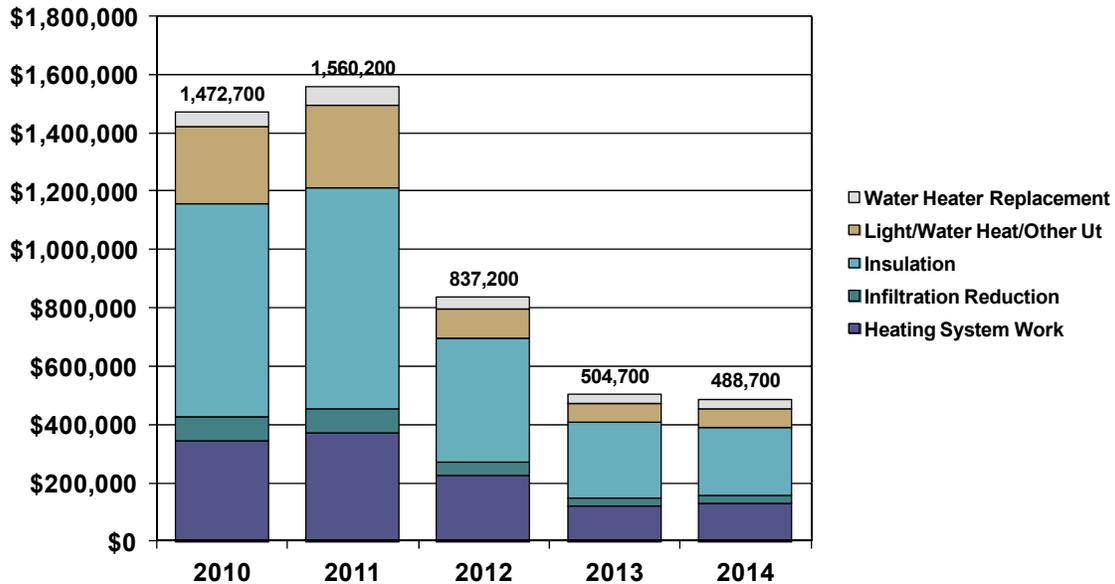


Figure 1.4a First Year Client Fuel Cost Savings (Nominal Dollars)

The nominal first year client energy bill savings totaled \$488,700 (Figure 1.4a).

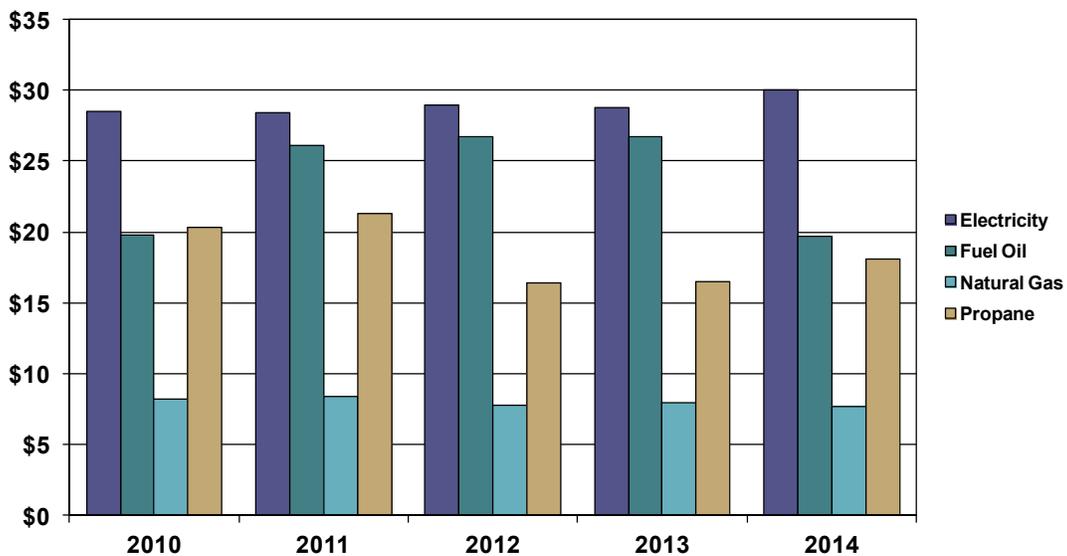


Figure 1.4b Average Fuel Cost per MBtu (Nominal Dollars)

Natural gas prices remained unchanged from CY 2013, while electricity prices increased by 3.5%, propane increased by 10%, and fuel decreased by 26% (Figure 1.4b).

CLIENT SAVINGS BY FUEL TYPE AND END-USE

Natural gas savings provided 59% of client bill savings, electricity accounted for 26%, propane accounted for 15%, and fuel oil provided less than 1% (Figure 1.5a).

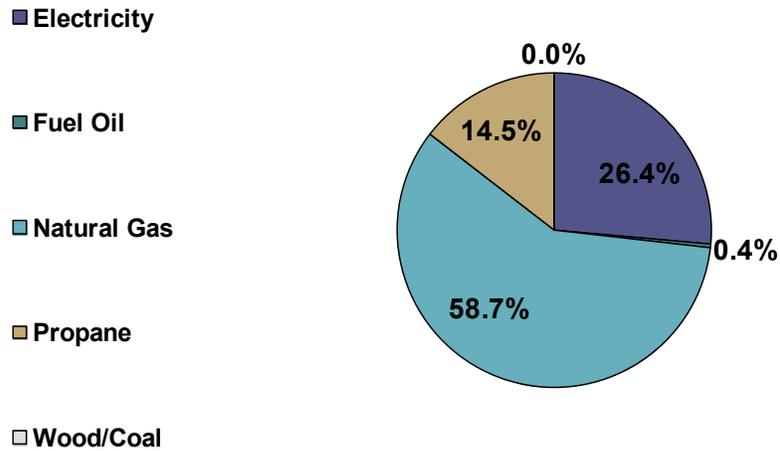


Figure 1.5a Client Bill Savings by Fuel Type

Approximately 50% of client bill savings are attributable to the heating impacts of shell measures (insulation and infiltration reduction), and 24% due to heating system work (Figure 1.5b). Taken together, heating impacts from shell improvements and heating system measures accounted for 74% of total client bill savings.

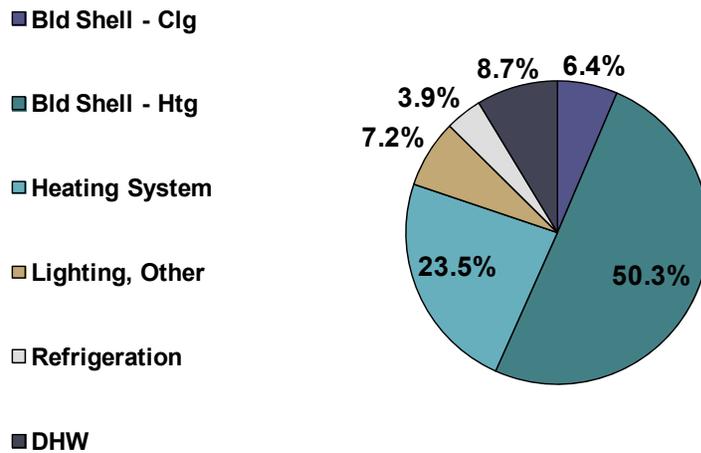


Figure 1.5b Client Bill Savings by End Use

UTILITY FUNDING IMPACTS

Utility funding reached a total of 1,279 households, or 77% of all dwellings weatherized by the program. Thirty-one of these received only program support or measures with minor savings for which we do not assess impacts, leaving 1,248 with energy savings (Table 1.1). Utility expenditures for labor and material totaled \$5,321,900; an additional \$564,600 was spent for program support. Materials and labor expenditures averaged \$4,161 across all dwellings receiving utility funded measures, and total expenditures including support averaged \$4,602.

Table 1.1 Utility Expenditures and Counts of Dwellings with Impacts

Utility	Total Expenditures		Counts of Dwellings With Energy Impacts					
	Excluding Program Support	With Program Support	Electric Impacts	Pct of Prg	Gas Impacts	Pct of Prg	Total	Pct of Prg
Alliant IPL	\$ 2,691,500	\$ 2,962,100	675	40.5%	424	30.2%	777	46.6%
Black Hills Corp	\$ 476,900	\$ 526,900			131	9.3%	131	7.9%
MidAmerican	\$ 2,153,500	\$ 2,397,500	402	24.1%	445	31.7%	526	31.6%
Total Utilities	\$ 5,321,900	\$ 5,886,500	1,079	64.8%	1,000	71.3%	1,248	74.9%

Note: expenditures exclude utility administration costs

Utility-funded measures accounted for 57% of all energy savings for electricity and 62% of gas savings. Utility-funded measures saved a total of 710,700 kWh, averaging of 659 kWh of electricity for the 1,079 dwellings with utility-funded electricity measures. Utility funded measures also saved a total of 228,500 therms, averaging 229 therms of natural gas for the 1,000 dwellings with utility-funded natural gas measures. Utility-funded measures reduced peak electricity demand by 170 kW in the summer and 181 kW in the winter, and provided 2,410 peak-day therms of gas savings.

Table 1.2 First Year Fuel and Client Bill Savings Impacts from Utility-Funded Measures

Utility	First Yr Fuel Savings		Summer Demand Savings		Winter Demand Savings		First Year Fuel Cost Savings	
	(kWh)	Pct of Prg	(kW)	Pct of Prg	(kW)	Pct of Prg		Pct of Prg
Alliant IPL	427,700	33.9%	100	33.8%	118	34.1%	\$ 43,800	34.0%
MidAmerican	282,700	22.4%	70	24.3%	63	18.2%	\$ 29,200	22.6%
Total Electric Utilities	710,700	56.4%	170	58.1%	181	52.3%	\$ 73,100	56.6%
Gas	Therms				Peak Day Therms			
Alliant IPL	107,500	29.0%			1,150	29.6%	\$ 82,600	28.8%
Black Hills Corp	21,700	5.8%			230	5.8%	\$ 16,800	5.8%
MidAmerican	99,300	26.8%			1,030	26.5%	\$ 77,100	26.9%
Total Gas Utilities	228,500	61.6%			2,410	61.9%	\$ 176,500	61.6%

Utility-funded measures yielded first-year client bill savings of \$249,585, averaging \$195 per dwelling that received utility-funded measures. Electricity bill savings averaged \$68 per household for utility-funded electricity measures. Gas bill savings averaged \$176 for those with utility-funded gas measures.

Figure 1.6 provides a average utility funding for labor and materials and percentages dwellings with utility funding for the past five years.

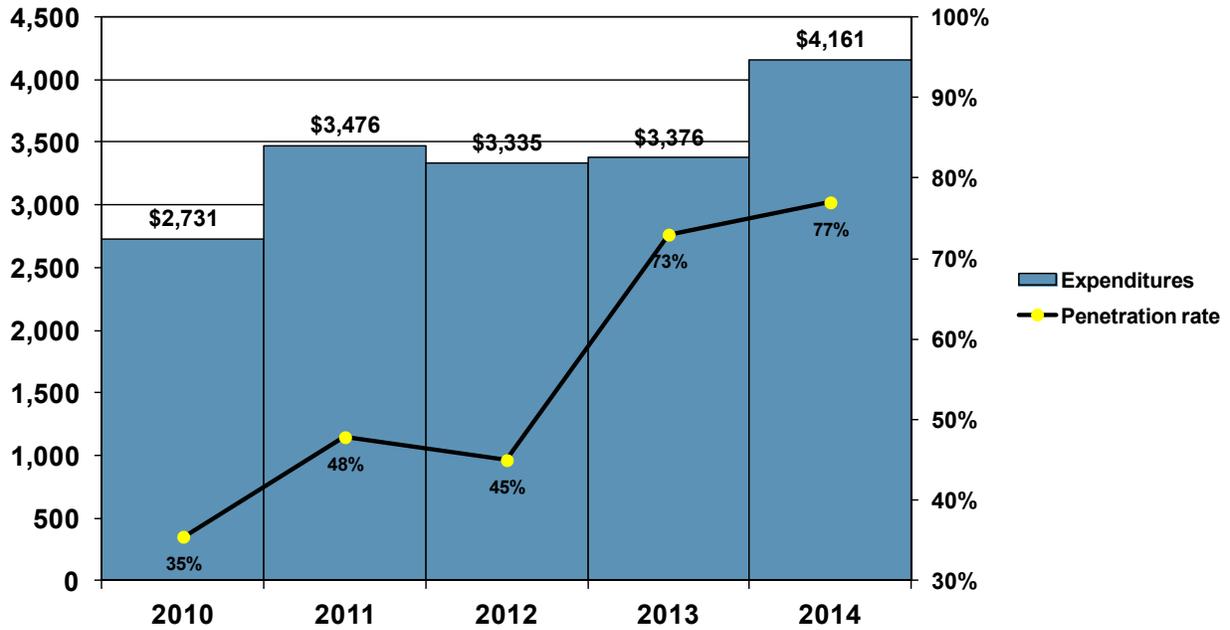


Figure 1.6 Average Utility Spending on Materials and Labor (excluding Support), and Percentage of Homes Receiving Utility-Funded Measures with Impacts

Table 1.3 provides the percentages of total expenditures for measures that were funded by the utilities.

Table 1.3 Utility Funding Percentages by Measure

Measure	Expenditures		Utility Percentage
	Total	Utility	
Wall Insulation	\$1,764,914	\$1,087,392	61.6%
Attic Insulation	\$1,576,550	\$954,388	60.5%
Kneewall Insulation	\$150,878	\$92,887	61.6%
Floor/Crawlspace Insulation	\$488,007	\$275,324	56.4%
Bandjoist Insulation	\$133,516	\$80,453	60.3%
Infiltration Reduction	\$1,041,087	\$198,737	19.1%
High Efficiency Htg Sys Repl.	\$2,795,513	\$1,470,876	52.6%
Electric Htg Sy/Ht Pump Repl.	\$151,131	\$53,951	35.7%
Pipe Wrap	\$15,878	\$8,533	53.7%
Faucet Aerator	\$3,265	\$1,896	58.1%
Shower Head	\$3,574	\$2,317	64.8%
Water Heater Replacement - Hi Eff	\$1,211,931	\$593,477	49.0%
Compact Fluorescent Lighting	\$86,381	\$51,885	60.1%
Exchange Refrigerator	\$216,058	\$120,300	55.7%
Exchange Freezer	\$34,252	\$17,230	50.3%
Repairs	\$971,976	\$129,832	13.4%
Programmable Thermostat	\$4,374	\$4,151	94.9%
Htg Sys Tune/Clean	\$120,073	\$28,612	23.8%
Htg Sys Ventilation	\$95,904	\$14,006	14.6%
Water Heater Ventilation	\$117,946	\$77,480	65.7%
Other	\$2,870,959	\$58,191	2.0%
Overall Excluding Support	\$13,854,166	\$5,321,920	38.4%
Support	\$4,864,035	\$564,572	11.6%
Overall Including Support	\$18,718,201	\$5,886,492	31.4%

AVERAGE EXPENDITURES AND IMPACTS

The nominal average household expenditures for all dwellings weatherized in 2014 increased by 17% to \$11,230 (Figure 1.7). Support accounted for the largest portion of expenditures (26%), followed by insulation (25%) and heating system work (19%).

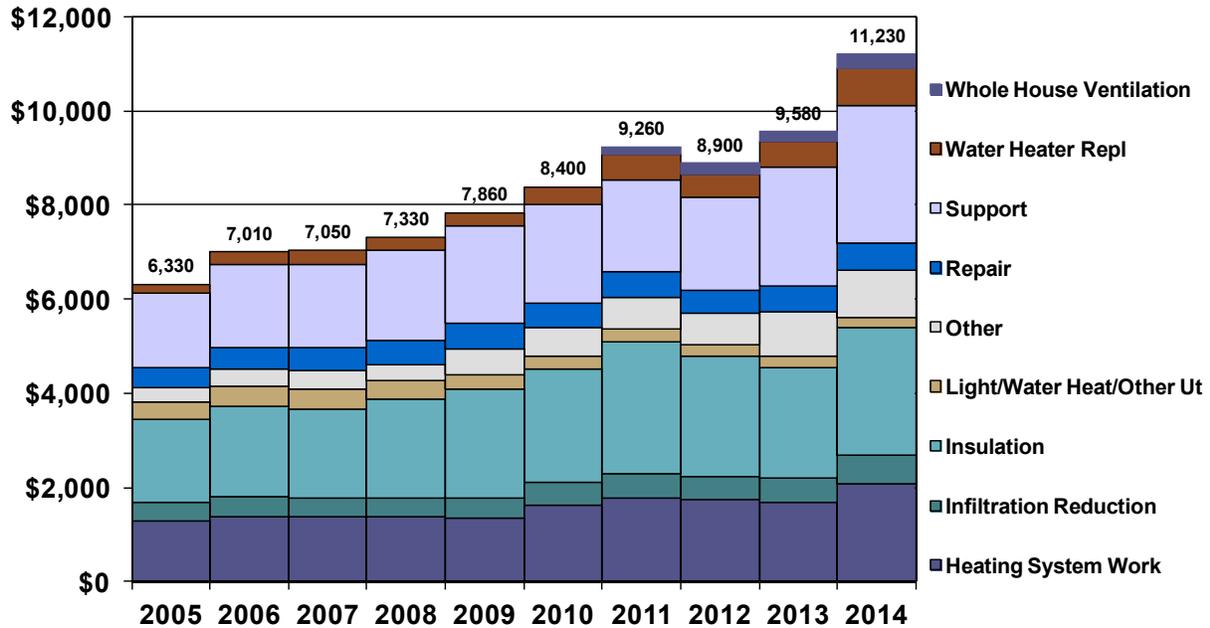


Figure 1.7 Average Program Expenditures per Housing Unit

The average savings per dwelling was 27.3 MBtu for clients weatherized during 2014 (Figure 1.8).

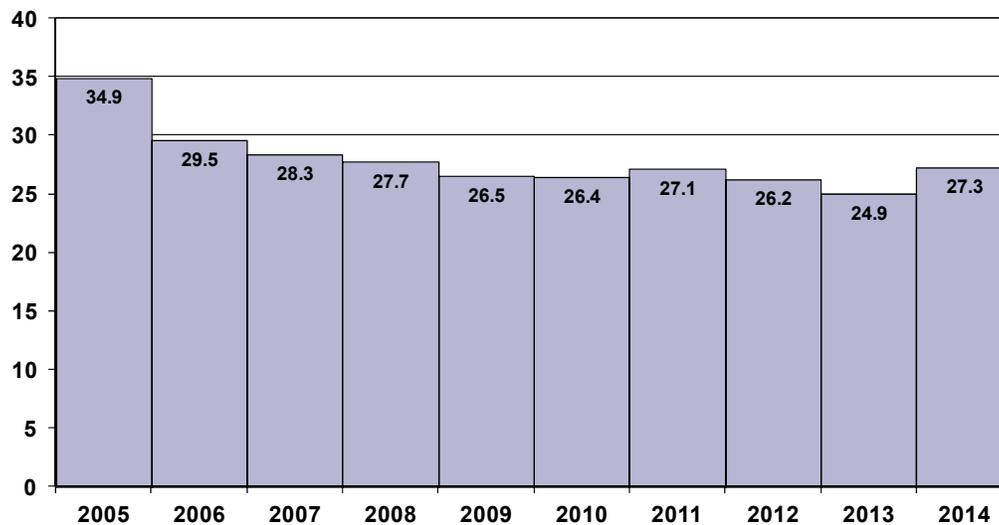


Figure 1.8 Average Energy Savings per Housing Unit (MBtu)

First-year client fuel bill savings averaged \$293 for the CY 2014 program (Figure 1.9).

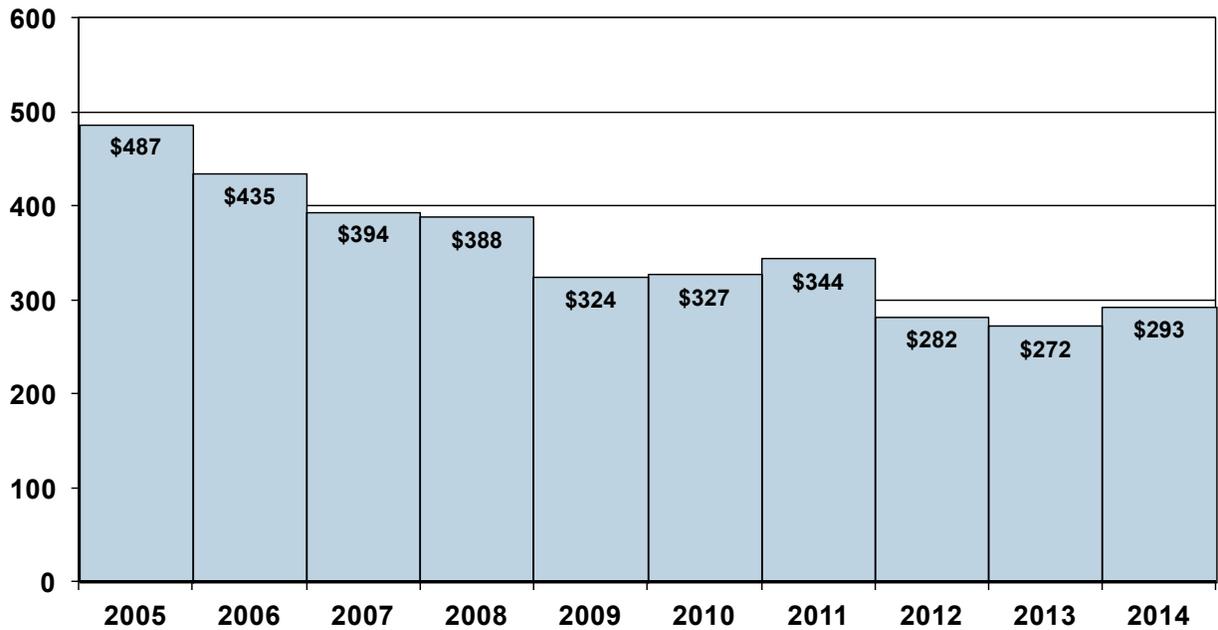


Figure 1.9 Average Annual Client Fuel Bill Savings per Housing Unit

EXPENDITURES AND SAVINGS BY AGENCY

Figure 1.10 shows the average annual energy cost savings by agency. The series are arranged from left to right in the chart according to left to right and top to bottom and in the legend, e.g., Bldg Shell Cooling, then Bldg Shell Heating, then Heating system, etc.

Savings attained by each agency were adjusted according to results of the natural gas and electricity fuel consumption analyses, detailed in Section 2 of this report. The estimated impacts for propane and fuel oil were adjusted using the same factors as those used for natural gas.

Bear in mind that various factors affect the values shown in this chart, factors beyond quality or intensity of weatherization treatment (an example is climate variations within the state). 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 statewide average client bill savings was \$293 per dwelling. The wide variation in average client cost savings is typical of what we've observed in past years. The average first-year client bill savings widely varied across agencies, from lows of \$184 per dwelling for NE Iowa to a high of \$477 for SE Iowa.

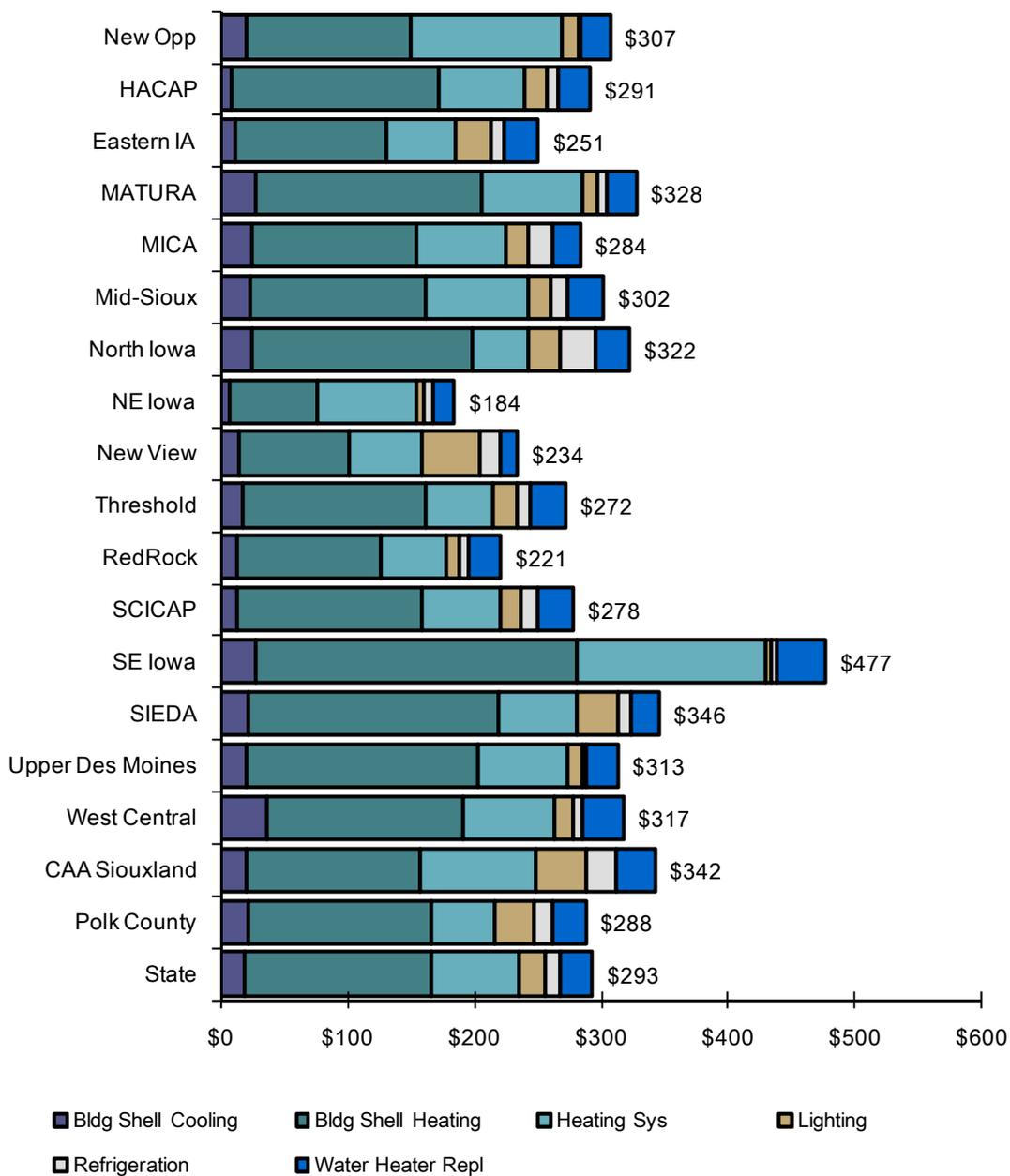


Figure 1.10 Average Annual Fuel Bill Savings per Housing Unit by Agency

Figure 1.11 shows the average expenditures for all households with impacts in 2014, ranging from a low of \$6,730 for NE Iowa to \$15,090 for RedRock. The statewide average expenditure was \$11,230 per dwelling.

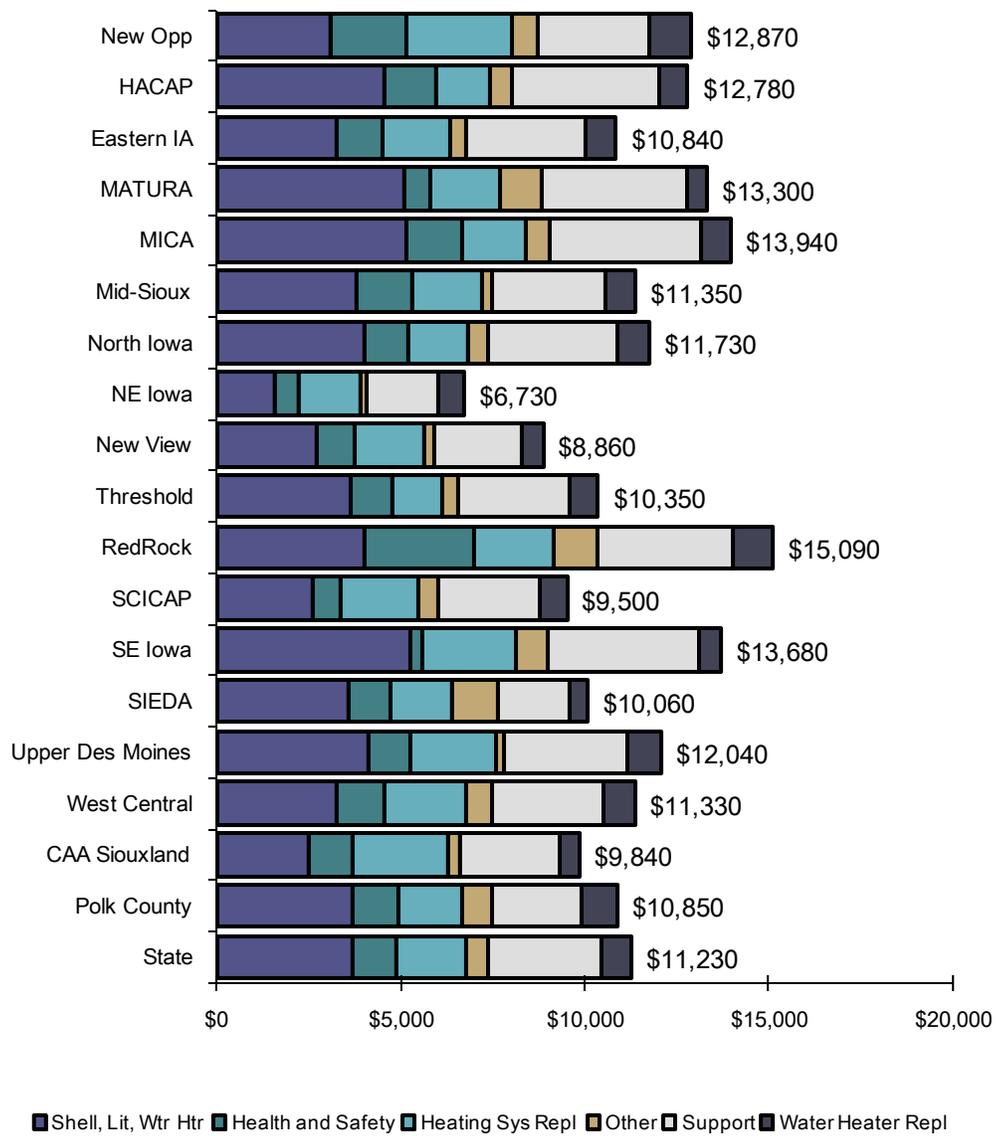


Figure 1.11 Average Expenditures per Housing Unit by Agency

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The average installation rates, costs, and savings for energy efficiency and heating and water heating system replacement measures for calendar year programs 2010-2014 are shown in Figures 1.12a and 1.12b.

The installation rates of nearly all insulation measures and infiltration reduction in the 2014 program changed little from the previous two years (see Figure 1.12a, left chart).

Condensing heating system replacement rates increased from 50.2% to 58.7%, which is partially offset by a reduction in non-condensing heating system replacements from 7.8% to 5.5%.

The installation rates of most water heating measures increased. The rates of high-efficiency water heater replacements increased significantly, from 36.5% to 50.2%. Pipe insulation, showerhead, and aerator installation rates also increase.

Refrigerator and freezer installation rates decreased slightly.

Figure 1.12a, right chart, shows that the average measure costs. Condensing heating system costs increased by 18% while the costs for non-condensing units decreased by 22%. Water heater replacements increased by 23% for high efficiency units and 49% for standard efficiency units. Wall insulation costs increased by 18%.

The average first-year energy gas and electricity savings for each major measure is shown in Figures 1.12b.

The average natural gas savings by measure changed little from 2012 through 2014.

The average electricity savings tended to be higher in 2014 than in 2013, and slightly higher than savings for the 2012 program. This is likely attributable to typical annual year to year variation.

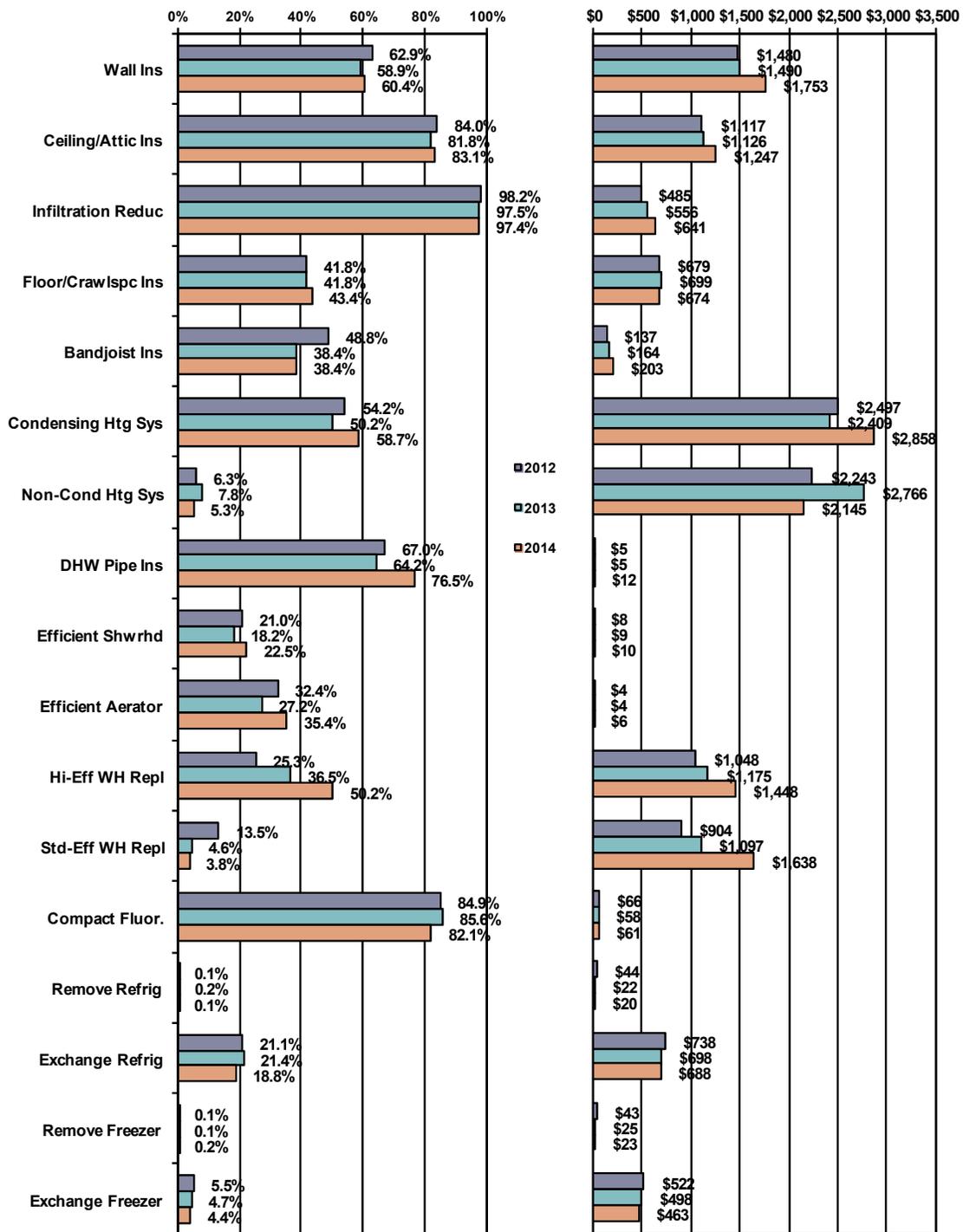


Figure 1.12a Average Installation Rates and Measure Costs of Efficiency Measures, Heating System and Water Heating Replacements

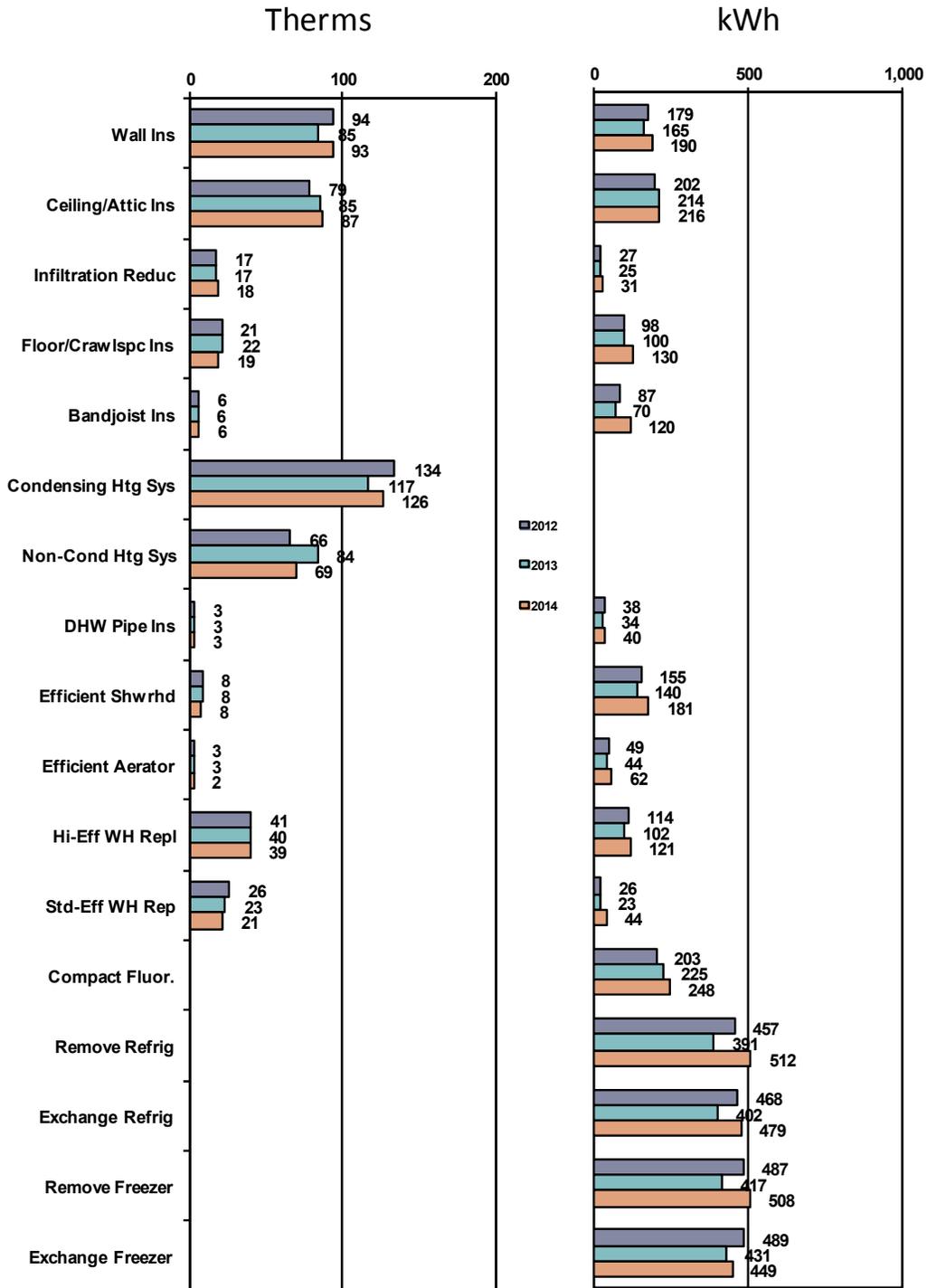


Figure 1.12b Average Gas and Electricity Savings of Efficiency Measures, Heating System and Water Heating Replacements

Table 1.4 provides a listing of the average installation rates of measures (i.e., the percentage of households receiving measures) over the past 5 years. Small percentage changes from the previous year are to be expected, and typically correct for lower or higher installation rates of the prior year. Most cases where the percentage changes are greatest correspond to measures with very low installation rates and/or savings, so these are not indicative of major changes in the installation protocols for these measures or program impacts. However, there are notable increases in the installation rates of high efficiency space heating (17.5%) and high efficiency water heating systems (29.2%).

Table 1.4 Installation Rates of Measures

Measure	2010	2011	2012	2013	2014	Percentage Change in Installation Rate (%)
<i>Insulation and Infiltration Reduction Measures</i>						
Wall Insulation	64.3	63.0	62.9	59.8	61.2	2.3%
Ceiling/Attic Insulation	84.5	84.5	84.0	82.0	83.7	2.1%
Floor/Crawlspace Insulation	38.6	43.8	43.3	42.8	44.6	4.3%
Bandjoist Insulation	48.4	48.8	48.9	38.4	39.6	3.0%
Infiltration Reduction	98.1	99.0	98.4	97.5	97.5	0.0%
<i>Heating System Measures</i>						
Htg. Sys. Replacement	53.0	60.7	60.5	58.4	64.7	10.8%
High Eff Htg Sys Repl	49.3	52.3	54.2	50.6	59.4	17.5%
Std/Unspec Eff Htg Sys Repl	3.7	8.4	6.3	7.8	5.3	-32.6%
Htg. Sys. Tune and Clean	41.5	42.6	40.0	39.5	32.9	-16.8%
Heating System Safety Check	25.8	24.5	21.3	15.0	13.1	-12.7%
Heating System Ventilation	7.2	13.7	9.5	33.3	24.4	-26.9%
<i>Water Heater Measures</i>						
Pipe Wrap	69.4	73.6	75.7	75.0	76.5	2.0%
Shower Head	23.9	24.8	22.5	21.7	22.6	4.1%
Faucet Aerator	41.0	38.7	35.2	33.0	35.4	7.2%
Water Heater Replacement	38.0	48.4	45.4	48.2	54.0	12.1%
Hi-Eff Wtr Htr Repl.	19.0	27.3	27.1	38.9	50.2	29.2%
Std-Eff Wtr Htr Repl.	19.0	21.1	18.3	9.4	3.8	-58.9%
Water Heater Ventilation	19.0	20.6	22.4	20.3	29.8	46.7%
Water Heater Repair	8.1	7.8	11.0	9.7	7.7	-20.5%
<i>Lighting Measures</i>						
Compact Fluorescent Bulbs	81.6	86.2	84.9	86.1	82.8	-3.8%
<i>Refrigeration Measures</i>						
Refrigerator Removal	0.1	0.2	0.1	0.3	0.1	-77.8%
Refrigerator Exchange	22.0	24.0	21.1	21.4	18.8	-11.8%
Freezer Removal	0.2	0.2	0.1	0.1	0.2	232.9%
Freezer Exchange	8.1	7.3	5.5	4.7	4.4	-5.6%
<i>Health and Safety (other than heating & water heating measures listed above)</i>						
CO Detector	67.4	76.7	77.3	81.1	84.3	4.0%
Smoke Detector	35.4	45.2	48.8	59.9	59.8	-0.2%
Exhaust Ventilation	77.4	81.0	83.5	80.4	82.4	2.5%
Fuses	0.2	0.6	0.6	0.1	0.5	343.9%
<i>Repairs</i>	82.9	88.5	87.6	88.4	87.2	-1.3%

Table 1.5 shows details of the average installed costs for each measure over the past 5 years of the program. Wall and ceiling/attic insulation costs increased by 18% and 10%, respectively, and are near costs of the 2011 program. Non-condensing heating system replacement costs spiked in 2013 and have decreased to levels seen prior to that year. High efficiency (condensing) heating systems replacement costs increased by 18% and are somewhat higher than in previous years. Water heater replacement costs increased by 23% for higher efficiency units and by 49% for standard efficiency units (there relatively few of these.) Other cases with large percentage changes in costs tend to be those associated with very few installations or costs, and have little effect on the overall program costs.

Table 1.5 Average Measure Costs

Measure	2009	2010	2011	2012	2013	2014	Recent Year Change (%)
<i>Insulation and Infiltration Reduction Measures</i>							
Wall Insulation	1,409	1,477	1,712	1,587	1,466	1,730	18.1%
Ceiling/Attic Insulation	1,089	1,115	1,240	1,096	1,124	1,238	10.2%
Infiltration Reduction	439	484	528	505	556	641	15.3%
Floor/Crawlspace Insulation	676	662	797	725	683	656	-4.0%
Bandjoist Insulation	118	136	151	157	164	202	23.0%
<i>Heating System Measures</i>							
Htg. Sys. Replacement							
Condensing Htg Sys Repl	2,372	2,497	2,503	2,460	2,388	2,821	18.1%
Non-Cond Htg Sys Repl	1,885	2,243	2,421	2,077	2,766	2,145	-22.5%
Htg. Sys. Tune and Clean	93	114	141	147	155	219	41.2%
Heating System Safety Check	98	94	127	119	135	138	1.9%
Heating System Ventilation	130	128	138	131	238	236	-0.8%
<i>Water Heater Measures</i>							
Pipe Wrap	5	5	5	5	5	12	151.0%
Shower Head	8	8	9	9	9	10	5.8%
Faucet Aerator	5	4	4	4	4	6	29.4%
Water Heater Replacement							
Hi-Eff Wtr Htr Repl.	973	1,048	1,171	1,197	1,175	1,448	23.3%
Std-Eff Wtr Htr Repl.	828	904	1,035	1,037	1,097	1,638	49.3%
Water Heater Ventilation	164	223	216	226	213	237	11.6%
Water Heater Repair	100	107	94	97	102	115	12.7%
<i>Lighting Measures</i>							
CFL Bulbs (avg spent per home)	66	66	65	62	60	63	4.1%
<i>Refrigeration Measures</i>							
Refrigerator Removal	28	44	39	25	18	20	13.6%
Refrigerator Exchange	725	738	719	730	698	688	-1.4%
Freezer Removal	23	43	71	39	25	23	-6.7%
Freezer Exchange	511	522	510	532	498	463	-7.0%
<i>Health and Safety (other than heating & water heating measures listed above)</i>							
CO Detector	50	54	51	52	49	57	15.8%
Smoke Detector	30	35	44	45	47	52	9.6%
Exhaust Ventilation	320	462	436	452	659	734	11.3%
Fuses	56	64	71	108	22	103	370.4%
Repairs	621	628	603	573	636	668	5.1%
Support	2,135	2,280	2,415	2,424	2,631	3,106	18.1%

Note: Kneewall insulation was reported with wall insulation prior to 2007, it is now bundled with Ceiling./Attic Ins

SAVINGS OF WATER HEATER, LIGHTING, AND REFRIGERATION MEASURES

Table 1.6 shows the installation rates for energy efficiency measures other than space heating or cooling. These measures include water heater (except water heater replacements which are primarily health and safety measures), lighting, and refrigeration measures. Statewide, client bill savings averaged \$39 for these measures in 2014. The highest average bill savings were attained by Siouxland, averaging \$81 per unit. New Opportunities, NE Iowa, SE Iowa, and Upper Des Moines averaged less than \$20 per dwelling.

Table 1.6 Installation Rates and Savings of Baseload Measures

Agency	Water Heating			Lighting Compact Fluor	Refrigeration				Average First Year Bill Savings
	Pipe Wrap	Eff Shower- head	Eff Faucet Aerator		Ex- change Refrig	Ex- change Freezer	Remove Refrig	Remove Freezer	
New Opp	33%	0%	0%	94%	4%	2%	0%	0%	\$16.63
HACAP	59%	0%	0%	84%	13%	7%	0%	0%	\$28.22
Eastern IA	83%	23%	63%	92%	19%	1%	0%	0%	\$45.09
Matura	97%	51%	32%	92%	24%	3%	0%	0%	\$30.44
MICA	37%	10%	8%	68%	24%	7%	0%	0%	\$40.36
Mid-Sioux	95%	10%	17%	59%	17%	7%	0%	0%	\$36.37
North Iowa	98%	41%	84%	93%	38%	9%	1%	2%	\$60.37
NE Iowa	75%	0%	0%	41%	13%	2%	0%	0%	\$16.11
New View	89%	0%	0%	98%	27%	6%	0%	0%	\$62.88
Threshold	92%	38%	34%	95%	13%	7%	0%	1%	\$38.17
Redrock	89%	3%	3%	86%	25%	6%	0%	0%	\$22.51
SCICAP	17%	55%	64%	62%	24%	5%	0%	0%	\$39.07
SE Iowa	63%	0%	0%	44%	9%	6%	0%	0%	\$12.33
SIEDA	47%	16%	60%	89%	13%	2%	0%	0%	\$49.44
Upper Des Moines	99%	0%	1%	94%	8%	0%	0%	0%	\$18.12
West Central	80%	40%	74%	66%	11%	5%	0%	0%	\$26.34
CAASiouxland	99%	82%	48%	99%	35%	10%	0%	0%	\$81.05
Polk County	95%	46%	85%	93%	27%	2%	0%	0%	\$53.85
State	77%	23%	35%	82%	19%	4%	0%	0%	\$38.75

* First-year household bill savings are averages of total water heater, and lighting that received those mea

TRENDS IN THE INSTALLATION RATES OF LIGHTING, REFRIGERATION, AND HEATING SYSTEM REPLACEMENTS

This section focuses on trends in the installation rates of several efficiency measures phased into the joint utility/WAP program, including compact fluorescent lighting, heating system replacements, and refrigeration measures. These are shown in Figures 1.13a through 1.13d.

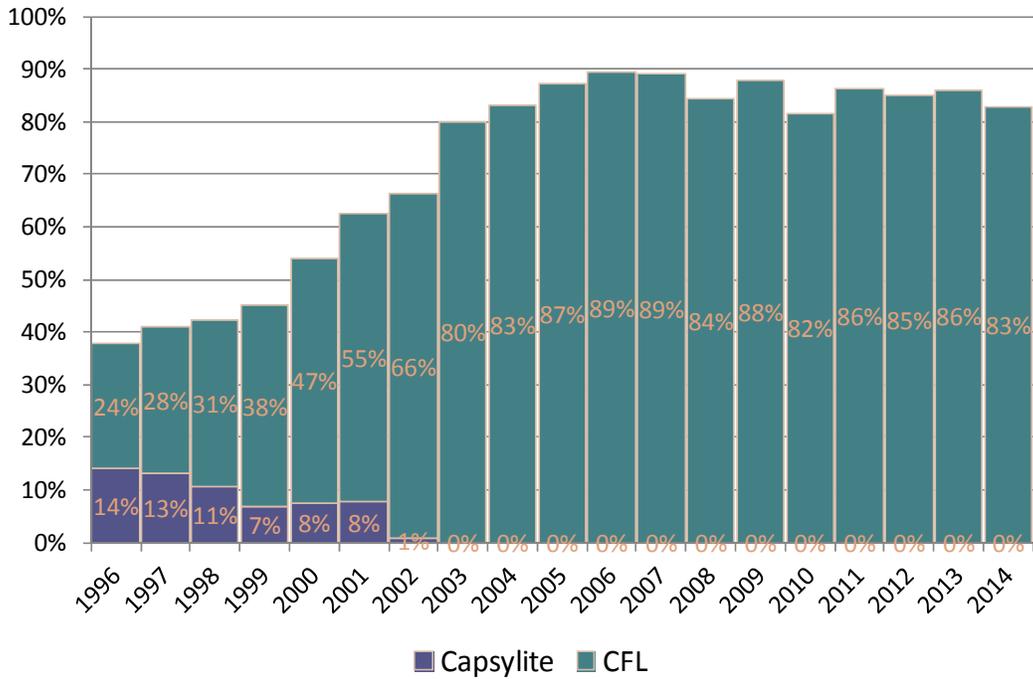


Figure 1.13a Percentage of Housing Units Receiving Lighting Measures

Figure 1.13a shows the percentage of dwellings receiving at least one lighting measure for each year, beginning in 1996. Lighting was installed in 38% of dwellings in 1996; currently 83% of dwellings receive lighting from the program.

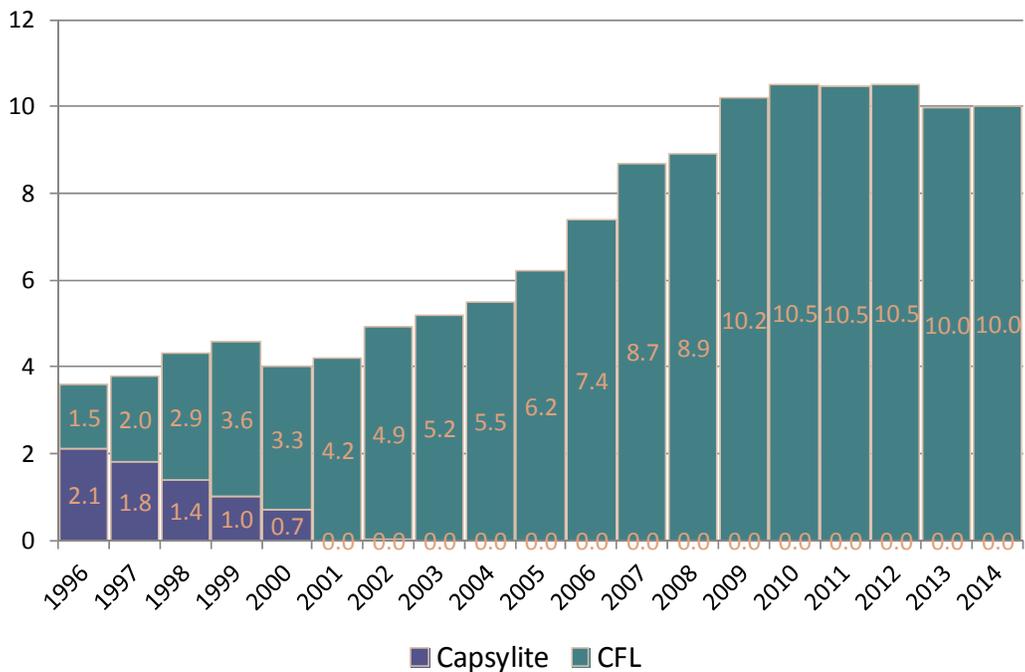


Figure 1.13b Average Number of Bulbs Installed for Housing Units Receiving Lighting Measures

The average number of bulbs installed in dwellings that received at least one lighting measure averaged 10 bulbs per house 2014, which is the same as in 2013 (Figure 1.13b).

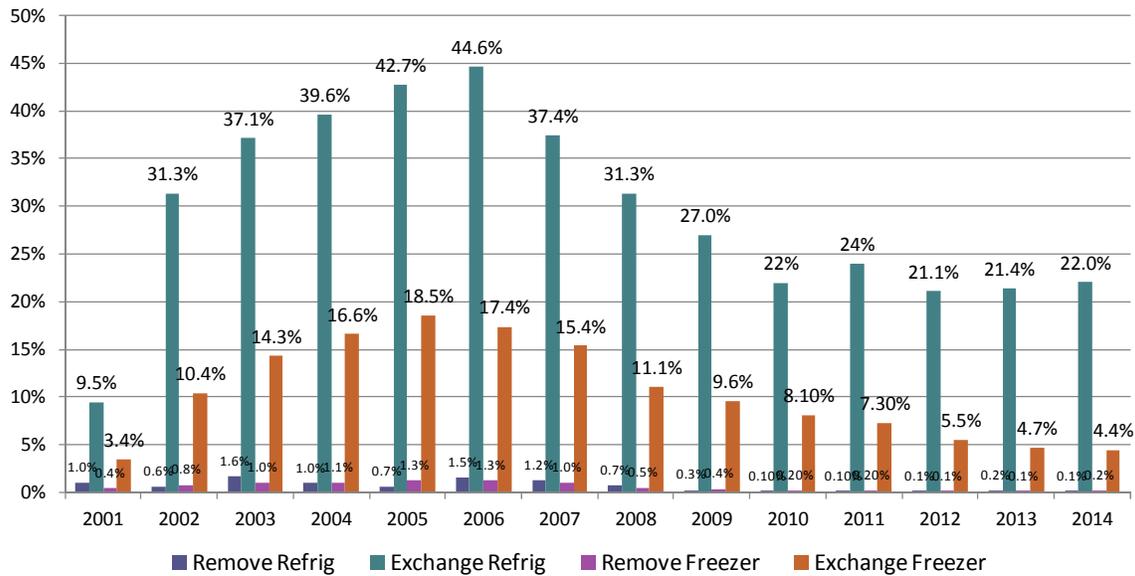


Figure 1.13c Installation Rates of Refrigeration Measures

Figure 1.13c shows the initial ramp up of refrigeration measure installation rates as well as declines in recent years. Installation rates are leveling off at in the lower 20% range over the past five years. It is likely that the efficiency of in-place units is steadily increasing in the population as clients replace failing units prior to participating in the weatherization program, resulting in fewer cases of cost-effective replacements.

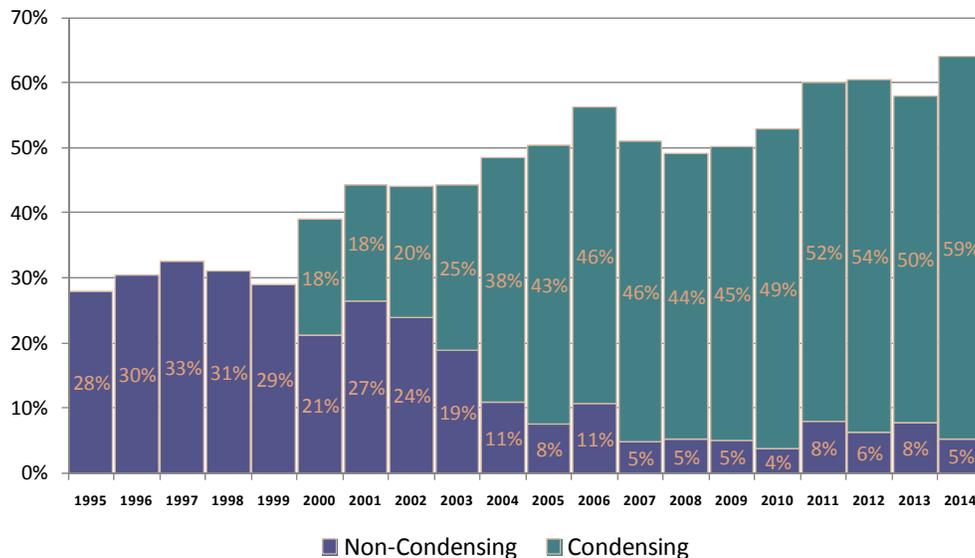


Figure 1.13d Installation Rates of Natural Gas Heating System Replacements

Figure 1.13d shows the transition to condensing (90+ efficiency) furnaces from non-condensing (80% efficiency) heating systems. Overall, 64% of dwellings with natural gas heating received a heating system replacement during 2014, with the vast majority of these being condensing units (59%). This is the highest overall replacement rate and the highest installation rate of condensing units of any year of the program.

AVERAGE COSTS OF MAJOR MEASURES BY AGENCY

Figures 1.14-1.17 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 AND ATTIC INSULATION EXPENDITURES

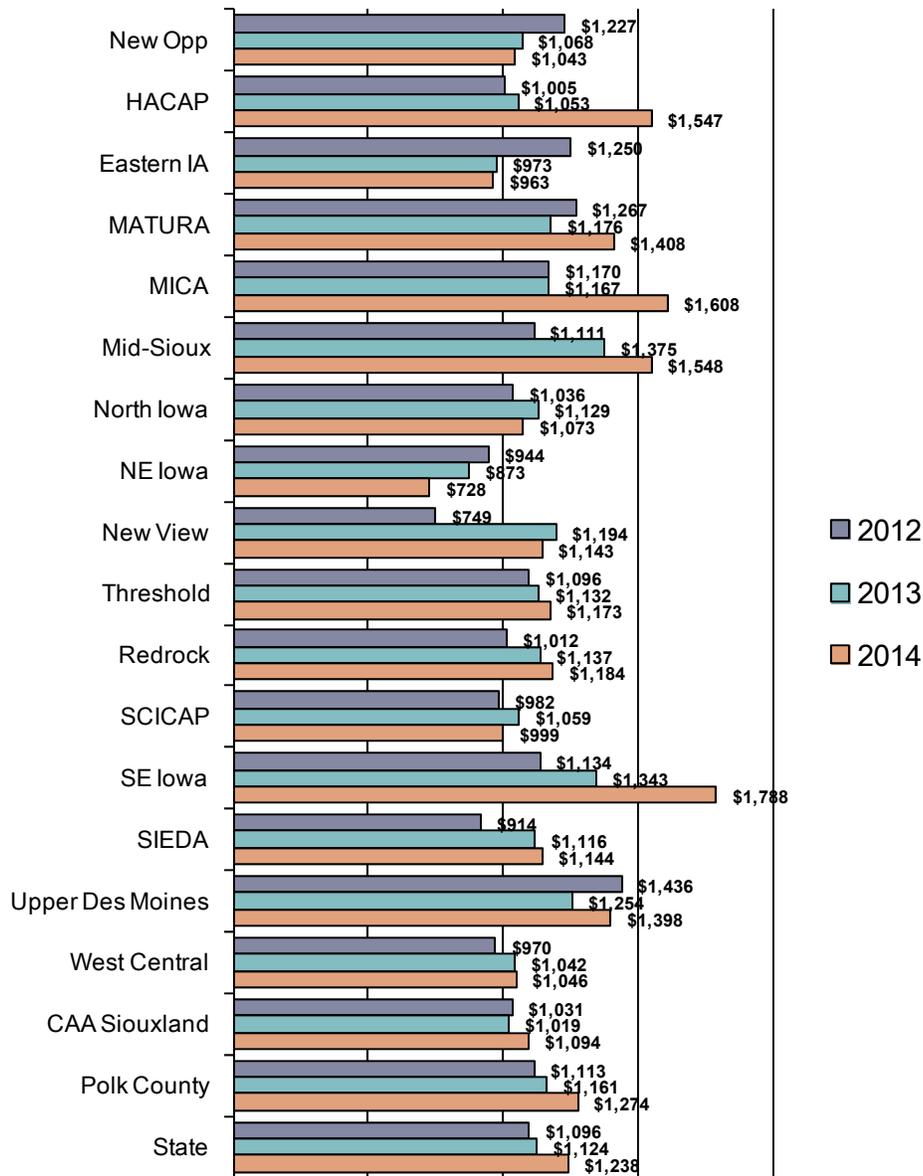


Figure 1.14a Average Program Expenditures on Ceiling Insulation by Agency

Figures 1.14a and 1.14b show the average installed costs for ceiling and attic insulation (including cavity-fill blown attic insulation). The statewide average cost for ceiling insulation was \$1,283 in 2014.

SE Iowa averaged \$1,788 per unit. MICA, Mid-Sioux, and HACAP averaged over \$1,500 per dwelling. The lowest average spending was reported by NE Iowa, averaging \$728.

Figure 1.14b shows the statewide average expenditure of utility funds on ceiling and attic insulation was \$1,059 in 2014. SE Iowa spent the most at \$1,676. MICA, and Polk County each averaged over \$1,200 per dwelling while NE Iowa spent the least at \$648 in utility funds for ceiling and attic insulation.

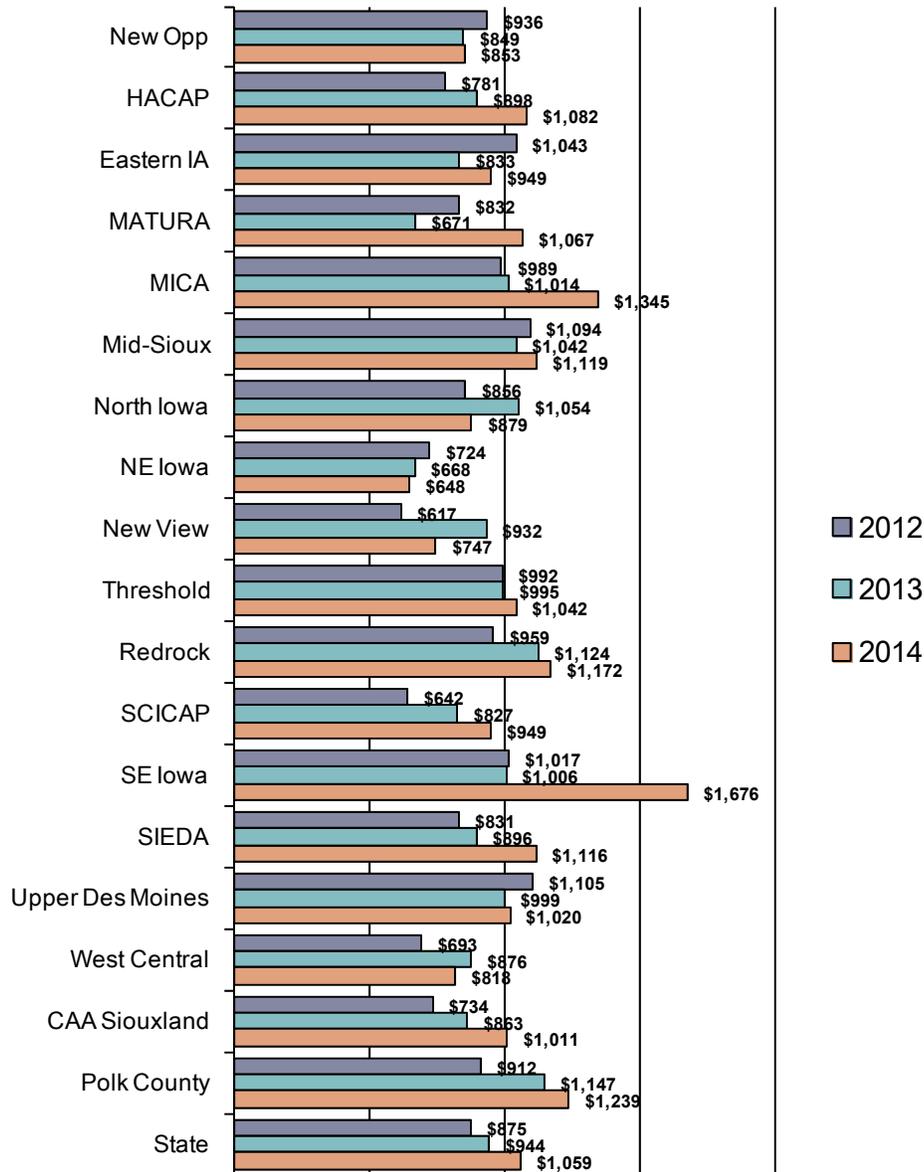


Figure 1.14b Average Utility Expenditures on Ceiling Insulation by Agency

WALL INSULATION EXPENDITURES

Figures 1.15a and 1.15b show the average installed costs for wall insulation. The state average expenditure for wall insulation was \$1,730 in CY 2014. HACAP, MICA, and SE Iowa each averaged nearly \$2,500 or more. NE Iowa spent the least, averaging \$606 per dwelling.

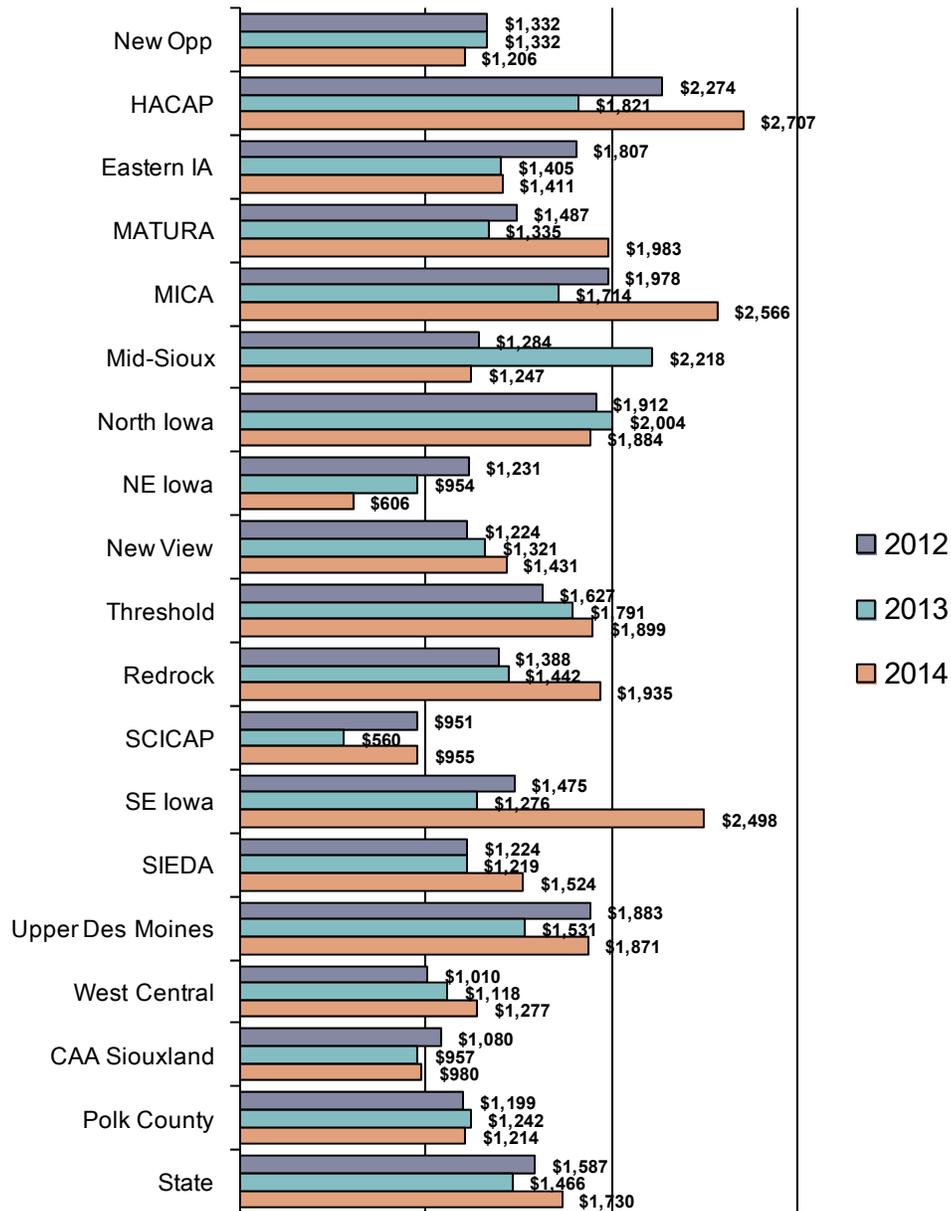


Figure 1.15a Average Program Expenditures on Wall Insulation by Agency

Statewide, the average expenditures for utility-funded wall insulation averaged \$1,534 in CY 2014. SE Iowa and MICA spent the most utility funds, averaging over \$2,000; NE Iowa spent the least at \$600 per dwelling.

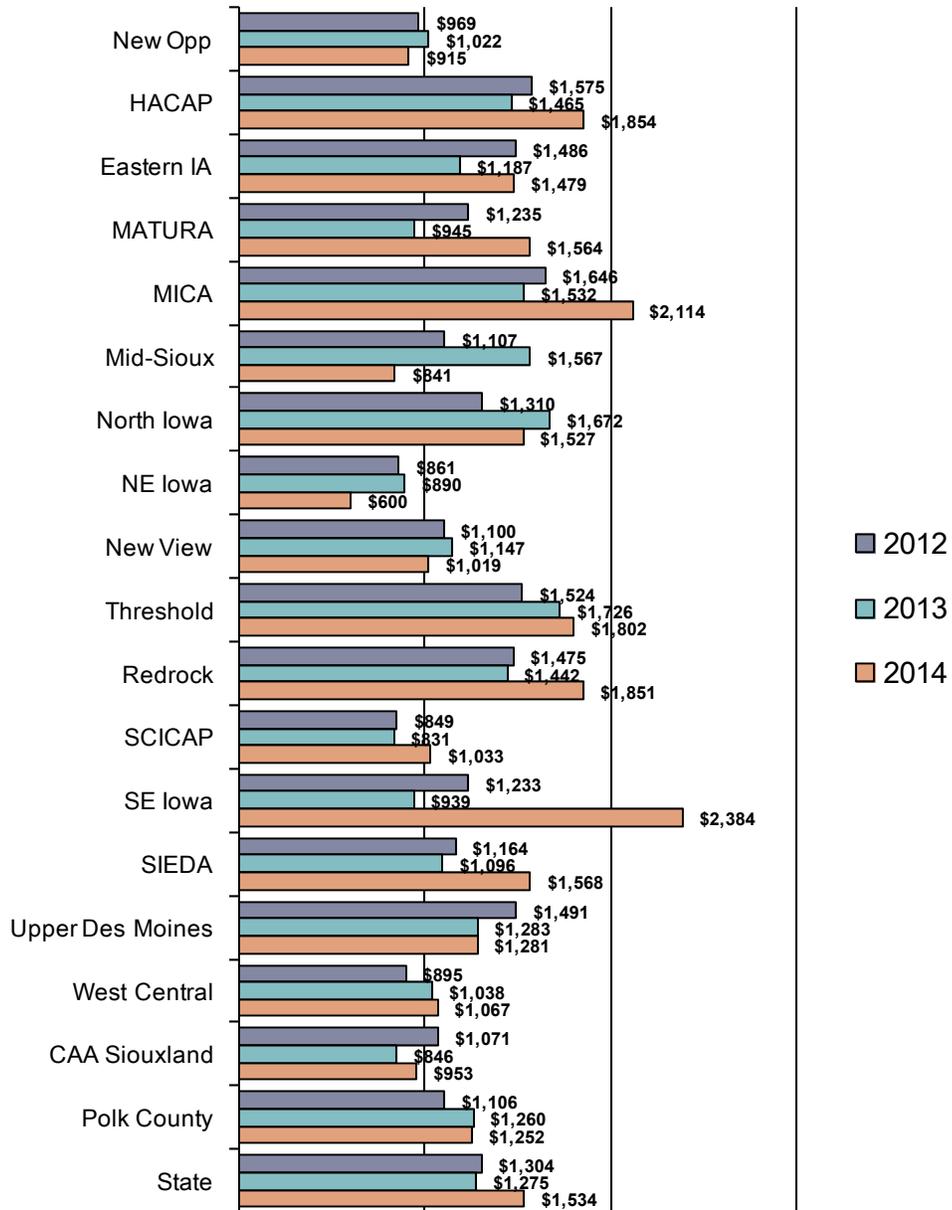


Figure 1.15b Average Utility Expenditures on Wall Insulation by Agency

FLOOR/CRAWLSPACE INSULATION

Figures 1.16a and 1.16b show the average expenditures for floor/crawlspace insulation. Statewide, the cost for floor/crawlspace insulation averaged \$656. Polk County spent the most, averaging \$919 per dwelling, while West Central spend the least at \$243.

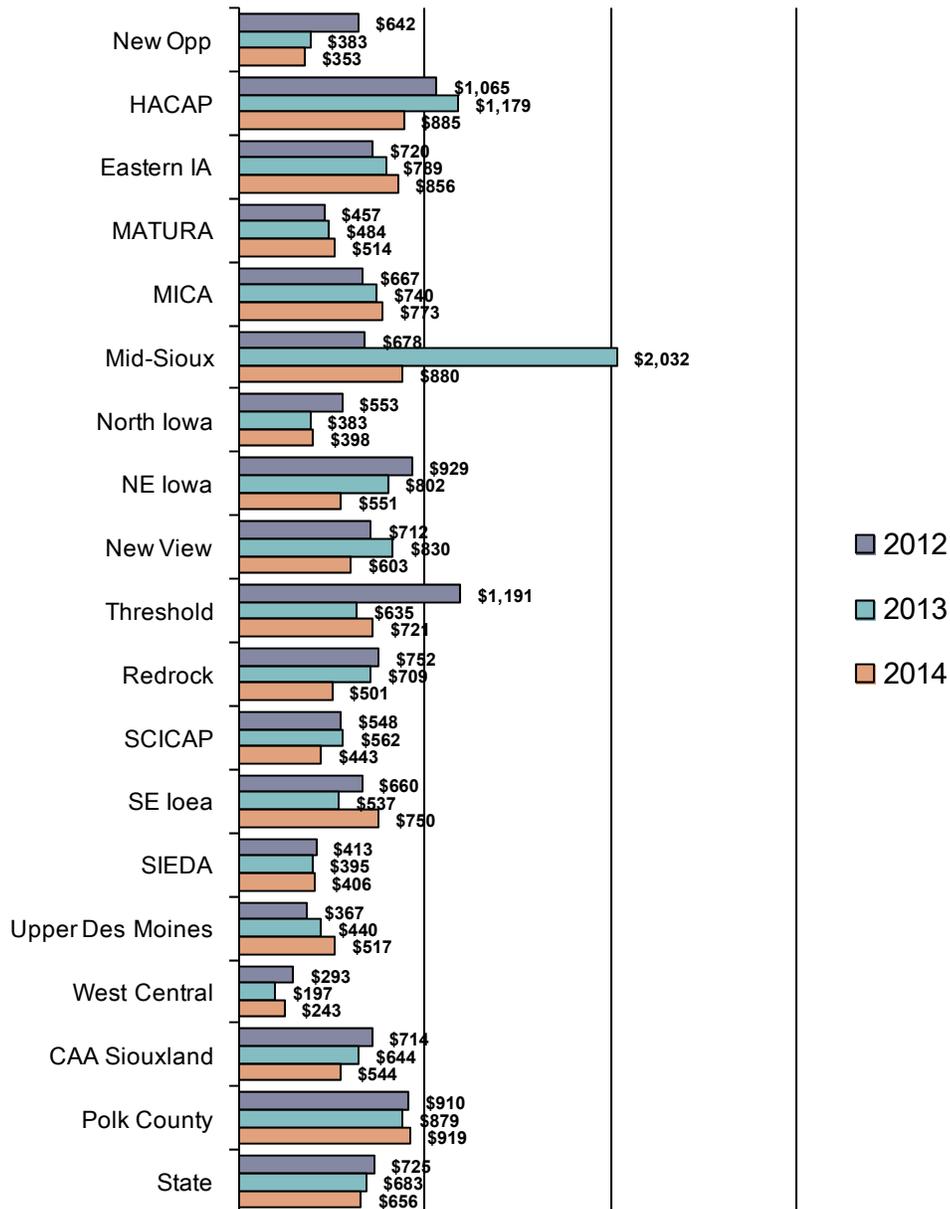


Figure 1.16a Average Program Expenditures on Floor/Crawlspace Insulation by Agency

Statewide, the average expenditure of utility funds for floor/crawlspace insulation was \$554. Mid-Sioux spent the most at \$1,014 while NE Iowa and West Central spent less than \$250.

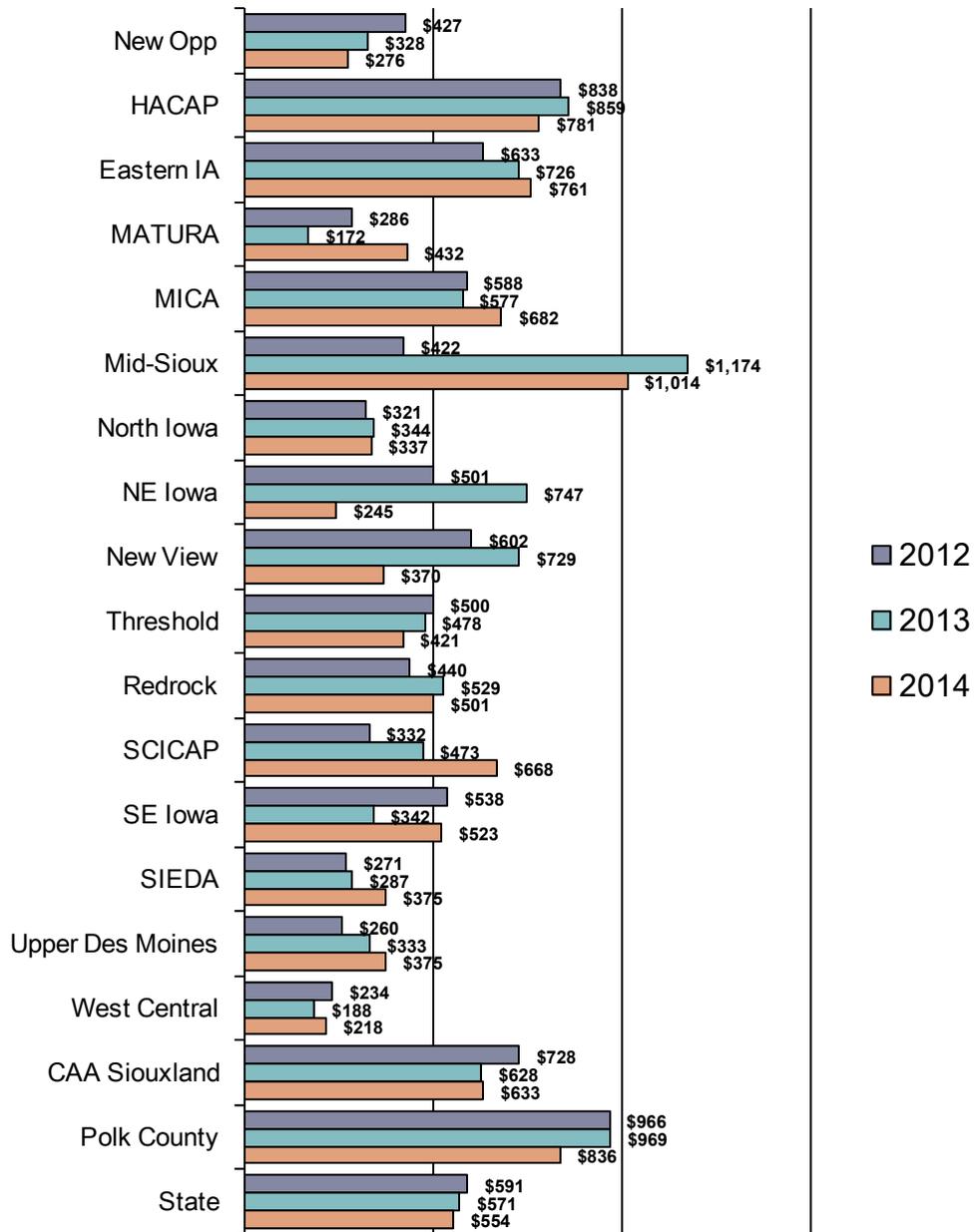


Figure 1.16b Average Utility Expenditures on Floor/Crawlspace Insulation by Agency

NON-ELECTRIC HEATING SYSTEM REPLACEMENT EXPENDITURES

Figures 1.17a and 1.17b show average expenditures for all non-electric heating system replacements. Statewide average heating system replacement costs were \$2,815 in 2014 (Figure 1.17a). Two agencies reported average expenditures exceeding \$3,500, including West Central (\$3,727) and RedRock (\$4,073). Three agencies averaged less than \$2,500, including Polk County (\$2,233), Threshold (\$2,377), and MICA (\$2,461).

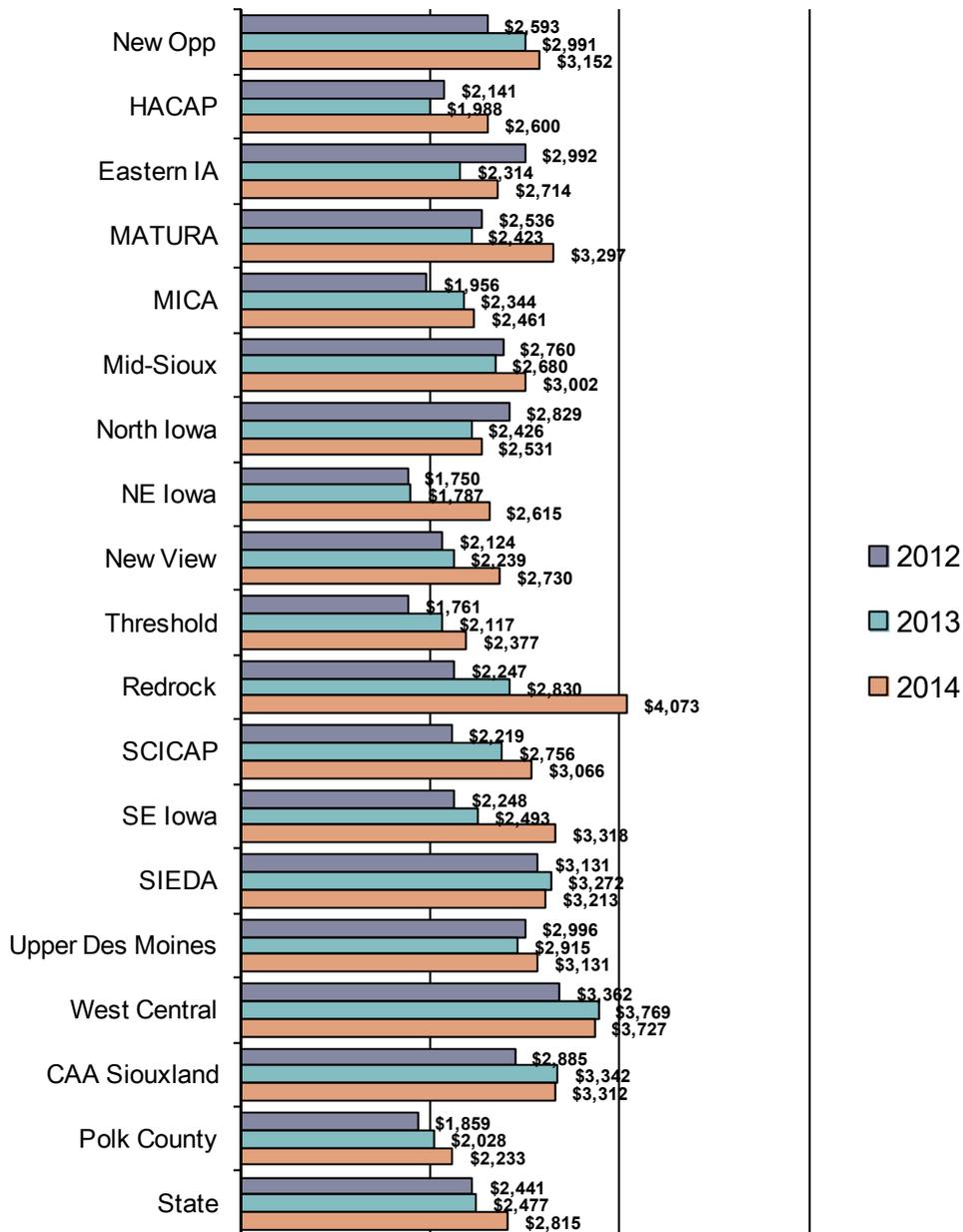


Figure 1.17a Average Program Expenditures on Heating System Replacements by Agency

Figure 1.17b shows the average utility funding for replacement heating systems of \$2,475 statewide. RedRock averaged the highest expenditure at \$3,227. Threshold (\$2,069), MICA (\$2,141), and Polk County (\$2,150) averaged less than \$2,200 per housing unit.

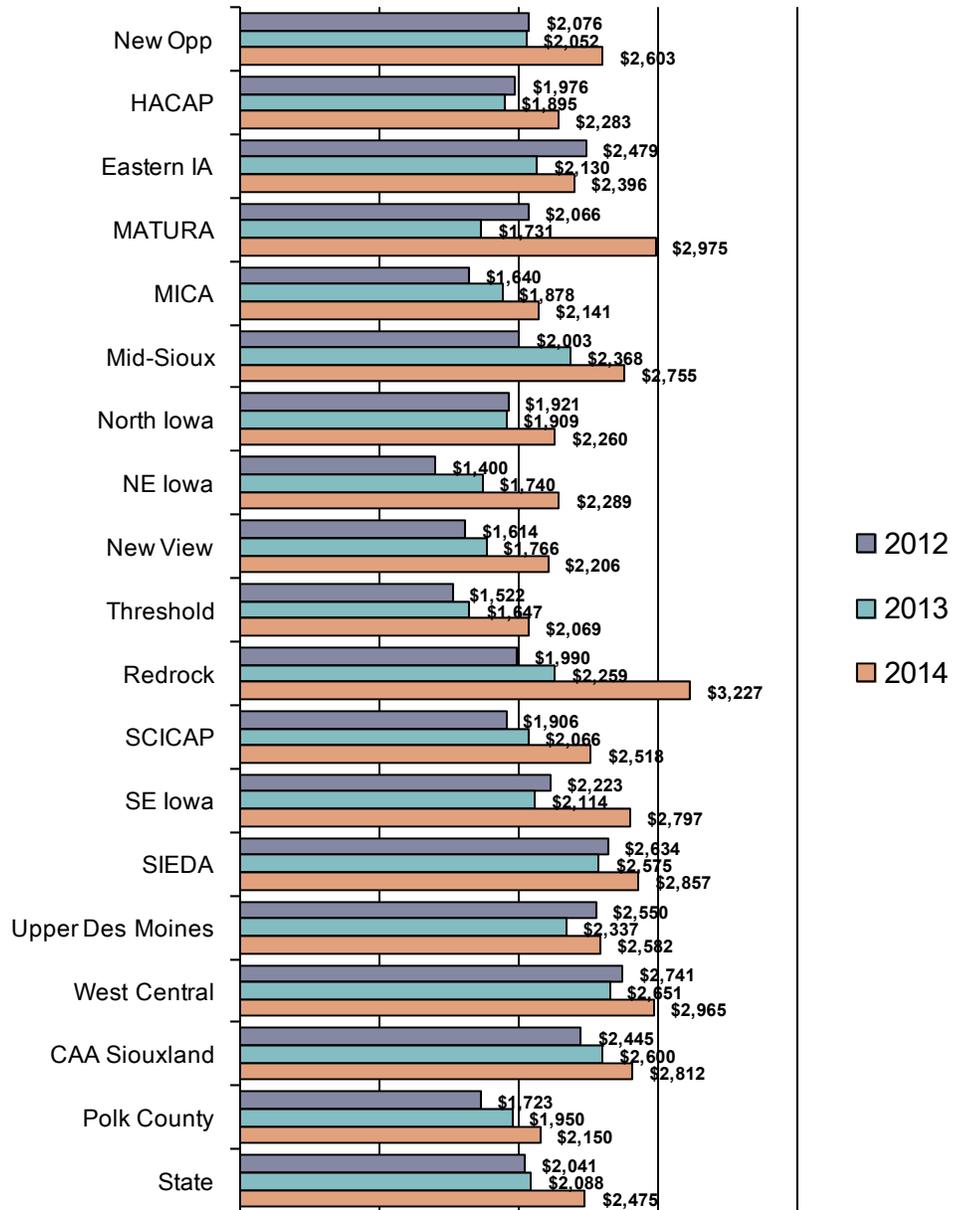


Figure 1.17b Average Utility Expenditures on Heating System Replacements by Agency

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2. FUEL CONSUMPTION ANALYSIS

Savings were estimated for all clients based upon measures installed in each dwelling, using algorithms developed in prior studies of the Iowa low-income program. The fuel consumption analysis provides adjustment factors to the estimated impacts, with gas adjustments applied to estimates of natural gas, propane, and fuel oil heating impacts.

STUDY SAMPLE AND METHODOLOGY

Weatherization jobs completed from January 1, 2014 through December 31, 2014 comprised our treatment group.

We used a comparison group to adjust for non-weatherization program factors that affect fuel usage, including but not limited to fuel price shocks, naturally-occurring conservation, and participation in other energy programs. Our comparison group consisted of all LIHEAP clients of the SLICE utilities and who applied for energy assistance from October, 2014 through March, 2015. 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 energy consumption tends to be lower for this group due to the WAP program prioritizing on saving, consequently each client in the treatment group was matched with five comparison group clients closest in normalized annual consumption.

Estimated usage readings were combined with subsequent actual readings. Phone/postcard readings and final or corrected readings were considered actual readings. Reading codes not corresponding to actual readings were considered estimated.

The weatherization period was defined as beginning with the audit date and ending with the date the dwelling was reported as complete. We truncated the usage data to a period of no more than to 390 days prior to the beginning of the weatherization period, and up to 390 days following end of the weatherization period.

Fuel consumption was weather-normalized using weather data from the same ten weather zones (Figure 2.1). Our long-term normal weather datasets are comprised of the 20-year period ending in Dec, 2009.

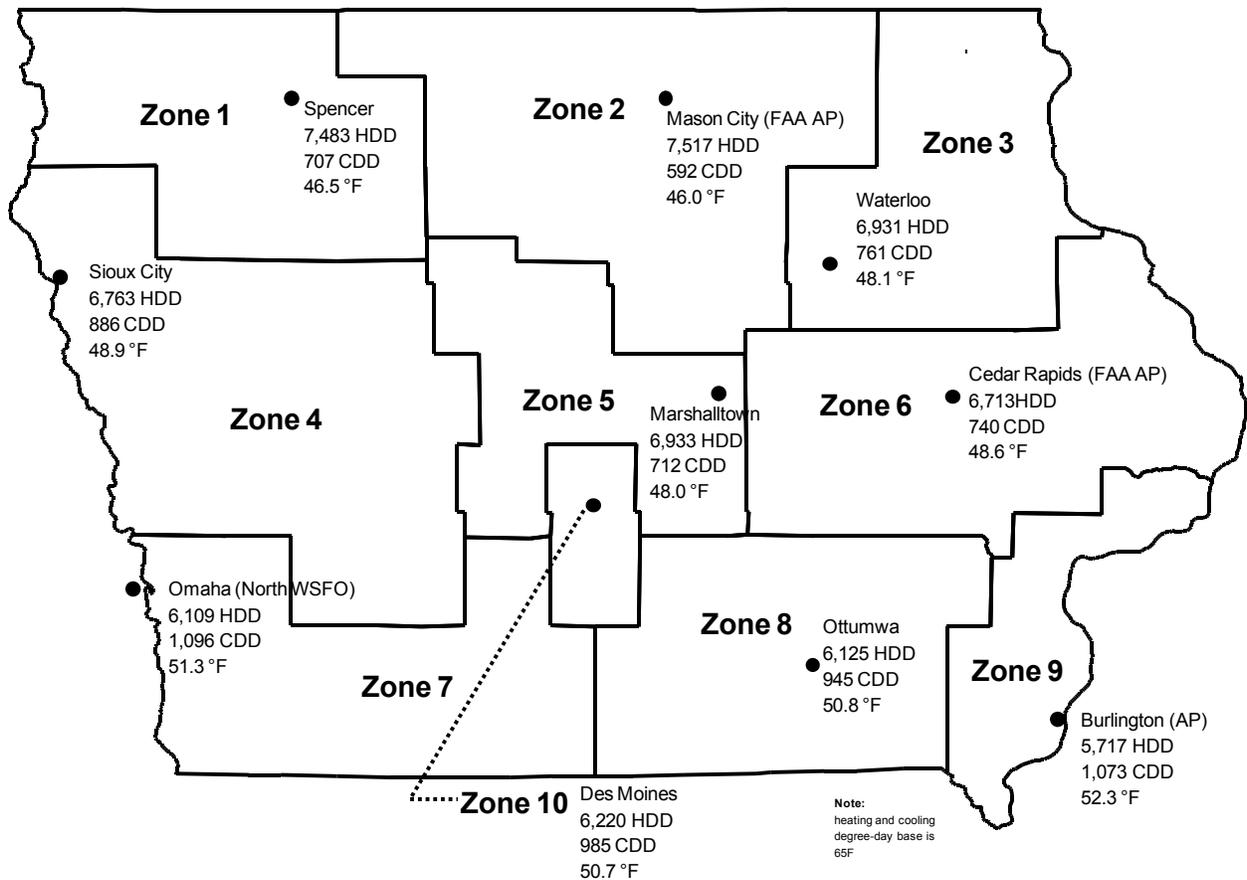


Figure 2.1. Weather zones used in the weather-normalization

MODEL SELECTION

We investigated impacts using five model specifications for each dwelling:

- Heating/Baseload (gas and electricity)
 - HB using floating point reference temperatures ranging between 40°F to 70°F
 - HBF using fixed reference temperatures of 62°F for natural gas and 58°F for electricity
- Cooling/Baseload (electricity only)
 - CB using floating point reference temperatures ranging between 60°F to 80°F
 - CBF using fixed reference temperatures of 68°F
- Heating only (gas only)
 - HO using floating point reference temperatures ranging between 40°F and 70°F
 - HOF using fixed reference temperatures of 62°F

- Heating/Cooling/Baseload (electricity only)
 - Heating floating point reference temperatures ranging between 40°F and 70°F
 - Cooling floating point reference temperatures ranging between 60°F and 80°F
 - HCF using fixed reference temperatures of 58°F for heating and 68°F for cooling
- BO Baseload (electricity and gas, but no gas models passed the selection process)
 - flat usage, requiring 8 ½ months of data

The models passing the usability criteria (as described in the following section) were evaluated using the Prediction Sum of Squares (PRESS) measure to determine the model with the best fit. The PRESS statistic was developed in 1974 as a method of cross-validating models with relatively small numbers of observations, whereby a model is fit against a subset of the data by dropping an observation, and the resulting model is used to predict the values for removed observation. This procedure is repeated for each observation in the data, and the square of the difference between the predicted value and the actual value are totaled. This total is the PRESS value.

The PRESS measurement is performed on all models: the model with the lowest PRESS value is selected.

In practice, we utilized a modified approach for models with floating reference temperatures. A strict conformance with the PRESS measure would require that the floating reference temperature be assessed for each fit of the model when an observation is removed. The full implementation would have resulted in literally hundreds of thousands of additional regressions, and time constraints prevented us from performing this level of assessment. Our alternative specification used the reference temperature as determined in the base model for fitting models in our PRESS calculations.

We have compared the results of models selected using the PRESS method with to those selected using R² and cvNAC screens and found that the mean normalized consumption compared similarly for most models, and in most cases the PRESS-selected model was the simpler specification. We reviewed cases with the greatest differences in the normalized consumption between the PRESS-selected models and alternative screens, and determined that the PRESS models provided a more reasonable representation of the usage in these cases.

In addition, upper and lower 5% trims were applied on pre-weatherization usage for the comparison and treatment groups.

ATTRITION ANALYSIS – GAS

We requested data for 1,348 weatherization client dwellings with gas heating and 54,980 LIHEAP client dwellings for our comparison group (also with gas heating). Our final analytic dataset included 778 weatherization client dwellings and 29,419 comparison dwellings, representing 58% and 54% of the requested usage histories for the treatment and comparison groups, respectively.

Three levels of screens were used, including:

- 1) Insufficient usage history or usage characteristics
- 2) Poor model diagnostics
- 3) Poor model reliability

SCREENS FOR POOR MODEL DIAGNOSTICS

Models were dropped if:

- the coefficient of variation exceeded 0.1
- negative values for adjusted r^2

SCREENS FOR POOR MODEL RELIABILITY

Models were dropped if:

- the normalized annual heating consumption, heating slope, or baseload components were negative
- Minimal requirements for specific model types:
 - Heating models require usage during periods representing at least 50% of the annual heating days
 - Baseload models required 8.5 months of consumption
- The normalized annual consumption was within 10% of the results for alternate model specifications where multiple models met other criteria

ATTRITION RATES

Table 2.1 provides a breakout of the attrition rates for the state and the utilities.

Table 2.1 Gas Analysis Sample Attrition

		State		IPL		BHC		MAE	
		Trt	Cmpr	Trt	Cmpr	Trt	Cmpr	Trt	Cmpr
Return Rate	Requested	1,348	54,590	447	15,185	199	9,076	702	30,329
	Pre Count	1,172	44,556	431	11,521	184	8,316	557	24,719
	Pre Percentage	86.9%	81.6%	96.4%	75.9%	92.5%	91.6%	79.3%	81.5%
Useable Histories	Post Count	1,133	47,357	391	14,349	184	8,138	558	24,870
	Post Percentage	84.1%	86.8%	87.5%	94.5%	92.5%	89.7%	79.5%	82.0%
	Both Pre and Pst Cnt	1,128	44,208	388	11,403	183	8,100	557	24,705
	Both Pre and Pst Pct	83.7%	81.0%	86.8%	75.1%	92.0%	89.2%	79.3%	81.5%
Passed Model Diagnostics	Pre Count	1,169	44,291	428	11,310	184	8,292	557	24,689
	Pre Percentage	86.7%	81.1%	95.7%	74.5%	92.5%	91.4%	79.3%	81.4%
	Post Count	1,129	47,260	387	14,273	184	8,123	558	24,864
	Post Percentage	83.8%	86.6%	86.6%	94.0%	92.5%	89.5%	79.5%	82.0%
	Both Pre and Pst Cnt	1,121	43,909	381	11,167	183	8,070	557	24,672
	Both Pre and Pst Pct	83.2%	80.4%	85.2%	73.5%	92.0%	88.9%	79.3%	81.3%
Passed Reliability Screens	Pre Count	1,085	39,270	383	9,432	175	7,222	527	22,616
	Pre Percentage	80.5%	71.9%	85.7%	62.1%	87.9%	79.6%	75.1%	74.6%
	Post Count	844	34,420	252	9,423	136	5,862	456	19,135
	Post Percentage	62.6%	63.1%	56.4%	62.1%	68.3%	64.6%	65.0%	63.1%
	Both Pre and Pst Cnt	778	29,419	222	6,546	129	5,236	427	17,637
	Both Pre and Pst Pct	57.7%	53.9%	49.7%	43.1%	64.8%	57.7%	60.8%	58.2%

The utilities returned useable data for 87% of the treatment client dwellings and 82% for the comparison group (LIHEAP) clients. Overall, 58% of the requested treatment group clients and 54% of the comparison group clients had usage data suitable for the billing analysis.

Table 2.2 provides a the attrition analysis broken out by housing type. Overall, 59% of single family site-built dwellings were useable, and 51% of mobile homes from the treatment group were passed reliability screens. Essentially no data was returned for the few multi-family dwellings weatherized by the program.

Table 2.2 Gas Attrition by Housing Type

		State		IPL		BHC		MAE	
		Trt	Cmpr	Trt	Cmpr	Trt	Cmpr	Trt	Cmpr
Single Family Detached Framed Dwellings									
Requested		1,169	43,954	405	12,454	184	7,539	580	23,961
Passed Model	Both Pre and Pst Cnt	986	36,312	348	9,489	168	6,707	470	20,116
Diagnostics	Both Pre and Pst Pct	84.3%	82.6%	85.9%	76.2%	91.3%	89.0%	81.0%	84.0%
Passed Reliability	Both Pre and Pst Cnt	684	24,942	203	5,647	117	4,461	364	14,834
Screens	Both Pre and Pst Pct	58.5%	56.7%	50.1%	45.3%	63.6%	59.2%	62.8%	61.9%
Mobile Homes									
Requested		149	2,814	27	873	15	407	107	1,534
Passed Model	Both Pre and Pst Cnt	123	2,217	25	622	15	344	83	1,251
Diagnostics	Both Pre and Pst Pct	82.6%	78.8%	92.6%	71.2%	100.0%	84.5%	77.6%	81.6%
Passed Reliability	Both Pre and Pst Cnt	88	1,484	16	356	12	209	60	919
Screens	Both Pre and Pst Pct	59.1%	52.7%	59.3%	40.8%	80.0%	51.4%	56.1%	59.9%
Multi-Family									
Requested		30	7,822	15	1,858	-	1,130	15	4,834
Passed Model	Both Pre and Pst Cnt	12	5,380	8	1,056	-	1,019	4	3,305
Diagnostics	Both Pre and Pst Pct	1.0%	12.2%	53.3%	56.8%	0.0%	90.2%	26.7%	68.4%
Passed Reliability	Both Pre and Pst Cnt	6	2,993	3	543	-	566	3	1,884
Screens	Both Pre and Pst Pct	0.5%	6.8%	20.0%	29.2%	0.0%	50.1%	20.0%	39.0%

OUTLIERS

An outlier screen was then applied to models with reliable pre and post usage data. Results were flagged as outliers in cases where the absolute value of the median was greater than 2.5 times the inter-quartile range for pre treatment consumption and percentage savings followed by a 1% upper and lower trim.

The outlier screen dropped approximately 2% of treatment group observations with pre and post savings models.

GAS IMPACT ANALYSIS

Our results are summarized in Table 2.3. The agency-specific results are summarized on each line, with the overall program impacts summarized on the bottom line. The column labeled ‘Population’ provides the count of all dwellings with natural gas heating that were treated by the weatherization program during the calendar year. The treatment group columns indicate the number of dwellings in our screened analysis dataset (‘n’), the weather-normalized annual consumption prior to weatherization (‘Baseline’ consumption), the 90% confidence interval on the baseline consumption (interpreted as the variation from baseline for which we are 90% certain that the true mean value of the baseline consumption falls within), the unadjusted savings (‘Savings’) and the 90% confidence interval on the savings.

The low-income energy assistance (LIHEAP) population provided the comparison group. We selected five comparison group dwellings with the nearest baseline consumption for each weatherized dwelling.

The next section of Table 2.3 (shaded) provides the net savings by agency, including average savings and percentage savings.

The rightmost section summarizes the average estimated savings which were developed using dwelling-specific measure data as well as a comparison between the estimated and observed savings, termed the realization rate. The realization rate is defined as the ratio of observed savings to estimated savings. Our final agency-specific results are developed by applying this ratio to the estimated savings for all dwellings with non-electric heating.

The overall adjusted savings (reported under the Net Savings column) averaged 267 therms for single family site-built dwellings. The 90% confidence interval was 15 therms, meaning that we are 90% certain that the true population mean savings falls in the range of 252 and 282 therms. The overall mean percent savings was 26.6%, with a 1.2% confidence interval.

Net gas savings for mobile homes averaged 123 therms \pm 33 therms. The overall percentage savings for mobile homes was 1.2%, with a 3.3% confidence interval.

Table 2.3 Gas Fuel Consumption Analysis Results

	Population n (with gas heating source)	Treatment Group					Comparison Group					Net Savings		Percent Savings		Estimated Savings	90% CI	Realization Rate (%)
		n	Baseline Cons. (therms)	90% CI	Savings (therms)	90% CI	n	Baseline Cons. (therms)	90% CI	Savings (therms)	90% CI	(therms)	90% CI	(%)	90% CI			
Single Family Detached Framed Dwelling Results																		
New Opportunities	45	25	1,022	132	279	83	29	883	85	-19	36	297	91	29.1%	7.5%	298	58	99.7%
HACAP	113	47	1,110	99	322	50	101	1,115	48	12	19	310	53	27.9%	3.5%	292	34	106.3%
Eastern IA	103	47	903	90	230	67	106	849	50	3	14	227	68	25.2%	5.6%	231	29	98.5%
MATURA	23	11	1,067	105	317	75	27	1,112	75	48	48	269	89	25.2%	7.6%	269	35	100.0%
MICA	76	55	962	66	259	41	60	911	71	24	20	235	46	24.4%	4.4%	278	31	84.5%
Mid-Sioux	28	10	1,116	102	245	131	20	1,119	65	0	43	245	137	22.0%	11.9%	262	70	93.5%
North Iowa	89	47	908	51	252	43	97	857	35	9	13	244	45	26.8%	4.5%	340	35	71.6%
NE Iowa	82	45	864	56	153	43	100	870	42	24	16	129	46	14.9%	5.0%	149	25	86.5%
New View	45	21	1,145	108	188	64	57	1,130	61	26	28	162	70	14.2%	6.0%	248	44	65.6%
Threshold	86	50	989	61	244	44	101	1,017	39	19	21	225	48	22.8%	4.4%	256	26	87.9%
Redrock	34	26	928	77	296	56	77	915	40	53	19	243	59	26.2%	5.7%	212	36	114.8%
SCICAP	27	15	901	86	287	56	30	915	49	18	24	269	61	29.9%	5.7%	209	34	129.0%
SE Iowa	56	15	1,293	125	513	116	35	1,222	66	50	36	463	121	35.8%	8.2%	260	47	178.0%
SIEDA	42	14	1,311	216	462	150	30	1,021	122	2	46	460	157	35.1%	8.8%	292	59	157.7%
Upper Des Moines	102	50	942	64	308	39	103	933	48	31	17	277	42	29.4%	3.8%	293	25	94.6%
West Central	64	39	839	77	233	48	79	777	54	-9	15	242	50	28.8%	4.8%	203	30	118.9%
CAA Siouxland	61	33	1,141	121	334	77	65	901	63	25	25	309	81	27.1%	5.2%	287	33	107.8%
Polk County	144	88	983	68	290	40	136	949	42	5	18	285	44	29.0%	3.4%	325	18	87.6%
Overall	1,220	638	1,005	22	283	14	1,253	960	14	16	5	267	15	26.6%	1.2%	268	8	99.5%
Mobile Homes Results (entire state)																		
Overall	147	79	808	47	149	30	169	854	29	26	14	123	33	15.2%	3.5%	137	11	89.6%

Table 2.4 Fuel Consumption Analysis Results

	Percentage of Mobile Homes	
	Within Agency	State Overall
New Opportunities	0.0%	0.0%
HACAP	30.3%	27.1%
Eastern IA	19.8%	11.8%
MATURA	0.0%	0.0%
MICA	16.7%	10.4%
Mid-Sioux	6.3%	1.4%
North Iowa	0.9%	0.5%
NE Iowa	0.9%	0.5%
New View	24.1%	9.5%
Threshold	10.1%	5.4%
Redrock	7.3%	1.4%
SCICAP	11.5%	2.7%
SE Iowa	1.3%	0.5%
SIEDA	11.8%	5.0%
Upper Des Moines	0.7%	0.5%
West Central	2.0%	0.9%
CAA Siouxland	7.9%	3.2%
Polk County	19.5%	19.5%

The average savings of 123 therms for mobile homes are significantly lower than the 267 therms observed for single family site-built dwellings. HACAP weatherized the highest percentage of mobile homes, both within the agency and for the state overall –30% of all dwellings weatherized by HACAP during 2014 were mobile homes, and these accounted for 27% of all of the mobile homes weatherized in the state (Table 2.4). New View, Eastern Iowa, and Polk County also reported that mobile homes comprised 20% or more of the total program completions for their agency.

SAVINGS WITH RESPECT TO PRE-WEATHERIZATION USAGE

We plotted the relationship between the normalized annual consumption and the net savings for single family site-built dwellings (Figure 2.2). The upward trending regression line indicates the population-weighted fit between NAC and savings, and demonstrates savings in relation to baseline consumption.

The 90% confidence intervals of the average adjusted savings for each agency are shown in the error bars. Agencies with confidence intervals overlapping the regression line produced savings consistent with the state overall for dwellings relative to the baseline consumption for those agencies. The confidence intervals on the savings for all of the agencies except NE Iowa and New View spanned the regression line, indicating relatively lower savings were attained by this agency relative to the average baseline consumption of their clients.

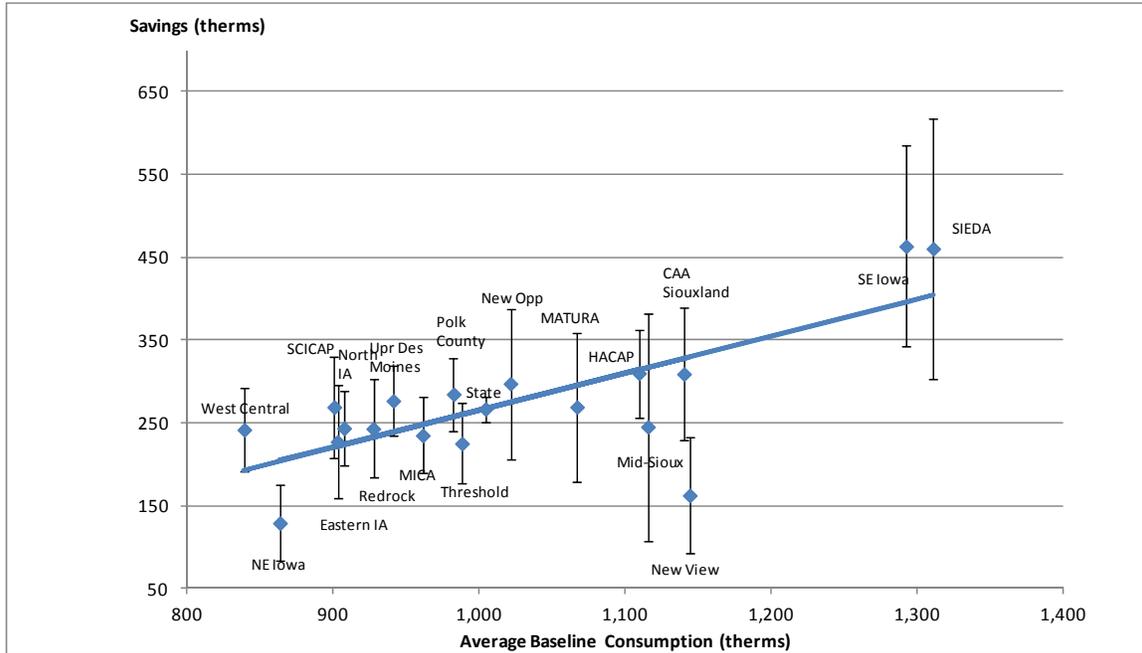


Figure 2.2 Savings in relation to the pre-weatherization normalized annual consumption (single family site-built dwellings).

Figure 2.3 provides another view of the savings with respect to baseline consumption. The plot shows a point for the savings for dwellings in our billing dataset, a regression line through all points, and an assessment of the percentage savings as determined by this regression line (shown by the curved line). The chart provides confirmation that absolute savings increase as higher-consumption dwellings are targeted. Percent savings increases significantly as baseline consumption increases at the lower range, and less so at higher ranges as the curve flattens out.

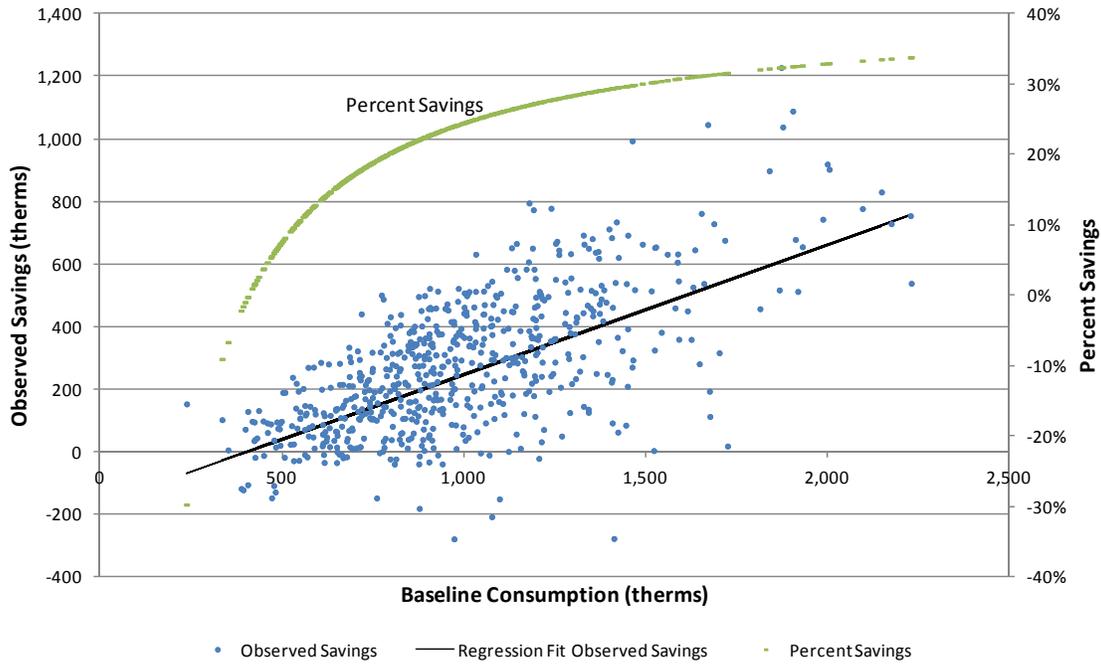


Figure 2.3. Relationship between baseline consumption, savings, and percentage savings

TRENDS IN BASELINE CONSUMPTION AND ENERGY SAVINGS

Figure 2.4 provides a yearly summary of baseline consumption, savings, and percentage savings for billing analyses conducted since the calendar year 1998 program. The treatment group normalized annual consumption approached 1,394 therms per site-built dwelling in the CY 1998 program. Baseline consumption has declined by 28% since then, to 1,005 in CY 2014. Generally speaking, net savings has declined over the same period, however percentage savings appears to be slowly increasing over the period, from around 23% to nearly 26.6% in the 2014 program.

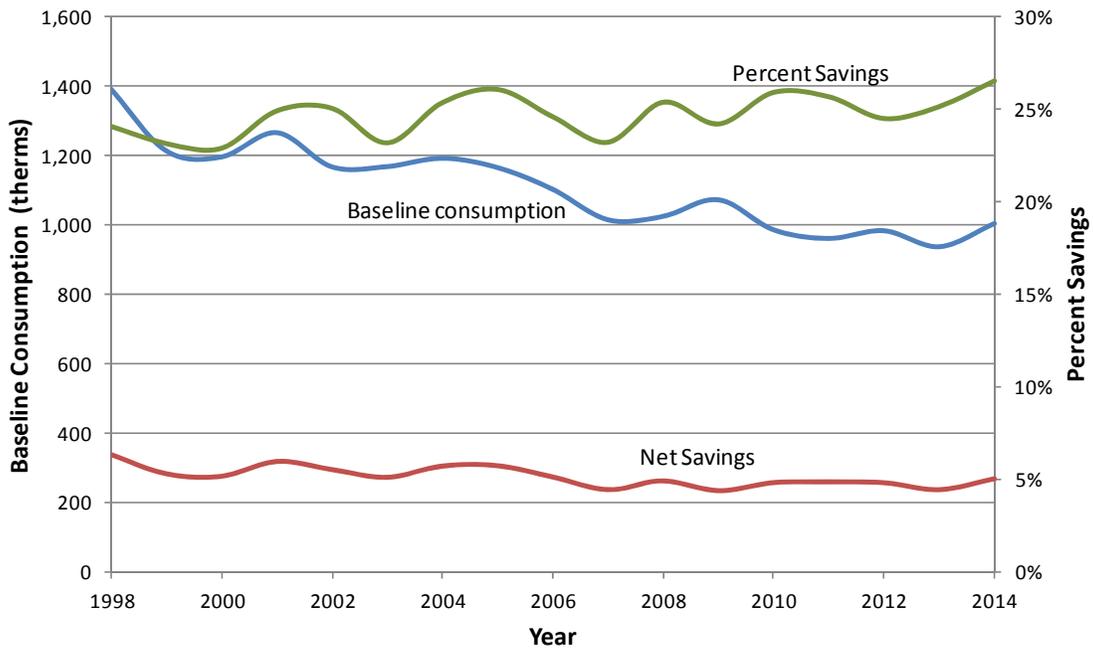


Figure 2.4 Annual Baseline Consumption, Savings, and Percentage Savings

ATTRITION ANALYSIS – ELECTRICITY

We requested data for 1,350 weatherization client dwellings and 68,111 LIHEAP client dwellings for our comparison group. Our final analytic dataset included 659 weatherization client dwellings and 29,377 comparison dwellings, resulting in overall attrition rates of 51% and 57% for the treatment and comparison groups, respectively.

Table 2.5 Electricity Analysis Sample Attrition

		State		IPL		MAE	
		Trt	Cmpr	Trt	Cmpr	Trt	Cmpr
Return Rate	Requested	1,350	68,111	710	32,459	640	35,652
	Pre Count	1,216	55,628	682	24,939	534	30,689
	Pre Percentage	90.1%	81.7%	96.1%	76.8%	83.4%	86.1%
Useable Histories	Post Count	1,155	62,060	620	31,201	535	30,859
	Post Percentage	85.6%	91.1%	87.3%	96.1%	83.6%	86.6%
	Both Pre and Pst Cnt	1,153	55,195	619	24,508	534	30,687
	Both Pre and Pst Pct	85.4%	81.0%	87.2%	75.5%	83.4%	86.1%
Passed Model Diagnostics	Pre Count	1,210	55,101	676	24,434	534	30,667
	Pre Percentage	89.6%	80.9%	95.2%	75.3%	83.4%	86.0%
	Post Count	1,152	61,830	617	30,978	535	30,852
	Post Percentage	85.3%	90.8%	86.9%	95.4%	83.6%	86.5%
	Both Pre and Pst Cnt	1,145	54,576	611	23,918	534	30,658
	Both Pre and Pst Pct	84.8%	80.1%	86.1%	73.7%	83.4%	86.0%
Passed Reliability Screens	Pre Count	1,080	46,553	597	20,362	483	26,191
	Pre Percentage	80.0%	68.3%	84.1%	62.7%	75.5%	73.5%
	Post Count	741	37,215	365	17,978	376	19,237
	Post Percentage	54.9%	54.6%	51.4%	55.4%	58.8%	54.0%
	Both Pre and Pst Cnt	659	29,377	322	12,564	337	16,813
	Both Pre and Pst Pct	48.8%	43.1%	45.4%	38.7%	52.7%	47.2%

Approximately 1% of the useable histories dropped due to failure of one or more of the model diagnostic criteria. Model reliability screens accounted for 31% to 37% attrition. Ultimately, 49% of the requested treatment group clients and 43% of the comparison group clients had usage data suitable for the billing analysis.

Table 2.6 provides a the attrition analysis broken out by housing type. Overall, 50% of single family site-built dwellings were useable, and 50% of mobile homes from the treatment group were passed reliability screens. Essentially no data was returned for the few multi-family dwellings weatherized by the program.

Table 2.6 Electricity Attrition by Housing Type

Single Family Detached Framed Dwellings							
Requested		1,179	49,121	637	23,592	542	25,529
Passed Model	Both Pre and Pst Cnt	1,016	40,384	548	18,040	468	22,344
Diagnostics	Both Pre and Pst Pct	86.2%	82.2%	86.0%	76.5%	86.3%	87.5%
Passed Reliability	Both Pre and Pst Cnt	582	22,085	285	9,551	297	12,534
Screens	Both Pre and Pst Pct	49.4%	45.0%	44.7%	40.5%	54.8%	49.1%
Mobile Homes							
Requested		143	2,652	65	1,284	78	1,368
Passed Model	Both Pre and Pst Cnt	120	2,059	60	923	60	1,136
Diagnostics	Both Pre and Pst Pct	83.9%	77.6%	92.3%	71.9%	76.9%	83.0%
Passed Reliability	Both Pre and Pst Cnt	71	1,135	35	468	36	667
Screens	Both Pre and Pst Pct	49.7%	42.8%	53.8%	36.4%	46.2%	48.8%
Multi-Family							
Requested		28	16,338	8	7,583	20	8,755
Passed Model	Both Pre and Pst Cnt	9	12,133	3	4,955	6	7,178
Diagnostics	Both Pre and Pst Pct	0.8%	24.7%	37.5%	65.3%	30.0%	82.0%
Passed Reliability	Both Pre and Pst Cnt	6	6,157	2	2,545	4	3,612
Screens	Both Pre and Pst Pct	0.5%	12.5%	25.0%	33.6%	20.0%	41.3%

OUTLIERS

The outlier screen dropped approximately 5% of treatment observations (with pre/pst models.)

ELECTRICITY IMPACT ANALYSIS

We developed state-level electricity savings results for two groups, those with non-electric space heat and for those with electric space heat. Our results are summarized in Table 2.7.

Table 2.7 Electricity Fuel Consumption Analysis Results (State Level Results)

Treatment Group					Comparison Group					Net				Percent			Estimated		
n	Baseline		90%		n	Baseline		90%		Savings (kWh)	90% CI	Savings (%)	90% CI	Savings (kWh)	90% CI	Realization Rate (%)			
	Cons. (kWh)	CI	Savings (kWh)	CI		Cons. (kWh)	CI	Savings (kWh)	CI										
Electric Savings for Dwellings with Non-Electric Space Heat																			
640	10,237	375	1,424	174	2,813	10,072	161	760	69	664	187	4.8%	16%	770	41	86.2%			
Electric Savings for Dwellings with Electric Space Heat																			
53	20,939	2,450	3,628	827	203	19,041	1,033	577	375	3,050	908	13.5%	3.8%	2,482	333	122.9%			

Dwellings with non-electric space heat averaged 664 kWh savings from lighting, refrigerators and freezers, water heating, and cooling measures. The average savings for dwellings with electric heat averaged 3,050 kWh per dwelling. Overall, the weighted observed electricity savings were 86% of estimated for dwellings with non-electric heating, and 123% for dwellings with electric heat.

3. DETAILED SPENDING AND IMPACT PROFILES BY FUNDING ENTITY

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

We show a second table for each of the utilities in this report. These tables show the combined impacts of electricity and natural gas measures from all funding sources. 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.

**Alliant - Interstate Power and Light
Billing Adjusted Impacts for All Customers of the Utility From All Funding Sources**

Measure	Number of Dwellings with Impacts			Number of Dwellings with Electricity Impacts Season		Billing Adjusted First-Year Savings					Average Billing Adjusted Savings per Dwelling Receiving Measures									
	Total	Electric	Gas	Cooling	Heating	Electricity			Pk-Day therms	Gas Annual therms	Electricity			Pk-Day therms	Gas Annual therms					
						Summer kW	Summer kWh	Winter kWh			Summer kW	Winter kWh	Annual kWh							
Total Efficiency Measures	818	711	446	697	710	228.3		310.6		1,023,963	2,711	254,709	0.328	0.437	1,440	6.08	571			
Total Shell & Htg. Sys. Repl	816	709	446	639	708	184.2	216,995	245.3	371,545	588,540	2,591	233,529	0.288	0.346	525	830	5.81	524		
Total Shell Measures	816	709	446	639	708	184.2	216,995	241.2	365,427	582,422	1,707	154,282	0.288	0.341	516	821	3.83	346		
Wall Insul.	488	405	309	403	26	71.8	86,582	51.7	77,341	163,923	725	65,254	0.178	0.215	1,989	2,975	405	2.35	211	
Open Blown Ceiling Insul.	602	496	364	487	46	59.9	72,315	50.5	75,611	147,926	436	39,400	0.123	0.148	1,098	1,644	298	1.20	108	
Cavity Fill Insul.	168	134	107	129	14	10.3	12,399	12.4	18,527	30,926	114	10,570	0.080	0.096	0.888	1,323	231	1.07	99	
Sloped Attic Insul.	208	159	125	157	11	12.5	15,266	10.0	14,817	30,083	117	10,696	0.080	0.097	0.912	1,347	189	0.94	86	
Kneewall Insul.	154	120	93	117	6	4.4	5,322	0.6	940	6,262	34	3,184	0.038	0.045	0.104	157	52	0.37	34	
Infil. Reduction	766	630	438	619	61	14.7	17,781	19.5	29,095	46,876	187	16,773	0.024	0.029	0.319	477	74	0.43	38	
Found./Crawl. Insul.	253	113	191	103	24	11.4	13,793	11.0	16,474	30,267	78	6,973	0.110	0.134	0.460	686	268	0.41	37	
Bandjoist Insul.	257	28	229	-	28	0.0	0	4.3	6,491	6,491	38	3,441	0.000	0.000	0.155	232	232	0.17	15	
Furnace Blower Fan ¹	753	646	446	-	646	0.0	0	90.7	141,026	141,026	(7)	(660)	0.000	0.000	0.140	218	218	(0.02)	(1)	
Exhaust Ventilation ²	200	168	111	168	168	-0.8	(6,463)	(9.7)	(14,894)	(21,358)	(15)	(1,349)	-0.005	(0.038)	(0.058)	(89)	(127)	(0.13)	(12)	
Total Heating System Repl	315	25	290	-	25	0.0	0	4.1	6,118	6,118	884	79,247	0.000	0.000	0.163	245	245	3.05	273	
Condensing Htg Sys Repl	282	0	282	-	-	0.0	0	0.0	0	0	865	77,523	-	-	-	-	-	3.07	275	
Non-Cond Htg Sys Repl	10	0	10	-	-	0.0	0	0.0	0	0	19	1,724	-	-	-	-	-	1.90	172	
Electric Htg Sys Repl	21	21	0	-	21	0.0	0	3.4	5,028	5,028	0	0	0.000	0.000	0.160	239	239	-	-	
Heat Pump Repl	4	4	0	-	4	0.0	0	0.7	1,090	1,090	0	0	0.000	0.000	0.180	273	273	-	-	
Other Htg Sys Repl	0	0	0	-	0	0.0	0	0.0	0	0	0	0	-	-	-	-	-	-	-	
				Number of Measures by Fuel Type			Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms	Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms				
	Total	Electric	Gas	Total	Electric	Gas														
Water Heating	494	181	313	0	0	0	0.0	0.7	40,887	120.3	21,180	0.000	0.004	226	0.384	68				
Temp. Reduct.	0	0	0	0	0	0	0.0	0.0	0	0.0	0	-	-	-	-	-				
WH Wrap	0	0	0	0	0	0	0.0	0.0	0	0.0	0	-	-	-	-	-				
Pipe Insul.	371	134	237	0	0	0	0.0	0.0	10,475	4.9	1,694	0.000	0.000	78	0.02	7				
LF Showerhead	98	40	58	0	0	0	0.0	0.3	12,210	2.9	891	0.000	0.007	305	0.05	15				
Faucet Aerator	168	61	107	0	0	0	0.0	0.2	7,309	1.7	511	0.000	0.003	120	0.02	5				
Std-Eff Wtr Htr Repl.	10	1	9	0	0	0	0.0	0.0	62	3.2	516	0.000	0.002	62	0.35	57				
Hi-Eff or Electric Wtr Htr Repl.	253	44	209	0	0	0	0.0	0.3	10,831	107.7	17,568	0.000	0.006	246	0.52	84				
Lighting	544	544	0	0	0	25.6	47.2	243,689	-	-	0.047	0.087	448	-	-					
Refrigerator/Freezer³	149	149	0	0	0	18.6	17.3	150,847	-	-	0.125	0.116	1,012	-	-					
Refrigerator Removal	0	0	0	0	0	0.0	0.0	0	-	-	-	-	-	-	-					
Refrigerator Exchange	122	122	0	0	0	14.7	13.8	119,680	-	-	0.121	0.113	981	-	-					
Freezer Removal	2	2	0	0	0	0.2	0.2	1,956	-	-	0.120	0.112	978	-	-					
Freezer Exchange	35	35	0	0	0	3.6	3.4	29,210	-	-	0.103	0.096	835	-	-					

Black Hills Energy
Billing Adjusted Costs and Impacts for Utility-Funded Measures Installed During Calendar Year 2014

Total Reported Labor, Materials and Utility Admin Expenditures: \$553,573
 Utility Administration Expenditures: \$26,687
 Total Labor and Material Expenditures: \$526,886

Measure	Number of Dwellings with Impacts						Number of Dwellings with Electricity Impacts						Billing Adjusted First-Year Savings						Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures										
	Total	Electric	Gas	Propane	Fuel Oil	Other	Season Cooling	Heating	Spending on Materials & Labor (\$)	Electricity		Annual kWh	Gas		Propane gallons	Fuel Oil gallons	Other Mbtu	Spending on Materials & Labor (\$)	Electricity		Annual kWh	Gas		Propane gallons	Fuel Oil gallons	Other Mbtu			
										Summer kWh	Winter kWh		Pk-Day therms	Annual therms					Pk-Day therms	Annual therms									
Total Efficiency Measures	131	0	131	0	0	0	0	445,336	0.0	0.0	0	225	21,675	0	0	0	3,400	-	-	-	1.72	165	-	-	-				
Total Shell & Htg. Sys. Repl	128	0	128	0	0	0	0	378,220	0.0	0.0	0	215	19,773	0	0	0	2,955	-	-	-	1.68	154	-	-	-				
Total Shell Measures	128	0	128	0	0	0	0	215,479	0.0	0.0	0	136	12,471	0	0	0	1,683	-	-	-	1.06	97	-	-	-				
Wall Insul.	67	0	67	0	0	0	0	85,934	0.0	0.0	0	55	5,085	0	0	0	1,283	-	-	-	0.83	76	-	-	-				
Open Blown Ceiling Insul	98	0	98	0	0	0	0	52,666	0.0	0.0	0	35	3,230	0	0	0	537	-	-	-	0.36	33	-	-	-				
Cavity Fill Insul	27	0	27	0	0	0	0	15,123	0.0	0.0	0	14	1,250	0	0	0	560	-	-	-	0.50	46	-	-	-				
Sloped Attic Insul	34	0	34	0	0	0	0	12,763	0.0	0.0	0	14	1,270	0	0	0	375	-	-	-	0.41	37	-	-	-				
Kneewall Insul	27	0	27	0	0	0	0	8,198	0.0	0.0	0	5	460	0	0	0	304	-	-	-	0.20	18	-	-	-				
Intili. Reducor	47	0	47	0	0	0	0	12,928	0.0	0.0	0	4	361	0	0	0	275	-	-	-	0.08	8	-	-	-				
Found./Crawl. Insul	56	0	56	0	0	0	0	19,402	0.0	0.0	0	7	600	0	0	0	346	-	-	-	0.12	11	-	-	-				
Bandjoist Insul.	50	0	50	0	0	0	0	8,464	0.0	0.0	0	2	228	0	0	0	169	-	-	-	0.05	5	-	-	-				
Furnace Blower Fan ¹	128	0	128	0	0	0	-	0	0.0	0.0	0	(0)	(34)	0	0	0	0	-	-	-	(0.00)	(0)	-	-	-				
Exhaust Ventilator ²	0	0	0	0	0	0	-	0	0.0	0.0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-				
Total Heating System Repl	73	0	73	0	0	0	-	162,741	0.0	0.0	0	79	7,302	0	0	0	2,229	-	-	-	1.09	100	-	-	-				
Condensing Htg Sys Rep	73	0	73	0	0	0	-	162,741	0.0	0.0	0	79	7,302	0	0	0	2,229	-	-	-	1.09	100	-	-	-				
Non-Cond Htg Sys Repl	0	0	0	0	0	0	-	0	0.0	0.0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-				
Electric Htg Sys Repl	0	0	0	0	0	0	-	0	0.0	0.0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-				
Heat Pump Repl	0	0	0	0	0	0	-	0	0.0	0.0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-				
Other Htg Sys Repl	0	0	0	0	0	0	-	0	0.0	0.0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-				
	Total	Electric	Gas	Propane	Fuel Oil	Other	Total	Electric	Gas	Propane	Fuel Oil	Other	Summer kWh	Winter kWh	Annual kWh	Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu	Summer kWh	Winter kWh	Annual kWh	Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu	
Water Heating	87	0	87	0	0	0	157	0	157	0	0	0	67,115	0.0	0.0	0	10.5	1,903	0	0	771	-	-	-	0.121	22	-	-	-
Temp. Reduct.	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	0	0	-	-	-	-	-	-	-	
WH Wrap	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	0	0	-	-	-	-	-	-	-	
Pipe Insul.	72	0	72	0	0	0	71	0	71	0	0	0	1,129	0.0	0.0	0	0.6	214	0	0	16	-	-	-	0.01	3	-	-	
LF Showerhead	11	0	11	0	0	0	12	0	12	0	0	0	120	0.0	0.0	0	0.3	105	0	0	11	-	-	-	0.03	10	-	-	
Faucet Aerator	17	0	17	0	0	0	30	0	30	0	0	0	132	0.0	0.0	0	0.2	54	0	0	8	-	-	-	0.01	3	-	-	
Std-Eff Wtr Htr Repl.	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	0	-	-	-	-	-	-	-		
Hi-Eff or Electric Wtr Htr Repl.	49	0	49	0	0	0	44	0	44	0	0	0	65,734	0.0	0.0	0	9.4	1,530	0	0	1,342	-	-	-	0.19	31	-	-	
Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	-	-	-	-	0	-	-	-	-	-	-	-	
Refrigerator/Freezer ³	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	-	-	-	-	0	-	-	-	-	-	-	-	
Refrigerator Removal	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	-	-	-	-	0	-	-	-	-	-	-	-	
Refrigerator Exchange	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	-	-	-	-	0	-	-	-	-	-	-	-	
Freezer Removal	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	-	-	-	-	0	-	-	-	-	-	-	-	
Freezer Exchange	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	-	-	-	-	0	-	-	-	-	-	-	-	
Total Non-Efficiency Measures	130	0	130	0	0	0	0	81,550	0	0	0	0	0	0.0	0.0	0	-	-	-	-	627	-	-	-	-	-	-	-	
Misc Ins.,Attic Access/Vent	29	0	29	0	0	0	0	4,578	0	0	0	0	0	0.0	0.0	0	-	-	-	-	158	-	-	-	-	-	-	-	
Duct Sealing	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	-	-	-	-	0	-	-	-	-	-	-	-	
Duct Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	-	-	-	-	0	-	-	-	-	-	-	-	
Damming Material	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	-	-	-	-	0	-	-	-	-	-	-	-	
Htg. Sys. Tune & Clean	25	0	25	0	0	0	0	2,644	0	0	0	0	0	0.0	0.0	0	-	-	-	-	106	-	-	-	-	-	-	-	
Htg. Sys./WH Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	-	-	-	-	0	-	-	-	-	-	-	-	
Air Conditioning Work	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	-	-	-	-	0	-	-	-	-	-	-	-	
Water Heater Repair	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	-	-	-	-	0	-	-	-	-	-	-	-	
Refrigerator Coil Clean	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	-	-	-	-	0	-	-	-	-	-	-	-	
Waterbed Mattress Pad	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	-	-	-	-	0	-	-	-	-	-	-	-	
Programmable Tstat	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	-	-	-	-	0	-	-	-	-	-	-	-	
Unspecified Utility Meas	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	-	-	-	-	0	-	-	-	-	-	-	-	
CO Detector	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	-	-	-	-	0	-	-	-	-	-	-	-	
Smoke Detector	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	-	-	-	-	0	-	-	-	-	-	-	-	
Fuses	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	-	-	-	-	0	-	-	-	-	-	-	-	
Htg Sys Safety Check	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	-	-	-	-	0	-	-	-	-	-	-	-	
Htg Sys Ventilation	5	0	5	0	0	0	0	967	0	0	0	0	0	0.0	0.0	0	-	-	-	-	193	-	-	-	-	-	-	-	
Water Heater Ventilation	57	0	57	0	0	0	0	13,826	0	0	0	0	0	0.0	0.0	0	-	-											

Black Hills Energy
Billing Adjusted Impacts for All Customers of the Utility From All Funding Sources

Measure	Number of Dwellings with Impacts			Number of Dwellings with Electricity Impacts Season		Billing Adjusted First-Year Savings					Average Billing Adjusted Savings per Dwelling Receiving Measures							
	Total	Electric	Gas	Cooling	Heating	Electricity			Gas	Electricity			Gas					
						Summer kW	Winter kWh	Annual kWh		Summer kW	Winter kWh	Annual kWh		Pk-Day therms	Annual therms			
Total Efficiency Measures	199	0	199	0	0	0.0	0.0	0	0	0	822	79,941	-	-	-	4.13	402	
Total Shell & Htg. Sys. Repl	199	0	199	0	0	0.0	0	0.0	0	0	779	72,311	-	-	-	3.92	363	
Total Shell Measures	199	0	199	0	0	0.0	0	0.0	0	0	500	46,444	-	-	-	2.51	233	
Wall Insul.	115	0	115	0	0	0.0	0	0.0	0	0	194	18,011	-	-	-	1.68	157	
Open Blown Ceiling Insul.	159	0	159	0	0	0.0	0	0.0	0	0	112	10,463	-	-	-	0.71	66	
Cavity Fill Insul.	45	0	45	0	0	0.0	0	0.0	0	0	40	3,754	-	-	-	0.90	83	
Sloped Attic Insul.	61	0	61	0	0	0.0	0	0.0	0	0	47	4,341	-	-	-	0.77	71	
Kneewall Insul.	41	0	41	0	0	0.0	0	0.0	0	0	15	1,431	-	-	-	0.38	35	
Infil. Reduction	195	0	195	0	0	0.0	0	0.0	0	0	61	5,682	-	-	-	0.31	29	
Found./Crawl. Insul.	97	0	97	0	0	0.0	0	0.0	0	0	27	2,511	-	-	-	0.28	26	
Bandjoist Insul.	87	0	87	-	0	0.0	0	0.0	0	0	9	820	-	-	-	0.10	9	
Furnace Blower Fan ¹	199	0	199	-	0	0.0	0	0.0	0	0	(3)	(234)	-	-	-	(0.01)	(1)	
Exhaust Ventilation ²	28	0	28	0	0	0.0	0	0.0	0	0	(4)	(337)	-	-	-	(0.13)	(12)	
Total Heating System Repl	130	0	130	-	0	0.0	0	0.0	0	0	279	25,867	-	-	-	2.15	199	
Condensing Htg Sys Repl	119	0	119	-	-	0.0	0	0.0	0	0	264	24,477	-	-	-	2.22	206	
Non-Cond Htg Sys Repl	12	0	12	-	-	0.0	0	0.0	0	0	15	1,390	-	-	-	1.25	116	
Electric Htg Sys Repl	0	0	0	-	0	0.0	0	0.0	0	0	0	0	-	-	-	-	-	
Heat Pump Repl	0	0	0	-	0	0.0	0	0.0	0	0	0	0	-	-	-	-	-	
Other Htg Sys Repl	0	0	0	-	0	0.0	0	0.0	0	0	0	0	-	-	-	-	-	
				Number of Measures by Fuel Type			Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms	Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms		
	Total	Electric	Gas	Total	Electric	Gas												
Water Heating	155	0	155	0	0	0	0.0	0.0	0	43.1	7,630	-	-	-	0.278	49		
Temp. Reduct.	0	0	0	0	0	0	0.0	0.0	0	0.0	0	-	-	-	-	-		
WH Wrap	0	0	0	0	0	0	0.0	0.0	0	0.0	0	-	-	-	-	-		
Pipe Insul.	127	0	127	0	0	0	0.0	0.0	0	2.1	731	-	-	-	0.02	6		
LF Showerhead	16	0	16	0	0	0	0.0	0.0	0	0.9	284	-	-	-	0.06	18		
Faucet Aerator	33	0	33	0	0	0	0.0	0.0	0	0.6	171	-	-	-	0.02	5		
Std-Eff Wtr Htr Repl.	4	0	4	0	0	0	0.0	0.0	0	1.2	198	-	-	-	0.30	50		
Hi-Eff or Electric Wtr Htr Repl.	94	0	94	0	0	0	0.0	0.0	0	38.3	6,247	-	-	-	0.41	66		
Lighting	0	0	0	0	0	0	0.0	0.0	0	-	-	-	-	-	-	-	-	
Refrigerator/Freezer³	0	0	0	0	0	0	0.0	0.0	0	-	-	-	-	-	-	-	-	
Refrigerator Removal	0	0	0	0	0	0	0.0	0.0	0	-	-	-	-	-	-	-	-	
Refrigerator Exchange	0	0	0	0	0	0	0.0	0.0	0	-	-	-	-	-	-	-	-	
Freezer Removal	0	0	0	0	0	0	0.0	0.0	0	-	-	-	-	-	-	-	-	
Freezer Exchange	0	0	0	0	0	0	0.0	0.0	0	-	-	-	-	-	-	-	-	

MidAmerican Energy
Billing Adjusted Costs and Impacts for Utility-Funded Measures Installed During Calendar Year 2014

Total Reported Labor, Materials and Utility Admin Expenditures: \$2,487,440
 Utility Administration Expenditures: \$89,964
 Total Labor and Material Expenditures: \$2,397,476

Measure	Number of Dwellings with Impacts						Number of Dwellings with Electricity Impacts						Billing Adjusted First-Year Savings						Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures											
	Total	Electric	Gas	Propane	Fuel Oil	Other	Season		Spending on Materials & Labor (\$)	Electricity			Gas			Spending on Materials & Labor (\$)	Electricity			Gas										
							Cooling	Heating		Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Pk-Day thrms		Annual thrms	Propane gallons	Fuel Oil gallons	Other Mbtu	Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Pk-Day thrms	Annual thrms	Propane gallons	Fuel Oil gallons	Other Mbtu
Total Efficiency Measures	526	403	445	0	0	0	394	403	2,036,757	72.5	63.1	282,819	1,034	99,335	0	0	0	3,872	0.184	0.156	702	2.32	223	-	-	-				
Total Shell & Htg. Sys. Repl	515	394	437	0	0	0	325	394	1,658,647	57.1	68,904	38.8	59,265	128,169	977	88,958	0	0	3,221	0.176	0.098	150	325	2.24	204	-	-	-		
Total Shell Measures	515	394	437	0	0	0	325	394	990,792	57.1	68,904	38.2	58,466	127,370	636	57,898	0	0	1,924	0.176	0.097	148	323	1.46	132	-	-	-		
Wall Insul.	282	189	231	0	0	0	189	7	368,242	21.4	25,854	6.2	9,594	35,448	213	19,360	0	0	1,306	0.113	0.098	1,371	188	0.92	84	-	-	-		
Open Blown Ceiling Insul	400	283	333	0	0	0	283	10	248,144	22.7	27,388	6.4	9,688	37,076	216	19,683	0	0	620	0.080	0.097	969	131	0.65	59	-	-	-		
Cavity Fill Insul	132	89	118	0	0	0	88	3	75,714	3.6	4,373	0.9	1,324	5,697	68	6,179	0	0	574	0.041	0.084	441	64	0.57	52	-	-	-		
Sloped Attic Insul	123	87	97	0	0	0	87	2	46,269	4.3	5,175	1.3	2,028	7,203	48	4,328	0	0	376	0.049	0.062	1,014	83	0.49	45	-	-	-		
Kneewall Insul	108	74	92	0	0	0	74	2	31,985	1.5	1,850	0.7	1,043	2,993	19	1,730	0	0	296	0.021	0.034	521	39	0.21	19	-	-	-		
Intlg. Reduct	210	162	184	0	0	0	162	7	66,002	1.5	1,820	0.4	635	2,454	22	1,983	0	0	314	0.009	0.061	91	15	0.12	11	-	-	-		
Found./Crawl. Insul	183	34	172	0	0	0	33	5	132,840	2.0	2,444	1.3	1,916	4,360	44	4,041	0	0	726	0.061	0.057	383	128	0.26	23	-	-	-		
Bandjoist Insul.	132	5	127	0	0	0	-	5	21,595	0.0	0.0	0.5	843	843	8	776	0	0	164	0.000	0.110	169	169	0.07	6	-	-	-		
Furnace Blower Fan ¹	502	381	437	0	0	0	-	381	0	0.0	0.0	20.5	31,397	31,397	(2)	(183)	0	0	0	0.000	0.054	82	82	(0.00)	(0)	-	-	-		
Exhaust Ventilator ²	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	
Total Heating System Repl	273	6	267	0	0	0	-	6	667,855	0.0	0.0	0.5	799	799	341	31,060	0	0	2,446	0.000	0.088	133	133	1.28	116	-	-	-		
Condensing Htg Sys Rep	267	0	267	0	0	0	-	-	650,614	0.0	0.0	0.0	0	0	341	31,060	0	0	2,437	-	-	-	-	1.28	116	-	-	-		
Non-Cond Htg Sys Repl	0	0	0	0	0	0	-	-	0	0.0	0.0	0.0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-		
Electric Htg Sys Repl	4	4	0	0	0	0	-	4	13,643	0.0	0.0	0.2	329	329	0	0	0	0	3,411	0.000	0.056	82	82	-	-	-	-	-		
Heat Pump Repl	2	2	0	0	0	0	-	2	3,598	0.0	0.0	0.3	470	470	0	0	0	0	1,799	0.000	0.151	235	235	-	-	-	-	-		
Other Htg Sys Repl	0	0	0	0	0	0	-	0	0	0.0	0.0	0.0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-		
Measure	Number of Dwellings with Impacts						Number of Measures by Fuel Type						Billing Adjusted First-Year Savings						Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures											
	Total	Electric	Gas	Propane	Fuel Oil	Other	Total	Electric	Gas	Propane	Fuel Oil	Other	Summer kW	Winter kW	Annual kWh	Pk-Day thrms	Annual thrms	Propane gallons	Fuel Oil gallons	Other Mbtu	Summer kW	Winter kW	Annual kWh	Pk-Day thrms	Annual thrms	Propane gallons	Fuel Oil gallons	Other Mbtu		
Water Heating	422	70	352	0	0	0	1,076	163	913	0	0	0	306,501	0.0	0.3	14,696	56.6	10,377	0	0	0	726	0.000	0.004	210	0.161	29	-	-	-
Temp. Reduct.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WH Wrap	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pipe Insul.	351	55	296	0	0	0	351	55	296	0	0	0	4,306	0.0	0.0	2,732	2.7	953	0	0	0	12	0.000	0.000	50	0.01	3	-	-	-
LF Showerhead	147	29	118	0	0	0	155	32	123	0	0	0	1,490	0.0	0.2	6,619	3.0	910	0	0	0	10	0.000	0.005	228	0.03	8	-	-	-
Faucet Aerator	201	33	168	0	0	0	348	55	293	0	0	0	1,180	0.0	0.1	2,408	1.4	438	0	0	0	6	0.000	0.002	73	0.01	3	-	-	-
Std-Eff Wtr Htr Repl.	3	0	3	0	0	0	3	0	3	0	0	0	4,352	0.0	0.0	0	0.2	37	0	0	0	1,451	0.000	0.003	128	0.08	12	-	-	-
Hi-Eff or Electric Wtr Htr Repl.	236	23	213	0	0	0	219	21	198	0	0	0	295,173	0.0	0.1	2,937	49.3	8,039	0	0	0	1,251	0.030	0.055	284	0.23	38	-	-	-
Lighting	353	353	0	0	0	0	3,772	3,772	0	0	0	25,115	10.5	19.5	100,292	-	-	-	-	-	71	0.030	0.055	284	-	-	-	-	-	-
Refrigerator/Freezer ³	76	76	0	0	0	0	79	79	0	0	0	46,493	4.9	4.6	39,662	-	-	-	-	-	612	0.064	0.060	522	-	-	-	-	-	-
Refrigerator Removal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Refrigerator Exchange	68	68	0	0	0	0	67	67	0	0	0	40,471	4.3	4.0	34,560	-	-	-	-	-	595	0.063	0.058	508	-	-	-	-	-	-
Freezer Removal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Freezer Exchange	12	12	0	0	0	0	12	12	0	0	0	6,022	0.6	0.6	5,102	-	-	-	-	-	502	0.052	0.049	425	-	-	-	-	-	-
Total Non-Efficiency Measures	547	0	0	0	0	0	0	0	0	0	0	360,719	0	0	0	0	0	0	0	0	659	0	0	0	0	0	0	0	0	0
Misc Ins./Attic Access/Vent	102	0	0	0	0	0	0	0	0	0	0	13,083	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Duct Sealing	28	0	0	0	0	0	0	0	0	0	0	4,260	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Duct Insulation	2	0	0	0	0	0	0	0	0	0	0	568	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Damming Material	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Htg. Sys. Tune & Clean	122	0	0	0	0	0	0	0	0	0	0	13,485	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Htg. Sys./WH Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Air Conditioning Work	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Water Heater Repair	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Refrigerator Coil Clean	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Waterbed Mattress Pad	0	0	0	0																										

MidAmerican Energy
Billing Adjusted Impacts for All Customers of the Utility From All Funding Sources

Measure	Number of Dwellings with Impacts			Number of Dwellings with Electricity Impacts Season		Billing Adjusted First-Year Savings					Average Billing Adjusted Savings per Dwelling Receiving Measures									
	Total	Electric	Gas	Cooling	Heating	Electricity			Pk-Day therms	Gas Annual therms	Electricity			Pk-Day therms	Gas Annual therms					
						Summer kW	Summer kWh	Winter kW			Winter kWh	Annual kWh	Summer kW			Winter kW	Annual kWh			
Total Efficiency Measures	819	641	702	636	640	254.9		270.8		1,041,473	3,885	373,056	0.401	0.423	1,625	5.53	531			
Total Shell & Htg. Sys. Repl	819	640	702	589	638	203.6	239,716	191.6	293,384	533,099	3,679	335,893	0.346	407	0.300	460	833	5.24	478	
Total Shell Measures	819	640	702	589	638	203.6	239,716	189.7	290,517	530,233	2,396	218,873	0.346	407	0.297	455	828	3.41	312	
Wall Insul.	478	323	411	321	13	74.3	89,597	18.4	28,210	117,807	787	71,811	0.231	279	1.414	2,170	365	1.91	175	
Open Blown Ceiling Insul.	640	465	543	463	18	74.6	89,986	34.3	52,586	142,572	713	65,036	0.161	194	1.908	2,921	307	1.31	120	
Cavity Fill Insul.	237	162	212	160	6	13.0	15,724	4.0	6,231	21,956	251	23,007	0.081	98	0.667	1,039	136	1.18	109	
Sloped Attic Insul.	211	142	178	141	4	12.7	15,364	6.5	10,034	25,398	168	15,419	0.090	109	1.619	2,509	179	0.95	87	
Kneewall Insul.	185	128	161	127	5	5.4	6,474	3.4	5,262	11,737	69	6,308	0.042	51	0.674	1,052	92	0.43	39	
Infil. Reduction	793	558	681	555	23	16.0	19,313	8.3	12,742	32,056	278	25,349	0.029	35	0.362	554	57	0.41	37	
Found./Crawl. Insul.	321	77	299	71	12	8.4	10,091	8.9	13,592	23,683	139	12,691	0.118	142	0.740	1,133	308	0.46	42	
Bandjoist Insul.	215	5	210	-	5	0.0	0	1.1	1,687	1,687	27	2,530	0.000	0	0.220	337	337	0.13	12	
Furnace Blower Fan ¹	793	614	702	-	614	0.0	0	111.9	170,885	170,885	(11)	(975)	0.000	0	0.182	278	278	(0.02)	(1)	
Exhaust Ventilation ²	232	178	200	178	178	-0.8	(6,835)	(7.0)	(10,713)	(17,548)	(25)	(2,302)	-0.005	(38)	(0.039)	(60)	(99)	(0.13)	(12)	
Total Heating System Repl	510	10	500	-	10	0.0	0	1.9	2,866	2,866	1,283	117,019	0.000	0	0.188	287	287	2.57	234	
Condensing Htg Sys Repl	447	0	447	-	-	0.0	0	0.0	0	0	1,197	109,204	-	-	-	-	-	2.68	244	
Non-Cond Htg Sys Repl	57	0	57	-	-	0.0	0	0.0	0	0	85	7,816	-	-	-	-	-	1.50	137	
Electric Htg Sys Repl	7	7	0	-	7	0.0	0	1.0	1,457	1,457	0	0	0.000	0	0.137	208	208	-	-	
Heat Pump Repl	4	4	0	-	4	0.0	0	0.9	1,410	1,410	0	0	0.000	0	0.230	352	352	-	-	
Other Htg Sys Repl	0	0	0	-	0	0.0	0	0.0	0	0	0	0	-	-	-	-	-	-	-	
				Number of Measures by Fuel Type			Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms	Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms				
	Total	Electric	Gas	Total	Electric	Gas														
Water Heating	710	109	601	0	0	0	0.0	0.9	44,874	205.4	37,163	0.000	0.008	412	0.342	62				
Temp. Reduct.	0	0	0	0	0	0	0.0	0.0	0	0.0	0	-	-	-	-	-				
WH Wrap	0	0	0	0	0	0	0.0	0.0	0	0.0	0	-	-	-	-	-				
Pipe Insul.	601	90	511	0	0	0	0.0	0.0	8,329	9.4	3,252	0.000	0.000	93	0.02	6				
LF Showerhead	222	42	180	0	0	0	0.0	0.4	18,220	8.8	2,710	0.000	0.010	434	0.05	15				
Faucet Aerator	328	49	279	0	0	0	0.0	0.2	7,327	4.5	1,397	0.000	0.003	150	0.02	5				
Std-Eff Wtr Htr Repl.	43	3	40	0	0	0	0.0	0.0	288	9.6	1,560	0.000	0.002	96	0.24	39				
Hi-Eff or Electric Wtr Htr Repl.	399	39	360	0	0	0	0.0	0.3	10,711	173.1	28,244	0.000	0.007	275	0.48	78				
Lighting	576	576	0	0	0	33.2	61.4	316,350	-	-	0.058	0.107	549	-	-					
Refrigerator/Freezer³	149	149	0	0	0	18.1	16.9	147,149	-	-	0.121	0.114	988	-	-					
Refrigerator Removal	0	0	0	0	0	0.0	0.0	0	-	-	-	-	-	-	-					
Refrigerator Exchange	135	135	0	0	0	15.9	14.8	128,891	-	-	0.117	0.110	955	-	-					
Freezer Removal	0	0	0	0	0	0.0	0.0	0	-	-	-	-	-	-	-					
Freezer Exchange	20	20	0	0	0	2.2	2.1	18,258	-	-	0.112	0.105	913	-	-					

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4. DETAILED SPENDING AND IMPACT PROFILES BY AGENCY

This section provides tables of spending and impacts by agency for state and utility expenditures. Energy impacts were estimated according to the statewide algorithms, which include agency-specific adjustments.

New Opportunities

Billing Adjusted Costs and Impacts for All Measures Installed During Calendar Year 2014

Total Reported Labor, Materials and Utility Admin Expenditures: \$669,482

Utility Administration Expenditures: -

Total Labor and Material Expenditures: \$669,482

Measure	Number of Dwellings with Impacts						Number of Dwellings with kWh Impacts						Spending on Materials & Labor (\$)	Billing Adjusted First-Year Savings						Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures															
	Total	Electric	Gas	Propane	Fuel Oil	Other	Season Cooling	Heating	Summer kW	Electricity kWh	Winter kW	Annual kWh		Pk-Day therms	Gas Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu	Spending on Materials & Labor (\$)	Summer kW	Electricity kWh	Winter kW	Annual kWh	Pk-Day therms	Gas Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu							
																													Summer kW	Winter kW	Annual kWh	Pk-Day therms	Gas Annual therms	Propane gallons	Fuel Oil gallons
Total Efficiency Measures	52	52	47	5	0	0	52	52										396,407	9.1	4.0	22,294	152	14,286	1,614	0	0	7,623	0.176	0.077	429	3.23	304	323	-	-
Total Shell & Htg. Sys. Repl	52	52	47	5	0	0	52	52	334,708	8.3	9,659	2.5	3,845	13,504	146	13,317	1,538	0	0	6,437	0.159	186	0.048	74	260	3.11	283	308	-	-					
Total Shell Measures	52	52	47	5	0	0	52	52	186,579	8.3	9,659	2.5	3,845	13,504	75	6,804	786	0	0	3,588	0.159	186	0.048	74	260	1.59	145	157	-	-					
Wall Insul.	39	36	36	3	0	0	36	0	47,040	3.3	4,001	0.0	0	4,001	33	3,034	155	0	0	1,206	0.092	111	0.000	0	111	0.92	84	52	-	-					
Open Blown Ceiling Insul	47	44	42	5	0	0	44	0	29,652	2.1	2,482	0.0	0	2,482	13	1,210	365	0	0	631	0.047	56	0.000	0	56	0.32	29	73	-	-					
Cavity Fill Insul	20	18	17	3	0	0	18	0	13,588	0.8	912	0.0	0	912	9	843	190	0	0	679	0.042	51	0.000	0	51	0.54	50	63	-	-					
Sloped Attic Insul	21	20	21	0	0	0	20	0	6,867	1.0	1,200	0.0	0	1,200	8	732	0	0	0	317	0.050	60	0.000	0	60	0.38	35	-	-	-					
KneeWall Insul	19	19	18	1	0	0	19	0	3,278	0.2	257	0.0	0	257	1	136	6	0	0	173	0.011	14	0.000	0	14	0.08	8	6	-	-					
Intlg. Reductor	51	48	46	5	0	0	48	0	32,528	0.5	617	0.0	0	617	8	701	72	0	0	640	0.011	13	0.000	0	13	0.17	15	14	-	-					
Found./Crawl. Insul	22	12	21	1	0	0	12	0	8,466	0.5	579	0.0	0	579	3	285	18	0	0	385	0.040	48	0.000	0	48	0.15	14	18	-	-					
Bandjoist Insul.	11	0	10	1	0	0	-	0	803	0.0	0	0.0	0	0	0	29	1	0	0	73	-	-	-	-	-	0.03	3	1	-	-					
Furnace Blower Fan ¹	52	52	47	5	0	0	-	52	0	0.0	0	2.8	4,232	4,232	(0)	(23)	(3)	0	0	0	0	0.000	0	0.053	81	81	(0.01)	(0)	(1)	-	-				
Exhaust Ventilator ²	27	27	24	3	0	0	27	27	44,458	0.0	(387)	(0.3)	(387)	(775)	(2)	(143)	(19)	0	0	0	1,647	-0.002	(14)	(0.009)	(14)	(29)	(0.07)	(6)	(6)	-	-				
Total Heating System Repl	47	0	42	5	0	0	-	0	148,129	0.0	0	0.0	0	0	71	6,513	752	0	0	3,152	-	-	-	-	-	1.70	155	150	-	-					
Condensing Htg Sys Rep	46	0	41	5	0	0	-	-	142,118	0.0	0	0.0	0	0	67	6,088	752	0	0	3,090	-	-	-	-	-	1.63	148	150	-	-					
Non-Cond Htg Sys Repl	2	0	2	0	0	0	-	-	6,011	0.0	0	0.0	0	0	5	426	0	0	0	3,006	-	-	-	-	-	2.33	213	-	-	-					
Electric Htg Sys Repl	0	0	0	0	0	0	-	0	0	0.0	0	0.0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-					
Heat Pump Repl	0	0	0	0	0	0	-	0	0	0.0	0	0.0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-					
Other Htg Sys Repl	0	0	0	0	0	0	-	0	0	0.0	0	0.0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-					
	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	51	18	31	2	0	0	51	18	31	2	0	0	58,846	0.0	0.0	831	5.9	970	77	0	0	1,154	0.000	0.001	46	0.190	31	38	-	-					
Temp. Reduct.	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	0	0	-	-	-	-	-	-	-	-	-					
WH Wrap	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	0	0	-	-	-	-	-	-	-	-	-					
Pipe Insul.	17	12	5	0	0	0	17	12	5	0	0	0	156	0.0	0.0	326	0.0	17	0	0	9	0.000	0.000	27	0.01	3	-	-	-	-					
LF Showerhead	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	0	0	-	-	-	-	-	-	-	-	-					
Faucet Aerator	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	0	0	-	-	-	-	-	-	-	-	-					
Std-Eff Wtr Htr Repl.	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	0	0	-	-	-	-	-	-	-	-	-					
Hi-Eff or Electric Wtr Htr Repl.	34	6	26	2	0	0	34	6	26	2	0	0	58,690	0.0	0.0	505	5.6	953	77	0	0	1,726	0.000	0.002	84	0.22	37	38	-	-					
Lighting	49	49	255	255	648	0	49	49	255	255	648	0	648	0.7	1.4	6,965	-	-	-	-	735	0.015	0.028	142	-	-	-	-	-	-					
Refrigerator/Freezer ³	3	3	0	0	0	0	3	3	2,205	0.1	0.1	0.1	994	-	-	-	-	-	-	0	0.041	0.038	331	-	-	-	-	-	-						
Refrigerator Removal	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-						
Refrigerator Exchange	2	2	2	2	2	2	2	2	1,640	0.1	0.1	0.1	649	-	-	-	-	-	-	0	0.040	0.037	324	-	-	-	-	-	-						
Freezer Removal	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-						
Freezer Exchange	1	1	1	1	1	1	1	1	565	0.0	0.0	0.0	345	-	-	-	-	-	-	0	0.042	0.040	345	-	-	-	-	-	-						
Total Non-Efficiency Measures	52	52	273,075	273,075	5,251	0	52	52	273,075	273,075	5,251	0	5,251	0.7	1.4	6,965	-	-	-	-	735	0.015	0.028	142	-	-	-	-	-	-					
Misc Ins.,Attic Access/Vent	50	0	0	0	0	0	50	0	13,126	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-	-	-	-	-						
Duct Sealing	20	0	0	0	0	0	20	0	2,545	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-	-	-	-	-						
Duct Insulation	26	0	0	0	0	0	26	0	553	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-	-	-	-	-						
Damming Material	7	0	0	0	0	0	7	0	1,504	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-	-	-	-	-						
Htg. Sys. Tune & Clean	19	0	0	0	0	0	19	0	8,847	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-	-	-	-	-						
Htg. Sys./WH Other	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-	-	-	-	-						
Air Conditioning Work	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-	-	-	-	-						
Water Heater Repair	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-	-	-	-	-						
Refrigerator Coil Clean	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-	-	-	-	-						
Waterbed Mattress Pad	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-	-	-	-	-						
Programmable Tstat	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-	-	-	-	-						
Unspecified Utility Meas	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-	-	-	-	-						
CO Detector	52	0	0	0	0	0	52	0	2,038	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-	-	-	-	-						
Smoke Detector	52	0	0	0	0	0	52	0	996	0	0	0	0	0	0.0	0.0	0	0.0																	

Hawkeye Area Community Action Program
Billing Adjusted Costs and Impacts for All Measures Installed During Calendar Year 2014

Total Reported Labor, Materials and Utility Admin Expenditures: \$2,249,147
 Utility Administration Expenditures: -
 Total Labor and Material Expenditures: \$2,249,147

Measure	Number of Dwellings with Impacts						Number of Dwellings with kWh Impacts						Billing Adjusted First-Year Savings										Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures												
	Total	Electric	Gas	Propane	Fuel Oil	Other	Season		Spending on Materials & Labor (\$)	Electricity			Gas			Spending on Materials & Labor (\$)	Electricity			Gas			Propane	Fuel Oil	Other										
							Cooling	Heating		Summer kW	Winter kWh	Annual kWh	Pk-Day therms	Annual therms	Propane gallons		Fuel Oil gallons	Other Mbtu	Summer kW	Winter kWh	Annual kWh	Pk-Day therms				Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu						
Total Efficiency Measures	176	176	153	19	0	0	176	176	1,194,611	16.9	20.0	80,189	451	43,245	5,872	0	0	6,788	0.096	0.113	456	2.95	283	309	-	-									
Total Shell & Htg. Sys. Repl	176	176	153	19	0	0	161	176	1,027,417	11.9	13,332	12.4	19,160	32,492	428	39,355	5,686	0	0	5,838	0.074	83	0.071	109	185	2.80	257	299	-	-					
Total Shell Measures	176	176	153	19	0	0	161	176	770,027	11.9	13,332	12.4	19,054	32,386	291	26,747	4,267	0	0	4,375	0.074	83	0.070	108	184	1.90	175	225	-	-					
Wall Insul.	95	82	84	10	0	0	82	1	257,127	3.8	4,628	1.1	1,769	6,397	94	8,623	1,203	0	0	2,707	0.047	56	1.149	1,769	78	1.12	103	120	-	-					
Open Blown Ceiling Insul	117	103	99	16	0	0	102	2	127,006	4.2	5,076	1.9	2,899	7,975	99	9,064	2,190	0	0	1,086	0.041	50	0.941	1,450	77	1.00	92	137	-	-					
Cavity Fill Insul	22	17	21	1	0	0	17	0	22,180	0.4	426	0.0	0	426	14	1,303	47	0	0	1,008	0.021	25	0.000	0	25	0.68	62	47	-	-					
Sloped Attic Insul	38	32	34	4	0	0	32	0	23,110	0.6	671	0.0	0	671	17	1,586	284	0	0	608	0.017	21	0.000	0	21	0.51	47	71	-	-					
Kneewall Insul	35	28	30	5	0	0	28	0	16,391	0.2	241	0.0	0	241	7	624	101	0	0	468	0.007	9	0.000	0	9	0.23	21	20	-	-					
Intfl. Reduction	175	153	153	18	0	0	151	4	137,435	1.8	2,120	1.3	1,954	4,074	40	3,718	264	0	0	785	0.012	14	0.317	488	27	0.26	24	15	-	-					
Found./Crawl. Insul	84	25	70	10	0	0	22	4	74,371	1.2	1,423	0.8	1,248	2,671	23	2,111	200	0	0	885	0.054	65	0.203	312	107	0.33	30	20	-	-					
Bandjoist Insul.	60	2	48	10	0	0	-	2	10,743	0.0	0	0.2	231	231	3	253	84	0	0	179	0.000	0	0.075	116	116	0.06	5	8	-	-					
Furnace Blower Fan ¹	172	172	153	19	0	0	-	172	0	0.0	0	8.6	13,175	13,175	(1)	(118)	(16)	0	0	0	0.000	0	0.050	77	77	(0.01)	(1)	(1)	-	-					
Exhaust Ventilator ²	80	80	64	13	0	0	80	80	101,663	-0.2	(1,253)	(1.4)	(2,222)	(3,475)	(5)	(417)	(91)	0	0	1,271	-0.002	(16)	(0.018)	(28)	(43)	(0.07)	(7)	(7)	-	-					
Total Heating System Repl	98	1	89	8	0	0	-	1	257,391	0.0	0.1	105	137	12,608	1,418	0	0	0	2,626	0.000	0	0.068	105	105	1.54	142	177	-	-						
Condensing Htg Sys Rep	80	0	73	7	0	0	-	-	223,584	0.0	0	0.0	0	0	119	10,923	1,281	0	0	2,795	-	-	-	-	1.63	150	183	-	-						
Non-Cond Htg Sys Repl	17	0	16	1	0	0	-	-	31,912	0.0	0	0.0	0	0	18	1,685	138	0	0	1,877	-	-	-	-	1.15	105	138	-	-						
Electric Htg Sys Repl	1	1	0	0	0	0	-	1	1,895	0.0	0	0.1	105	105	0	0	0	0	0	1,895	0.000	0	0.068	105	105	-	-	-	-	-					
Heat Pump Repl	0	0	0	0	0	0	-	0	0	0.0	0	0.0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-					
Other Htg Sys Repl	0	0	0	0	0	0	-	0	0	0.0	0	0.0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-					
							Number of Measures Installed by Fuel Type																												
	Total	Electric	Gas	Propane	Fuel Oil	Other	Total	Electric	Gas	Propane	Fuel Oil	Other	Summer kW	Winter kWh	Annual kWh	Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu		Summer kW	Winter kWh	Annual kWh	Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu						
Water Heating	149	38	105	6	0	0	208	48	152	8	0	0	140,289	0.0	0.1	3,338	23.1	3,890	187	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Temp. Reduct.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
WH Wrap	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pipe Insul.	103	33	66	4	0	0	103	33	66	4	0	0	1,468	0.0	0.0	1,383	0.7	245	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LF Showerhead	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Faucet Aerator	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Std-Eff Wtr Htr Repl.	8	0	8	0	0	0	8	0	8	0	0	0	9,386	0.0	0.0	0	1.3	217	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hi-Eff or Electric Wtr Htr Repl.	97	15	78	4	0	0	97	15	78	4	0	0	129,435	0.0	0.0	1,955	21.0	3,429	171	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting	147	147					1,393	1,393	9,983	3.2	5.8	30,058	-	-	-	-	-	-	-	-	0.021	0.040	204	-	-	-	-	-	-	-	-	-	-	-	
Refrigerator/Freezer ³	34	34					35	35	16,922	1.6	1.6	14,301	-	-	-	-	-	-	-	-	498	0.052	0.048	421	-	-	-	-	-	-	-	-	-		
Refrigerator Removal	0	0					0	0	0	0.0	0.0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Refrigerator Exchange	22	22					23	23	14,040	1.3	1.2	10,819	-	-	-	-	-	-	-	-	638	0.060	0.057	492	-	-	-	-	-	-	-	-	-		
Freezer Removal	0	0					0	0	0	0.0	0.0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Freezer Exchange	12	12					12	12	2,882	0.4	0.4	3,482	-	-	-	-	-	-	-	-	240	0.036	0.033	290	-	-	-	-	-	-	-	-	-		
Total Non-Efficiency Measures	176								1,054,536												5,992														
Misc Ins./Attic Access/Vent	133								65,856																										
Duct Sealing	69								20,498																										
Duct Insulation	124								12,572																										
Damming Material	71								4,727																										
Htg. Sys. Tune & Clean	67								4,823																										
Htg. Sys./WH Other	58								26,197																										
Air Conditioning Work	4								860																										
Water Heater Repair	12								946																										
Refrigerator Coil Clean	0																																		

**Community Action of Eastern Iowa
Billing Adjusted Costs and Impacts for All Measures Installed During Calendar Year 2014**

Total Reported Labor, Materials and Utility Admin Expenditures: \$1,560,616
 Utility Administration Expenditures: -
 Total Labor and Material Expenditures: \$1,560,616

Measure	Number of Dwellings with Impacts						Number of Dwellings with kWh Impacts						Spending on Materials & Labor (\$)	Billing Adjusted First-Year Savings						Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures																				
	Total	Electric	Gas	Propane	Fuel Oil	Other	Season		Summer kW	Electricity Winter kWh	Annual kWh	Pk-Day therms		Gas Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu	Spending on Materials & Labor (\$)	Summer kW	Electricity		Pk-Day therms	Gas Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu														
							Cooling	Heating												kWh	kWh						kWh	kWh												
Total Efficiency Measures	144	144	140	2	0	0	144	144									825,060	18.6	22.4	93,430	343	33,232	478	0	0	5,730	0.129	0.155	649	2.45	237	239	-	-						
Total Shell & Htg. Sys. Repl	144	144	140	2	0	0	140	141									676,402	12.7	14,969	13.0	20,054	35,023	325	29,858	441	0	0	4,697	0.091	107	0.092	142	243	2.32	213	221	-	-		
Total Shell Measures	144	144	140	2	0	0	140	141									415,842	12.7	14,969	12.9	19,905	34,874	217	19,935	182	0	0	2,888	0.091	107	0.092	141	242	1.55	142	91	-	-		
Wall Insul.	71	66	69	0	0	0	66	2	103,014	3.8	4,525	2.1	3,284	7,809	77	7,114	0	0	0	0	0	0	0	0	0	0	1,451	0.057	69	1,066	1,642	118	1.12	103	-	-				
Open Blown Ceiling Insul	108	103	105	1	0	0	103	2	64,857	4.3	5,159	1.5	2,268	7,426	54	4,931	126	0	0	0	0	0	0	0	0	0	601	0.042	50	0.736	1,134	72	0.51	47	126	-	-			
Cavity Fill Insul	24	19	23	0	0	0	19	1	22,297	0.5	588	0.4	660	1,248	17	1,555	0	0	0	0	0	0	0	0	0	0	929	0.026	31	0.428	660	66	0.74	68	-	-				
Sloped Attic Insul	31	28	30	0	0	0	28	1	10,058	1.0	1,218	0.3	440	1,658	13	1,216	0	0	0	0	0	0	0	0	0	0	324	0.036	44	0.285	440	59	0.44	41	-	-				
Kneewall Insul	23	21	23	0	0	0	21	0	11,562	0.2	269	0.0	0	269	4	362	0	0	0	0	0	0	0	0	0	0	503	0.011	13	0.000	0	13	0.17	16	-	-				
Intfl. Reduction	142	136	138	2	0	0	136	2	83,064	1.4	1,745	0.4	601	2,346	31	2,832	56	0	0	0	0	0	0	0	0	0	585	0.011	13	0.195	301	17	0.22	21	28	-	-			
Found./Crawl. Insul	76	31	75	0	0	0	31	1	65,033	1.6	1,941	0.2	374	2,315	19	1,711	0	0	0	0	0	0	0	0	0	0	856	0.052	63	0.243	374	75	0.25	23	-	-				
Bandjoist Insul.	79	1	77	1	0	0	-	1	29,622	0.0	0	0.3	416	416	5	476	0	0	0	0	0	0	0	0	0	0	375	0.000	0	0.270	416	416	0.07	6	0	-	-			
Furnace Blower Fan ¹	142	139	140	2	0	0	-	139	0	0.0	0	8.2	12,659	12,659	(1)	(104)	(1)	0	0	0	0	0	0	0	0	0	0	0.000	0	0.059	91	91	(0.01)	(1)	(0)	-	-			
Exhaust Ventilator ²	27	27	26	0	0	0	27	27	26,336	-0.1	(475)	(0.5)	(798)	(1,273)	(2)	(157)	0	0	0	0	0	0	0	0	0	0	975	-0.002	(18)	(0.019)	(30)	(47)	(0.07)	(6)	-	-				
Total Heating System Repl	95	1	93	1	0	0	-	1	260,560	0.0	0	0.1	150	150	108	9,922	259	0	0	0	0	0	0	0	0	0	2,743	0.000	0	0.097	150	150	1.16	107	259	-	-			
Condensing Htg Sys Rep	88	0	87	1	0	0	-	-	244,830	0.0	0	0.0	0	0	105	9,648	259	0	0	0	0	0	0	0	0	0	2,782	-	-	-	-	-	1.21	111	259	-	-			
Non-Cond Htg Sys Repl	6	0	6	0	0	0	-	-	12,230	0.0	0	0.0	0	0	3	274	0	0	0	0	0	0	0	0	0	0	2,038	-	-	-	-	-	0.50	46	-	-				
Electric Htg Sys Repl	0	0	0	0	0	0	-	0	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-			
Heat Pump Repl	1	1	0	0	0	0	-	1	3,500	0.0	0	0.1	150	150	0	0	0	0	0	0	0	0	0	0	0	0	3,500	0.000	0	0.097	150	150	-	-	-	-	-	-		
Other Htg Sys Repl	0	0	0	0	0	0	-	0	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-			
	Total	Electric	Gas	Propane	Fuel Oil	Other	Number of Measures Installed by Fuel Type						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	142	35	106	1	0	0	368	83	281	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Temp. Reduct.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
WH Wrap	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pipe Insul.	120	26	93	1	0	0	120	26	93	1	0	0	0	896	0.9	312	4	0	0	0	0	0	0	0	0	0	16	0.000	0.000	0.000	34	0.01	3	4	-	-	-	-		
LF Showerhead	33	9	24	0	0	0	34	9	25	0	0	0	0	1,045	0.6	196	0	0	0	0	0	0	0	0	0	10	0.000	0.003	0.116	0.03	8	2	-	-	-	-				
Faucet Aerator	91	24	66	1	0	0	136	37	97	2	0	0	0	605	0.0	164	4	0	0	0	0	0	0	0	0	7	0.000	0.002	0.069	0.01	2	4	-	-	-	-				
Std-Eff Wtr Htr Repl.	4	1	2	1	0	0	4	1	2	1	0	0	0	5,850	0.0	0.0	28	0	0	0	0	0	0	0	1,463	0.000	0.002	0.079	0.13	21	28	-	-	-	-					
Hi-Eff or Electric Wtr Htr Repl.	74	10	64	0	0	0	74	10	64	0	0	0	0	110,801	0.0	0.0	16.3	2,667	0	0	0	0	0	0	1,497	0.000	0.004	0.154	0.26	42	-	-	-	-	-					
Lighting	132	132					1,442	1,442	10,142	4.2	7.7	39,840																												
Refrigerator/Freezer ³	29	29					32	32	18,970	1.6	1.5	13,361	-	-	-	-	-	-	-	-	-	-	-	-	-	654	0.037	0.053	461	-	-	-	-	-	-	-	-			
Refrigerator Removal	0	0					0	0	0	0.0	0.0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-				
Refrigerator Exchange	27	27					29	29	17,641	1.6	1.5	12,755	-	-	-	-	-	-	-	-	-	-	-	-	-	653	0.058	0.054	472	-	-	-	-	-	-	-	-			
Freezer Removal	0	0					0	0	0	0.0	0.0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-				
Freezer Exchange	2	2					3	3	1,329	0.1	0.1	606	-	-	-	-	-	-	-	-	-	-	-	-	-	665	0.037	0.035	303	-	-	-	-	-	-	-	-			
Total Non-Efficiency Measures	144								735,556																		5,108													
Misc Ins.,Attic Access/Vent	119								14,549																															
Duct Sealing	120								16,772																															
Duct Insulation	89					</																																		

Upper Des Moines Opportunity
Billing Adjusted Costs and Impacts for All Measures Installed During Calendar Year 2014

Total Reported Labor, Materials and Utility Admin Expenditures: **\$1,517,134**
 Utility Administration Expenditures: -
 Total Labor and Material Expenditures: **\$1,517,134**

Measure	Number of Dwellings with Impacts						Number of Dwellings with kWh Impacts						Spending on Materials & Labor (\$)	Billing Adjusted First-Year Savings						Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures																		
	Total	Electric	Gas	Propane	Fuel Oil	Other	Season Cooling	Heating	Summer kW	Electricity Winter kWh	Annual kWh	Pk-Day therms		Gas Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu	Spending on Materials & Labor (\$)	Summer kW	Electricity Winter kWh	Annual kWh	Pk-Day therms	Gas Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu												
																											Summer kW	Electricity Winter kWh	Annual kWh	Pk-Day therms	Gas Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu	Summer kW	Electricity Winter kWh	Annual kWh	Pk-Day therms
Total Efficiency Measures	126	126	102	18	1	0	126	126									928,685	21.2	17.4	65,817	292	29,581	5,680	155	0	7,371	0.168	0.138	522	2.86	290	316	155	-				
Total Shell & Htg. Sys. Repl	126	126	102	18	1	0	121	125	800,148	19.2	22,527	14.1	23,083	45,610	276	26,900	5,542	155	0	6,350	0.159	186	0.113	185	362	2.71	264	308	155	-	-	-	-	-				
Total Shell Measures	126	126	102	18	1	0	121	125	508,994	19.2	22,527	13.8	22,506	45,033	190	18,489	3,984	155	0	4,040	0.159	186	0.110	180	357	1.86	181	221	155	-	-	-	-	-				
Wall Insul.	101	96	83	15	1	0	96	2	188,954	8.0	9,589	1.5	2,496	12,086	79	7,652	1,460	54	0	1,871	0.083	100	0.765	1,248	126	0.95	92	97	54	-	-	-	-	-				
Open Blown Ceiling Insul	124	118	101	17	1	0	118	5	90,624	6.0	7,245	2.8	4,560	11,805	38	3,681	1,426	52	0	731	0.051	61	0.559	912	100	0.37	36	84	52	-	-	-	-	-				
Cavity Fill Insul	50	46	41	7	1	0	46	1	47,617	1.5	1,824	0.3	482	2,306	21	2,093	509	20	0	952	0.033	40	0.295	482	50	0.52	51	73	20	-	-	-	-	-				
Sloped Attic Insul	55	50	45	7	1	0	50	2	25,148	1.7	2,101	0.9	1,545	3,645	22	2,150	277	8	0	457	0.035	42	0.473	772	73	0.49	48	40	8	-	-	-	-	-				
Kneewall Insul	41	38	35	4	1	0	38	1	12,702	0.5	595	0.2	354	949	8	736	69	17	0	310	0.013	16	0.217	354	25	0.22	21	17	17	-	-	-	-	-				
Intfl. Reduction	118	112	97	15	1	0	112	5	56,990	1.1	1,315	0.4	693	2,008	15	1,489	169	5	0	483	0.010	12	0.085	139	18	0.16	15	11	5	-	-	-	-	-				
Found./Crawl. Insul	58	15	51	6	0	0	14	1	29,962	0.5	590	0.2	336	926	6	570	76	0	0	517	0.035	42	0.206	336	62	0.11	11	13	-	-	-	-	-	-				
Bandjoist Insul.	73	1	64	8	0	0	-	1	14,106	0.0	0	0.1	166	166	4	377	61	0	0	193	0.000	0	0.102	166	166	0.06	6	8	-	-	-	-	-	-				
Furnace Blower Fan ¹	121	120	102	18	1	0	-	120	0	0.0	0	8.1	13,256	13,256	(1)	(72)	(14)	(1)	0	0	0.000	0	0.068	110	110	(0.01)	(1)	(1)	(1)	-	-	-	-	-				
Exhaust Ventilator ²	43	43	33	8	0	0	43	43	42,890	-0.1	(734)	(0.8)	(1,380)	(2,114)	(2)	(186)	(49)	0	0	997	-0.002	(17)	(0.020)	(32)	(49)	(0.06)	(6)	(6)	-	-	-	-	-	-				
Total Heating System Repl	93	5	77	11	0	0	-	5	291,155	0.0	0	0.4	576	576	86	8,411	1,558	0	0	3,131	0.000	0	0.071	115	115	1.12	109	142	-	-	-	-	-	-				
Condensing Htg Sys Rep	88	0	77	11	0	0	-	-	263,864	0.0	0	0.0	0	0	86	8,411	1,558	0	0	2,998	-	-	-	-	-	1.12	109	142	-	-	-	-	-	-				
Non-Cond Htg Sys Repl	0	0	0	0	0	0	-	-	0	0.0	0	0.0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Electric Htg Sys Repl	0	0	0	0	0	0	-	0	0	0.0	0	0.0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Heat Pump Repl	5	5	0	0	0	0	-	5	27,291	0.0	0	0.4	576	576	0	0	0	0	0	5,458	0.000	0	0.071	115	115	-	-	-	-	-	-	-	-	-	-	-		
Other Htg Sys Repl	0	0	0	0	0	0	-	0	0	0.0	0	0.0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
		Total	Electric	Gas	Propane	Fuel Oil	Other	Total	Electric	Gas	Propane	Fuel Oil	Other	Summer kW	Winter kWh	Annual kWh	Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu	Spending on Materials & Labor (\$)	Summer kW	Winter kWh	Annual kWh	Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu								
Water Heating	125	38	82	5	0	0	209	47	153	9	0	0	0	112,113	0.0	0.0	2,040	15.6	2,681	138	0	0	0	0	0	897	0.000	0.001	54	0.190	33	-	-	-	-	-		
Temp. Reduct.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-		
WH Wrap	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-		
Pipe Insul.	125	38	82	5	0	0	125	38	82	5	0	0	0	2,147	0.0	0.0	1,197	0.8	261	17	0	0	0	0	0	17	0.000	0.000	32	0.01	3	3	-	-	-	-	-	
LF Showerhead	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-		
Faucet Aerator	1	0	1	0	0	0	2	0	2	0	0	0	0	5	0.0	0.0	0	0	3	0	0	0	0	0	0	5	-	-	-	0.01	3	-	-	-	-	-		
Std-Eff Wtr Htr Repl.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-		
Hi-Eff or Electric Wtr Htr Repl.	82	9	69	4	0	0	82	9	69	4	0	0	0	109,961	0.0	0.0	842	14.6	2,417	121	0	0	0	0	1,341	0.000	0.002	94	0.21	35	30	-	-	-	-	-	-	
Lighting	119	119					1,176	1,176	8,232	1.5	2.8	14,275	-	-	-	-	-	-	-	-	-	89	0.013	0.023	120	-	-	-	-	-	-	-	-	-	-	-	-	
Refrigerator/Freezer ³	10	10					10	10	8,192	0.5	0.4	3,893	-	-	-	-	-	-	-	-	-	819	0.048	0.045	389	-	-	-	-	-	-	-	-	-	-	-		
Refrigerator Removal	0	0					0	0	0	0.0	0.0	0	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Refrigerator Exchange	10	10					10	10	8,192	0.5	0.4	3,893	-	-	-	-	-	-	-	-	-	819	0.048	0.045	389	-	-	-	-	-	-	-	-	-	-	-	-	
Freezer Removal	0	0					0	0	0	0.0	0.0	0	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Freezer Exchange	0	0					0	0	0	0.0	0.0	0	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Total Non-Efficiency Measures	126								688,449												4,670																	
Misc Ins./Attic Access/Vent	122								26,855																													
Duct Sealing	5								735																													
Duct Insulation	18								1,017																													
Damming Material	68								1,793																													
Htg. Sys. Tune & Clean	64				</																																	

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5. DETAILED SPENDING AND IMPACT PROFILES BY AGENCY FOR UTILITY EXPENDITURES

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

New Opportunities

Billing Adjusted Costs and Impacts for Utility-Funded Measures Installed During Calendar Year 2014

Total Reported Labor, Materials and Utility Admin Expenditures: \$202,362

Utility Administration Expenditures: -
Total Labor and Material Expenditures: \$202,362

Measure	Number of Dwellings with Impacts			Number of Dwellings with Electricity Impacts Season			Spending on Materials & Labor (\$)	Billing Adjusted First-Year Savings					Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures										
	Total	Electric	Gas	Cooling	Heating	Summer kW		Electricity		Annual kWh	Pk-Day therms	Gas Annual therms	Spending on Materials & Labor (\$)	Summer		Electricity		Annual kWh	Pk-Day therms	Gas Annual therms			
								kWh	kWh					kWh	kWh	kWh	kWh						
Total Efficiency Measures	40	38	33	37	38		171,014	6.9	1.8	15,094	90	8,522	4,275	0.186	0.046	397	2.74	258					
Total Shell & Htg. Sys. Repl	40	38	33	36	38		136,887	6.2	7,491	0.6	944	8,435	87	7,921	3,422	0.173	208	0.016	25	222	2.63	240	
Total Shell Measures	40	38	33	36	38		69,219	6.2	7,491	0.6	944	8,435	48	4,397	1,730	0.173	208	0.016	25	222	1.46	133	
Wall Insul.	32	30	25	30	0		29,290	2.7	3,224	0.0	0	3,224	22	1,978	915	0.089	107	0.000	0	107	0.87	79	
Open Blown Ceiling Insul.	38	34	31	34	0		18,772	1.6	1,934	0.0	0	1,934	10	948	494	0.047	57	0.000	0	57	0.34	31	
Cavity Fill Insul.	17	14	15	14	0		9,850	0.5	644	0.0	0	644	8	729	579	0.038	46	0.000	0	46	0.53	49	
Sloped Attic Insul.	18	16	14	16	0		3,491	0.7	864	0.0	0	864	5	442	194	0.045	54	0.000	0	54	0.35	32	
Kneewall Insul.	18	18	13	18	0		1,999	0.2	250	0.0	0	250	1	114	111	0.012	14	0.000	0	14	0.10	9	
Infil. Reduction	0	0	0	0	0		0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-	
Found./Crawl. Insul.	17	12	14	12	0		5,239	0.5	574	0.0	0	574	2	173	308	0.040	48	0.000	0	48	0.14	12	
Bandjoist Insul.	7	0	7	-	0		579	0.0	0	0.0	0	0	0	21	83	-	-	-	-	-	0.03	3	
Furnace Blower Fan ¹	40	38	33	-	38		0	0.0	0	0.6	944	944	(0)	(8)	0	0.000	0	0.016	25	25	(0.00)	(0)	
Exhaust Ventilator ²	0	0	0	0	0		0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-	
Total Heating System Repl	26	0	26	-	0		67,667	0.0	0	0.0	0	0	39	3,525	2,603	-	-	-	-	-	-	1.49	136
Condensing Htg Sys Repl	26	0	26	-	-		67,667	0.0	0	0.0	0	0	39	3,525	2,603	-	-	-	-	-	-	1.49	136
Non-Cond Htg Sys Repl	0	0	0	-	-		0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-	-
Electric Htg Sys Repl	0	0	0	-	0		0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-	-
Heat Pump Repl	0	0	0	-	0		0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-	-
Other Htg Sys Repl	0	0	0	-	0		0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-	-
	Total	Electric	Gas	Number of Measures by Fuel Type				Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms		Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms					
Water Heating	29	7	22	25	7	18	31,442	0.0	0.0	393	3.7	601	1,084	0.000	0.001	56	0.166	27					
Temp. Reduct.	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-					
WH Wrap	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-					
Pipe Insul.	5	3	2	5	3	2	48	0.0	0.0	81	0.0	7	10	0.000	0.000	27	0.01	3					
LF Showerhead	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-					
Faucet Aerator	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-					
Std-Eff Wtr Htr Repl.	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-					
Hi-Eff or Electric Wtr Htr Repl.	24	4	20	20	4	16	31,394	0.0	0.0	311	3.6	594	1,308	0.000	0.002	78	0.18	30					
Lighting	34	34	194	194	194		480	0.6	1.0	5,273	-	-	14	0.016	0.030	155	-	-					
Refrigerator/Freezer³	3	3	3	3	3		2,205	0.1	0.1	994	-	-	735	0.041	0.038	331	-	-					
Refrigerator Removal	0	0	0	0	0		0	0.0	0.0	0	-	-	0	-	-	-	-	-					
Refrigerator Exchange	2	2	2	2	2		1,640	0.1	0.1	649	-	-	820	0.040	0.037	324	-	-					
Freezer Removal	0	0	0	0	0		0	0.0	0.0	0	-	-	0	-	-	-	-	-					
Freezer Exchange	1	1	1	1	1		565	0.0	0.0	345	-	-	565	0.042	0.040	345	-	-					
Total Non-Efficiency Measures	38						31,349						825										
Misc Ins.Attic Access/Vent	1						125						125										
Duct Sealing	0						0						0										
Duct Insulation	1						468						468										
Damming Material	0						0						0										
Htg. Sys. Tune & Clean	5						625						125										
Htg. Sys./WH Other	0						0						0										
Air Conditioning Work	0						0						0										
Water Heater Repair	0						0						0										
Refrigerator Coil Clean	0						0						0										
Waterbed Mattress Pad	0						0						0										
Programmable Tstat	0						0						0										
Unspecified Utility Meas.	0						0						0										
CO Detector	0						0						0										
Smoke Detector	0						0						0										
Fuses	0						0						0										
Htg Sys Safety Check	0						0						0										
Htg Sys Ventilation	7						1,500						214										
Water Heater Ventilation	26						7,438						286										
Bathroom Ventilation	0						0						0										
Dryer Ventilation	0						0						0										
Other Exhaust Ventilation	0						0						0										
Health/Safety Repairs	24						31,394						1,308										
Health/Safety Other	0						0						0										
Consumables	0						0						0										
General Repairs	0						0						0										
Meter Refrig (no action)	0						0						0										
Meter Freezer (no action)	0						0						0										
Support	38						21,193						558										
Transportation Allowance	0						0						0										
Landlord Contr Misc	0						0						0										
Landlord Contr Furnace	0						0						0										
Landlord Contr DHW	0						0						0										
Client Contr (Any)	0						0						0										
Lead Safe Work	0						0						0										
Unspecified/Other	0						0						0										

¹ Estimates are based upon reduced usage of the furnace due to shell improvements

² Impacts from continuous exhaust fans required by ASHRAE 62.2. The winter impacts exceed summer because these also include heating season impacts for dwellings with electric heat.

³ The total number of dwellings may exceed the number of measures installed in cases where the utility partially funds refrigeration measure replacements. The percentage of expenditures for each appliance is totaled to get the total number of measures installed.

Hawkeye Area Community Action Program
Billing Adjusted Costs and Impacts for Utility-Funded Measures Installed During Calendar Year 2014

Total Reported Labor, Materials and Utility Admin Expenditures: \$581,332

Utility Administration Expenditures: -
 Total Labor and Material Expenditures: \$581,332

Measure	Number of Dwellings with Impacts			Number of Dwellings with Electricity Impacts Season		Spending on Materials & Labor (\$)	Billing Adjusted First-Year Savings					Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures									
	Total	Electric	Gas	Cooling	Heating		Summer		Electricity		Annual	Pk-Day	Gas	Spending on Materials & Labor (\$)	Summer		Electricity		Annual	Pk-Day	Gas
							kW	kWh	kW	kWh					kWh	therms	therms	kWh			
Total Efficiency Measures	159	148	106	146	148	515,944	11.8	10.5	51,915	252	24,119	3,245	0.081	0.071	351	2.37	228				
Total Shell & Htg. Sys. Repl	145	123	104	102	123	421,403	8.3	9,990	5.1	7,900	17,890	239	21,954	2,906	0.081	98	0.042	64	145	2.30	211
Total Shell Measures	145	123	104	102	123	316,401	8.3	9,990	5.1	7,795	17,785	168	15,422	2,182	0.081	98	0.041	63	145	1.61	148
Wall Insul.	76	66	53	66	1	140,900	3.1	3,693	1.1	1,769	5,462	50	4,631	1,854	0.046	56	1.149	1,769	83	0.95	87
Open Blown Ceiling Insul.	101	87	72	86	2	79,357	3.4	4,067	1.9	2,899	6,966	74	6,781	786	0.039	47	0.941	1,450	80	1.02	94
Cavity Fill Insul.	18	15	13	15	0	14,545	0.3	397	0.0	0	397	10	6,785	808	0.022	26	0.000	0	26	0.73	67
Sloped Attic Insul.	30	27	17	27	0	10,980	0.5	568	0.0	0	568	10	900	366	0.017	21	0.000	0	21	0.58	53
Kneewall Insul.	27	24	18	24	0	8,706	0.2	210	0.0	0	210	4	399	322	0.007	9	0.000	0	9	0.24	22
Infil. Reduction	7	3	7	3	0	1,718	0.0	19	0.0	0	19	1	49	245	0.005	6	0.000	0	6	0.08	7
Found./Crawl. Insul.	59	20	49	17	4	53,915	0.9	1,036	0.4	663	1,699	18	1,665	914	0.051	61	0.108	166	85	0.37	34
Bandjoist Insul.	36	2	34	-	2	6,281	0.0	0	0.2	231	231	2	163	174	0.000	0	0.075	116	116	0.05	5
Furnace Blower Fan ¹	141	119	104	-	119	0	0.0	0	1.4	2,232	2,232	(0)	(41)	0	0.000	0	0.012	19	19	(0.00)	(0)
Exhaust Ventilator ²	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Total Heating System Repl	46	1	45	-	1	105,002	0.0	0	0.1	105	105	71	6,532	2,283	0.000	0	0.068	105	105	1.58	145
Condensing Htg Sys Repl	45	0	45	-	-	103,107	0.0	0	0.0	0	0	71	6,532	2,291	-	-	-	-	-	1.58	145
Non-Cond Htg Sys Repl	0	0	0	-	-	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Electric Htg Sys Repl	1	1	0	-	1	1,895	0.0	0	0.1	105	105	0	0	1,895	0.000	0	0.068	105	105	-	-
Heat Pump Repl	0	0	0	-	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Other Htg Sys Repl	0	0	0	-	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
	Total	Electric	Gas	Number of Measures by Fuel Type			Summer	Winter	Annual	Pk-Day	Annual		Summer	Winter	Annual	Pk-Day	Annual				
Water Heating	87	25	62	122	32	90	74,152	0.0	0.0	2,500	12.8	2,165	852	0.000	0.001	100	0.206	35			
Temp. Reduct.	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-			
WH Wrap	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-			
Pipe Insul.	65	23	42	65	23	42	893	0.0	0.0	1,068	0.4	154	14	0.000	0.000	46	0.01	4			
LF Showerhead	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-			
Faucet Aerator	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-			
Std-Eff Wtr Htr Repl.	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-			
Hi-Eff or Electric Wtr Htr Repl.	59	9	50	57	9	48	73,259	0.0	0.0	1,432	12.3	2,010	1,242	0.000	0.004	159	0.25	40			
Lighting	124	124		1,165	1,165		8,339	2.3	4.3	21,960	-	-	67	0.019	0.034	177	-	-			
Refrigerator/Freezer³	25	25		25	25		12,050	1.2	1.1	9,565	-	-	482	0.047	0.044	383	-	-			
Refrigerator Removal	0	0	0	0	0	0	0	0.0	0.0	0	-	-	0	-	-	-	-	-			
Refrigerator Exchange	17	17	0	17	17	0	10,177	1.0	0.9	7,879	-	-	599	0.057	0.053	463	-	-			
Freezer Removal	0	0	0	0	0	0	0	0.0	0.0	0	-	-	0	-	-	-	-	-			
Freezer Exchange	8	8	0	8	8	0	1,873	0.2	0.2	1,685	-	-	234	0.026	0.024	211	-	-			
Total Non-Efficiency Measures	159						65,388						411								
Misc Ins.Attic Access/Vent	0						0						0								
Duct Sealing	2						517						258								
Duct Insulation	0						0						0								
Damming Material	0						0						0								
Htg. Sys. Tune & Clean	21						1,753						83								
Htg. Sys./WH Other	0						0						0								
Air Conditioning Work	0						0						0								
Water Heater Repair	0						0						0								
Refrigerator Coil Clean	0						0						0								
Waterbed Mattress Pad	0						0						0								
Programmable Tstat	0						0						0								
Unspecified Utility Meas.	0						0						0								
CO Detector	0						0						0								
Smoke Detector	0						0						0								
Fuses	0						0						0								
Htg Sys Safety Check	0						0						0								
Htg Sys Ventilation	0						0						0								
Water Heater Ventilation	1						138						138								
Bathroom Ventilation	0						0						0								
Dryer Ventilation	0						0						0								
Other Exhaust Ventilation	0						0						0								
Health/Safety Repairs	59						73,259						1,242								
Health/Safety Other	0						0						0								
Consumables	0						0						0								
General Repairs	3						737						246								
Meter Refrig (no action)	0						0						0								
Meter Freezer (no action)	0						0						0								
Support	159						62,244						391								
Transportation Allowance	0						0						0								
Landlord Contr Misc	0						0						0								
Landlord Contr Furnace	0						0						0								
Landlord Contr DHW	0						0						0								
Client Contr (Any)	0						0						0								
Lead Safe Work	0						0						0								
Unspecified/Other	0						0						0								

¹ Estimates are based upon reduced usage of the furnace due to shell improvements

² Impacts from continuous exhaust fans required by ASHRAE 62.2. The winter impacts exceed summer because these also include heating season impacts for dwellings with electric heat.

³ The total number of dwellings may exceed the number of measures installed in cases where the utility partially funds refrigeration measure replacements. The percentage of expenditures for each appliance is totaled to get the total number of measures installed.

**Community Action of Eastern Iowa
Billing Adjusted Costs and Impacts for Utility-Funded Measures Installed During Calendar Year 2014**

Total Reported Labor, Materials and Utility Admin Expenditures: \$602,344

Utility Administration Expenditures: -
Total Labor and Material Expenditures: \$602,344

Measure	Number of Dwellings with Impacts			Number of Dwellings with Electricity Impacts Season			Spending on Materials & Labor (\$)	Billing Adjusted First-Year Savings					Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures								
	Total	Electric	Gas	Cooling	Heating	Summer kW		Electricity		Annual kWh	Pk-Day therms	Gas Annual therms	Spending on Materials & Labor (\$)	Summer		Electricity		Annual kWh	Pk-Day therms	Gas Annual therms	
								kWh	kWh					kWh	kWh	kWh	kWh				
Total Efficiency Measures	112	78	108	77	78	476,222	9.7	10.7	46,776	237	22,931	4,252	0.126	0.137	600	2.19	212				
Total Shell & Htg. Sys. Repl	112	77	108	72	77	397,844	6.8	8,247	5.7	8,834	17,081	224	20,629	3,552	0.095	115	0.074	115	222	2.08	191
Total Shell Measures	112	77	108	72	77	251,705	6.8	8,247	5.6	8,684	16,931	156	14,318	2,247	0.095	115	0.073	113	220	1.44	133
Wall Insul.	52	33	50	33	1	76,884	2.1	2,566	1.3	2,064	4,630	63	5,788	1,479	0.064	78	1.340	2,064	140	1.26	116
Open Blown Ceiling Insul.	79	55	76	55	1	43,056	2.2	2,666	0.1	163	2,829	35	3,230	545	0.040	48	0.106	163	51	0.46	42
Cavity Fill Insul.	22	15	21	15	1	18,797	0.4	444	0.4	660	1,104	14	1,324	854	0.025	30	0.428	660	74	0.69	63
Sloped Attic Insul.	22	13	21	13	1	7,048	0.7	886	0.3	440	1,326	9	871	320	0.057	68	0.285	440	102	0.45	41
Kneewall Insul.	18	14	18	14	0	9,886	0.2	224	0.0	0	224	4	333	549	0.013	16	0.000	0	16	0.20	18
Infil. Reduction	109	70	105	70	1	33,071	0.4	507	0.1	192	699	15	1,363	303	0.006	7	0.125	192	10	0.14	13
Found./Crawl. Insul.	57	14	56	14	1	44,116	0.8	954	0.2	374	1,329	13	1,168	774	0.057	68	0.243	374	95	0.23	21
Bandjoist Insul.	50	1	49	-	1	18,846	0.0	0	0.3	416	416	3	293	377	0.000	0	0.270	416	416	0.07	6
Furnace Blower Fan ¹	111	76	108	-	76	0	0.0	0	2.8	4,375	4,375	(1)	(52)	0	0.000	0	0.037	58	58	(0.01)	(0)
Exhaust Ventilator ²	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Total Heating System Repl	61	1	60	-	1	146,139	0.0	0	0.1	150	150	69	6,311	2,396	0.000	0	0.097	150	150	1.14	105
Condensing Htg Sys Repl	60	0	60	-	-	142,639	0.0	0	0.0	0	0	69	6,311	2,377	-	-	-	-	-	1.14	105
Non-Cond Htg Sys Repl	0	0	0	-	-	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Electric Htg Sys Repl	0	0	0	-	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Heat Pump Repl	1	1	0	-	1	3,500	0.0	0	0.1	150	150	0	0	3,500	0.000	0	0.097	150	150	-	-
Other Htg Sys Repl	0	0	0	-	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
	Total	Electric	Gas	Number of Measures by Fuel Type			Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms		Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms				
Water Heating	94	14	80	235	29	206	67,678	0.0	0.1	2,852	12.6	2,302	720	0.000	0.004	204	0.157	29			
Temp. Reduct.	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-			
WH Wrap	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-			
Pipe Insul.	78	9	69	78	9	69	1,233	0.0	0.0	484	0.7	232	16	0.000	0.000	54	0.01	3			
LF Showerhead	22	3	19	23	3	20	220	0.0	0.0	599	0.5	156	10	0.000	0.005	200	0.03	8			
Faucet Aerator	59	9	50	89	14	75	394	0.0	0.0	1,039	0.4	122	7	0.000	0.003	115	0.01	2			
Std-Eff Wtr Htr Repl.	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-			
Hi-Eff or Electric Wtr Htr Repl.	49	4	45	45	3	42	65,831	0.0	0.0	730	11.0	1,792	1,343	0.000	0.005	183	0.24	40			
Lighting	71	71	762	762	762	5,334	2.4	4.4	22,589	-	-	75	0.033	0.062	318	-	-				
Refrigerator/Freezer³	9	9	9	9	9	5,366	0.5	0.5	4,253	-	-	596	0.058	0.054	473	-	-				
Refrigerator Removal	0	0	0	0	0	0	0.0	0.0	0	-	-	0	-	-	-	-	-				
Refrigerator Exchange	8	8	8	8	8	4,801	0.5	0.5	4,030	-	-	600	0.062	0.058	504	-	-				
Freezer Removal	0	0	0	0	0	0	0.0	0.0	0	-	-	0	-	-	-	-	-				
Freezer Exchange	1	1	1	1	1	565	0.0	0.0	223	-	-	565	0.027	0.026	223	-	-				
Total Non-Efficiency Measures	112					126,122						1,126									
Misc Ins.Attic Access/Vent	45					2,089						46									
Duct Sealing	44					6,760						154									
Duct Insulation	0					0						0									
Damming Material	0					0						0									
Htg. Sys. Tune & Clean	95					11,875						125									
Htg. Sys./WH Other	0					0						0									
Air Conditioning Work	0					0						0									
Water Heater Repair	0					0						0									
Refrigerator Coil Clean	0					0						0									
Waterbed Mattress Pad	0					0						0									
Programmable Tstat	37					3,685						100									
Unspecified Utility Meas.	0					0						0									
CO Detector	0					0						0									
Smoke Detector	0					0						0									
Fuses	0					0						0									
Htg Sys Safety Check	0					0						0									
Htg Sys Ventilation	19					2,515						132									
Water Heater Ventilation	54					10,305						191									
Bathroom Ventilation	0					0						0									
Dryer Ventilation	0					0						0									
Other Exhaust Ventilation	0					0						0									
Health/Safety Repairs	21					1,209						58									
Health/Safety Other	0					0						0									
Consumables	0					0						0									
General Repairs	101					23,470						232									
Meter Refrig (no action)	60					0						0									
Meter Freezer (no action)	15					0						0									
Support	109					64,213						589									
Transportation Allowance	0					0						0									
Landlord Contr Misc	0					0						0									
Landlord Contr Furnace	0					0						0									
Landlord Contr DHW	0					0						0									
Client Contr (Any)	0					0						0									
Lead Safe Work	0					0						0									
Unspecified/Other	0					0						0									

¹ Estimates are based upon reduced usage of the furnace due to shell improvements

² Impacts from continuous exhaust fans required by ASHRAE 62.2. The winter impacts exceed summer because these also include heating season impacts for dwellings with electric heat.

³ The total number of dwellings may exceed the number of measures installed in cases where the utility partially funds refrigeration measure replacements. The percentage of expenditures for each appliance is totaled to get the total number of measures installed.

MATURA Action Corporation
Billing Adjusted Costs and Impacts for Utility-Funded Measures Installed During Calendar Year 2014

Total Reported Labor, Materials and Utility Admin Expenditures: \$173,188
 Utility Administration Expenditures: -
 Total Labor and Material Expenditures: \$173,188

Measure	Number of Dwellings with Impacts			Number of Dwellings with Electricity Impacts Season			Spending on Materials & Labor (\$)	Billing Adjusted First-Year Savings					Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures										
	Total	Electric	Gas	Cooling	Heating	Summer kW		Electricity		Annual kWh	Pk-Day therms	Gas Annual therms	Spending on Materials & Labor (\$)	Summer		Electricity		Annual kWh	Pk-Day therms	Gas Annual therms			
								kWh	kW					kWh	kWh	kWh	kWh						
Total Efficiency Measures	30	23	19	23	23		142,791	5.2	8.9	24,007	53	4,753	4,760	0.227	0.388	1,044	2.79	250					
Total Shell & Htg. Sys. Repl	30	23	19	23	23		126,069	4.7	5,662	8.1	11,652	17,314	51	4,414	4,202	0.204	246	0.351	507	753	2.70	232	
Total Shell Measures	30	23	19	23	23		90,364	4.7	5,662	8.1	11,652	17,314	33	2,878	3,012	0.204	246	0.351	507	753	1.76	151	
Wall Insul.	24	18	18	18	3		37,543	2.0	2,440	2.7	3,967	6,408	16	1,367	1,564	0.112	136	0.916	1,322	356	0.88	76	
Open Blow Ceiling Insul.	25	19	16	19	4		13,597	1.2	1,446	1.9	2,769	4,215	3	280	544	0.063	76	0.479	692	222	0.20	18	
Cavity Fill Insul.	19	13	14	13	3		9,546	0.7	888	0.8	1,129	2,017	7	612	502	0.057	68	0.261	376	155	0.51	44	
Sloped Attic Insul.	8	4	5	4	1		2,637	0.2	200	0.4	615	815	2	195	330	0.041	50	0.426	615	204	0.45	39	
Kneewall Insul.	8	4	7	4	1		3,019	0.0	51	0.0	30	82	1	63	377	0.011	13	0.021	30	20	0.10	9	
Infil. Reduction	29	22	19	22	5		12,137	0.2	185	0.3	469	654	1	109	419	0.007	8	0.065	94	30	0.07	6	
Found./Crawl. Insul.	22	9	17	7	4		10,788	0.4	450	1.4	1,959	2,409	3	225	490	0.053	64	0.339	490	268	0.15	13	
Bandjoist Insul.	12	3	9	-	3		1,095	0.0	0	0.1	118	118	0	33	91	0.000	0	0.027	39	39	0.04	4	
Furnace Blower Fan ¹	25	18	19	-	18		0	0.0	0	0.4	597	597	(0)	(7)	0	0.000	0	0.023	33	33	(0.00)	(0)	
Exhaust Ventilator ²	0	0	0	0	0		0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-	
Total Heating System Repl	12	0	12	-	0		35,705	0.0	0	0.0	0	0	18	1,536	2,975	-	-	-	-	-	-	1.49	128
Condensing Htg Sys Repl	12	0	12	-	-		35,705	0.0	0	0.0	0	0	18	1,536	2,975	-	-	-	-	-	-	1.49	128
Non-Cond Htg Sys Repl	0	0	0	-	-		0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-	-
Electric Htg Sys Repl	0	0	0	-	0		0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-	-
Heat Pump Repl	0	0	0	-	0		0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-	-
Other Htg Sys Repl	0	0	0	-	0		0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-	-
	Total	Electric	Gas	Number of Measures by Fuel Type				Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms		Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms					
Water Heating	28	13	15	69	32	37	10,755	0.0	0.0	1,908	1.7	339	384	0.000	0.003	147	0.114	23					
Temp. Reduct.	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-					
WH Wrap	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-					
Pipe Insul.	26	12	14	26	12	14	464	0.0	0.0	360	0.1	47	18	0.000	0.000	30	0.01	3					
LF Showerhead	16	8	8	19	8	11	190	0.0	0.0	1,104	0.2	65	12	0.000	0.003	138	0.03	8					
Faucet Aerator	10	4	6	17	10	7	51	0.0	0.0	242	0.0	11	5	0.000	0.001	60	0.01	2					
Std-Eff Wtr Htr Repl.	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-					
Hi-Eff or Electric Wtr Htr Repl.	9	2	7	7	2	5	10,050	0.0	0.0	203	1.3	215	1,117	0.000	0.003	101	0.19	31					
Lighting	22	22		164	164		1,148	0.3	0.6	3,282	-	-	52	0.016	0.029	149	-	-					
Refrigerator/Freezer³	6	6		6	6		4,819	0.2	0.2	1,503	-	-	803	0.031	0.029	251	-	-					
Refrigerator Removal	0	0		0	0		0	0.0	0.0	0	-	-	0	-	-	-	-	-					
Refrigerator Exchange	5	5		5	5		4,250	0.1	0.1	1,217	-	-	850	0.030	0.028	243	-	-					
Freezer Removal	0	0		0	0		0	0.0	0.0	0	-	-	0	-	-	-	-	-					
Freezer Exchange	1	1		1	1		569	0.0	0.0	286	-	-	569	0.035	0.033	286	-	-					
Total Non-Efficiency Measures	31						30,397						981										
Misc Ins.Attic Access/Vent	10						1,048						105										
Duct Sealing	0						0						0										
Duct Insulation	0						0						0										
Damming Material	0						0						0										
Htg. Sys. Tune & Clean	1						125						125										
Htg. Sys./WH Other	0						0						0										
Air Conditioning Work	0						0						0										
Water Heater Repair	0						0						0										
Refrigerator Coil Clean	0						0						0										
Waterbed Mattress Pad	0						0						0										
Programmable Tstat	0						0						0										
Unspecified Utility Meas.	0						0						0										
CO Detector	0						0						0										
Smoke Detector	0						0						0										
Fuses	0						0						0										
Htg Sys Safety Check	0						0						0										
Htg Sys Ventilation	1						50						50										
Water Heater Ventilation	14						3,234						231										
Bathroom Ventilation	0						0						0										
Dryer Ventilation	0						0						0										
Other Exhaust Ventilation	0						0						0										
Health/Safety Repairs	6						330						55										
Health/Safety Other	0						0						0										
Consumables	0						0						0										
General Repairs	29						9,429						325										
Meter Refrig (no action)	19						0						0										
Meter Freezer (no action)	9						0						0										
Support	25						16,182						647										
Transportation Allowance	0						0						0										
Landlord Contr Misc	0						0						0										
Landlord Contr Furnace	0						0						0										
Landlord Contr DHW	0						0						0										
Client Contr (Any)	0						0						0										
Lead Safe Work	0						0						0										
Unspecified/Other	0						0						0										

¹ Estimates are based upon reduced usage of the furnace due to shell improvements
² Impacts from continuous exhaust fans required by ASHRAE 62.2. The winter impacts exceed summer because these also include heating season impacts for dwellings with electric heat.
³ The total number of dwellings may exceed the number of measures installed in cases where the utility partially funds refrigeration measure replacements. The percentage of expenditures for each appliance is totaled to get the total number of measures installed.
 Dalhoff Associates, LLC

Mid-Iowa Community Action
Billing Adjusted Costs and Impacts for Utility-Funded Measures Installed During Calendar Year 2014

Total Reported Labor, Materials and Utility Admin Expenditures: \$491,309

Utility Administration Expenditures: -
 Total Labor and Material Expenditures: \$491,309

Measure	Number of Dwellings with Impacts			Number of Dwellings with Electricity Impacts Season			Spending on Materials & Labor (\$)	Billing Adjusted First-Year Savings					Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures									
	Total	Electric	Gas	Cooling	Heating	Summer kW		Electricity		Annual kWh	Pk-Day therms	Gas Annual therms	Spending on Materials & Labor (\$)	Summer		Electricity		Annual kWh	Pk-Day therms	Gas Annual therms		
								kWh	kWh					kWh	kWh	kWh	kWh					
Total Efficiency Measures	95	86	77	86	86	398,059	19.2	13.7	64,407	145	13,626	4,190	0.223	0.159	749	1.89	177					
Total Shell & Htg. Sys. Repl	95	86	77	81	86	382,454	15.8	19,059	9.4	14,632	33,691	145	13,512	4,026	0.195	235	0.109	170	392	1.88	175	
Total Shell Measures	95	86	77	81	86	286,093	15.8	19,059	9.3	14,516	33,576	95	8,854	3,012	0.195	235	0.108	169	390	1.23	115	
Wall Insul.	65	55	53	55	2	137,436	7.0	8,496	2.0	3,070	11,566	53	4,925	2,114	0.128	154	0.983	1,535	210	1.00	93	
Open Blown Ceiling Insul.	70	60	54	60	4	41,883	4.0	4,827	1.4	2,259	7,086	8	788	598	0.067	80	0.362	565	118	0.16	15	
Cavity Fill Insul.	24	17	20	16	1	31,614	1.5	1,829	0.8	1,201	3,030	15	1,374	1,317	0.095	114	0.769	1,201	178	0.74	69	
Sloped Attic Insul.	29	21	23	21	0	12,980	1.6	1,916	0.0	0	1,916	10	921	448	0.076	91	0.000	0	91	0.43	40	
Kneewall Insul.	25	19	20	19	0	19,784	0.6	665	0.0	0	665	3	237	791	0.029	35	0.000	0	35	0.13	12	
Infil. Reduction	88	70	71	70	6	27,295	0.5	654	0.2	271	925	4	407	310	0.008	9	0.029	45	13	0.06	6	
Found./Crawl. Insul.	17	7	14	7	1	13,639	0.6	672	0.3	449	1,121	2	204	802	0.080	96	0.287	449	160	0.16	15	
Bandjoist Insul.	9	2	7	-	2	1,463	0.0	0	0.2	279	279	0	21	163	0.000	0	0.089	140	140	0.03	3	
Furnace Blower Fan ¹	89	80	77	-	80	0	0.0	0	4.5	6,987	6,987	(0)	(24)	0	0.000	0	0.056	87	87	(0.00)	(0)	
Exhaust Ventilator ²	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-	
Total Heating System Repl	45	1	44	-	1	96,361	0.0	0	0.1	116	116	50	4,658	2,141	0.000	0	0.074	116	116	1.14	106	
Condensing Htg Sys Repl	44	0	44	-	-	94,066	0.0	0	0.0	0	0	50	4,658	2,138	-	-	-	-	-	1.14	106	
Non-Cond Htg Sys Repl	0	0	0	-	-	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-	
Electric Htg Sys Repl	1	1	0	-	1	2,295	0.0	0	0.1	116	116	0	0	2,295	0.000	0	0.074	116	116	-	-	
Heat Pump Repl	0	0	0	-	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-	
Other Htg Sys Repl	0	0	0	-	0	0	0.0	0	0.0	0	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	42	16	26	52	20	32	194	0.0	0.0	1,449	0.4	114	5	0.000	0.001	91	0.013	4				
Temp. Reduct.	0	0	0	0	0	0	0	0.0	0.0	0	0	0	0	-	-	-	-	-				
WH Wrap	0	0	0	0	0	0	0	0.0	0.0	0	0	0	0	-	-	-	-	-				
Pipe Insul.	31	13	18	31	13	18	122	0.0	0.0	597	0.2	54	4	0.000	0.000	46	0.01	3				
LF Showerhead	9	4	5	9	4	5	47	0.0	0.0	749	0.1	42	5	0.000	0.004	187	0.03	8				
Faucet Aerator	7	2	5	12	3	9	25	0.0	0.0	104	0.1	18	4	0.000	0.001	52	0.01	4				
Std-Eff Wtr Htr Repl.	0	0	0	0	0	0	0	0.0	0.0	0	0	0	0	-	-	-	-	-				
Hi-Eff or Electric Wtr Htr Repl.	0	0	0	0	0	0	0	0.0	0.0	0	0	0	0	-	-	-	-	-				
Lighting	52	52	347	347	347	1,039	1.2	2.3	11,712	-	-	20	0.024	0.044	225	-	-					
Refrigerator/Freezer³	23	23	27	27	27	14,371	2.2	2.0	17,554	-	-	625	0.094	0.088	763	-	-					
Refrigerator Removal	0	0	0	0	0	0	0.0	0.0	0	-	-	0	-	-	-	-	-					
Refrigerator Exchange	22	22	22	22	22	12,133	1.7	1.6	13,750	-	-	552	0.077	0.072	625	-	-					
Freezer Removal	0	0	0	0	0	0	0.0	0.0	0	-	-	0	-	-	-	-	-					
Freezer Exchange	5	5	5	5	5	2,238	0.5	0.4	3,804	-	-	448	0.094	0.088	761	-	-					
Total Non-Efficiency Measures	95					93,250						982										
Misc Ins.Attic Access/Vent	63					15,220						242										
Duct Sealing	0					0						0										
Duct Insulation	0					0						0										
Damming Material	0					0						0										
Htg. Sys. Tune & Clean	15					1,278						85										
Htg. Sys./WH Other	0					0						0										
Air Conditioning Work	0					0						0										
Water Heater Repair	0					0						0										
Refrigerator Coil Clean	0					0						0										
Waterbed Mattress Pad	0					0						0										
Programmable Tstat	0					0						0										
Unspecified Utility Meas.	0					0						0										
CO Detector	0					0						0										
Smoke Detector	0					0						0										
Fuses	0					0						0										
Htg Sys Safety Check	0					0						0										
Htg Sys Ventilation	6					1,025						171										
Water Heater Ventilation	46					8,568						186										
Bathroom Ventilation	0					0						0										
Dryer Ventilation	0					0						0										
Other Exhaust Ventilation	0					0						0										
Health/Safety Repairs	14					965						69										
Health/Safety Other	0					0						0										
Consumables	0					0						0										
General Repairs	80					21,529						269										
Meter Refrig (no action)	50					0						0										
Meter Freezer (no action)	17					0						0										
Support	95					44,664						470										
Transportation Allowance	0					0						0										
Landlord Contr Misc	0					0						0										
Landlord Contr Furnace	0					0						0										
Landlord Contr DHW	0					0						0										
Client Contr (Any)	0					0						0										
Lead Safe Work	0					0						0										
Unspecified/Other	0					0						0										

¹ Estimates are based upon reduced usage of the furnace due to shell improvements

² Impacts from continuous exhaust fans required by ASHRAE 62.2. The winter impacts exceed summer because these also include heating season impacts for dwellings with electric heat.

³ The total number of dwellings may exceed the number of measures installed in cases where the utility partially funds refrigeration measure replacements. The percentage of expenditures for each appliance is totaled to get the total number of measures installed.

Mid-Sioux Opportunity
Billing Adjusted Costs and Impacts for Utility-Funded Measures Installed During Calendar Year 2014

Total Reported Labor, Materials and Utility Admin Expenditures: \$120,608
 Utility Administration Expenditures: -
 Total Labor and Material Expenditures: \$120,608

Measure	Number of Dwellings with Impacts			Number of Dwellings with Electricity Impacts Season			Spending on Materials & Labor (\$)	Billing Adjusted First-Year Savings					Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures										
	Total	Electric	Gas	Cooling	Heating	Summer kW		Electricity		Annual kWh	Pk-Day therms	Gas Annual therms	Spending on Materials & Labor (\$)	Summer		Electricity		Annual kWh	Pk-Day therms	Gas Annual therms			
								kWh	kWh					kWh	kWh	kWh	kWh						
Total Efficiency Measures	26	18	19	17	18		98,177	3.3	3.6	13,333	40	3,831	3,776	0.194	0.200	741	2.12	202					
Total Shell & Htg. Sys. Repl	26	18	19	17	18		80,981	2.7	3,220	2.7	4,055	7,275	38	3,497	3,115	0.157	189	0.147	225	404	2.02	184	
Total Shell Measures	26	18	19	17	18		50,681	2.7	3,220	2.7	4,055	7,275	22	1,981	1,949	0.157	189	0.147	225	404	1.14	104	
Wall Insul.	13	8	9	8	1		10,930	0.9	1,035	0.4	617	1,652	5	497	841	0.107	129	0.403	617	206	0.60	55	
Open Blown Ceiling Insul.	22	14	15	14	2		14,878	0.9	1,145	0.3	449	1,594	5	414	676	0.068	82	0.147	224	114	0.30	28	
Cavity Fill Insul.	7	3	6	3	0		7,504	0.1	147	0.0	0	147	5	449	1,072	0.041	49	0.000	0	49	0.82	75	
Sloped Attic Insul.	8	7	5	7	1		3,799	0.5	597	1.0	1,588	2,185	3	289	475	0.071	85	1.039	1,588	312	0.63	58	
Kneewall Insul.	4	3	2	3	1		663	0.0	14	0.0	5	19	0	41	166	0.004	5	0.003	5	6	0.23	21	
Infil. Reduction	24	15	17	15	2		8,455	0.2	222	0.1	173	395	2	168	352	0.012	15	0.057	87	26	0.11	10	
Found./Crawl. Insul.	3	2	2	1	1		3,042	0.1	60	0.3	440	500	1	70	1,014	0.050	60	0.288	440	250	0.38	35	
Bandjoist Insul.	4	1	3	-	1		1,409	0.0	0	0.1	105	105	1	58	352	0.000	0	0.068	105	105	0.21	19	
Furnace Blower Fan ¹	24	16	19	-	16		0	0.0	0	0.4	679	679	(0)	(5)	0	0.000	0	0.028	42	42	(0.00)	(0)	
Exhaust Ventilator ²	0	0	0	0	0		0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-	
Total Heating System Repl	11	0	11	-	0		30,300	0.0	0	0.0	0	0	17	1,516	2,755	-	-	-	-	-	-	1.51	138
Condensing Htg Sys Repl	11	0	11	-	-		30,300	0.0	0	0.0	0	0	17	1,516	2,755	-	-	-	-	-	-	1.51	138
Non-Cond Htg Sys Repl	0	0	0	-	-		0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-	-
Electric Htg Sys Repl	0	0	0	-	0		0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-	-
Heat Pump Repl	0	0	0	-	0		0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-	-
Other Htg Sys Repl	0	0	0	-	0		0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-	-
	Total	Electric	Gas	Number of Measures by Fuel Type				Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms		Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms					
Water Heating	18	5	13	29	7	22	13,575	0.0	0.0	418	1.9	334	754	0.000	0.001	84	0.147	26					
Temp. Reduct.	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-					
WH Wrap	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-					
Pipe Insul.	15	5	10	15	5	10	290	0.0	0.0	181	0.1	32	19	0.000	0.000	36	0.01	3					
LF Showerhead	1	0	1	1	0	1	10	0.0	0.0	0	0.0	8	10	-	-	-	0.02	8					
Faucet Aerator	2	0	2	3	0	3	11	0.0	0.0	0	0.0	5	6	-	-	-	0.01	2					
Std-Eff Wtr Htr Repl.	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-					
Hi-Eff or Electric Wtr Htr Repl.	11	2	9	10	2	8	13,264	0.0	0.0	237	1.8	290	1,206	0.000	0.003	119	0.20	32					
Lighting	13	13		171	171		1,197	0.4	0.7	3,690	-	-	92	0.030	0.055	284	-	-					
Refrigerator/Freezer³	2	2		4	4		2,424	0.2	0.2	1,949	-	-	1,212	0.120	0.112	975	-	-					
Refrigerator Removal	0	0		0	0		0	0.0	0.0	0	-	-	0	-	-	-	-	-					
Refrigerator Exchange	2	2		2	2		1,327	0.1	0.1	944	-	-	664	0.058	0.054	472	-	-					
Freezer Removal	0	0		0	0		0	0.0	0.0	0	-	-	0	-	-	-	-	-					
Freezer Exchange	2	2		2	2		1,097	0.1	0.1	1,005	-	-	549	0.062	0.058	503	-	-					
Total Non-Efficiency Measures	26						22,431						863										
Misc Ins.Attic Access/Vent	16						3,954						247										
Duct Sealing	0						0						0										
Duct Insulation	1						100						100										
Damming Material	0						0						0										
Htg. Sys. Tune & Clean	3						375						125										
Htg. Sys./WH Other	0						0						0										
Air Conditioning Work	0						0						0										
Water Heater Repair	0						0						0										
Refrigerator Coil Clean	0						0						0										
Waterbed Mattress Pad	0						0						0										
Programmable Tstat	0						0						0										
Unspecified Utility Meas.	0						0						0										
CO Detector	0						0						0										
Smoke Detector	0						0						0										
Fuses	0						0						0										
Htg Sys Safety Check	0						0						0										
Htg Sys Ventilation	4						450						113										
Water Heater Ventilation	8						1,520						190										
Bathroom Ventilation	0						0						0										
Dryer Ventilation	0						0						0										
Other Exhaust Ventilation	0						0						0										
Health/Safety Repairs	2						58						29										
Health/Safety Other	0						0						0										
Consumables	0						0						0										
General Repairs	20						3,264						163										
Meter Refrig (no action)	0						0						0										
Meter Freezer (no action)	0						0						0										
Support	26						12,697						488										
Transportation Allowance	0						0						0										
Landlord Contr Misc	0						0						0										
Landlord Contr Furnace	0						0						0										
Landlord Contr DHW	0						0						0										
Client Contr (Any)	0						0						0										
Lead Safe Work	0						0						0										
Unspecified/Other	1						14						14										

¹ Estimates are based upon reduced usage of the furnace due to shell improvements
² Impacts from continuous exhaust fans required by ASHRAE 62.2. The winter impacts exceed summer because these also include heating season impacts for dwellings with electric heat.
³ The total number of dwellings may exceed the number of measures installed in cases where the utility partially funds refrigeration measure replacements. The percentage of expenditures for each appliance is totaled to get the total number of measures installed.

North Iowa Community Action Organization
Billing Adjusted Costs and Impacts for Utility-Funded Measures Installed During Calendar Year 2014

Total Reported Labor, Materials and Utility Admin Expenditures: \$445,682

Utility Administration Expenditures: -

Total Labor and Material Expenditures: \$445,682

Measure	Number of Dwellings with Impacts			Number of Dwellings with Electricity Impacts Season			Spending on Materials & Labor (\$)	Billing Adjusted First-Year Savings					Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures									
	Total	Electric	Gas	Cooling	Heating	Summer kW		Electricity		Annual kWh	Pk-Day therms	Gas Annual therms	Spending on Materials & Labor (\$)	Summer		Electricity		Annual kWh	Pk-Day therms	Gas Annual therms		
								kWh	kWh					kWh	kWh	kWh	kWh					
Total Efficiency Measures	83	75	74	73	75	394,944	14.8	18.5	72,119	154	16,012	4,758	0.203	0.247	962	2.08	216					
Total Shell & Htg. Sys. Repl	79	72	72	61	72	298,843	10.7	12,961	13.0	21,426	34,388	143	14,148	3,783	0.176	0.180	298	478	1.99	197		
Total Shell Measures	79	72	72	61	72	181,310	10.7	12,961	12.8	21,219	34,181	106	10,483	2,295	0.176	0.178	295	475	1.48	146		
Wall Insul.	66	54	61	53	3	100,755	4.9	5,868	4.1	6,744	12,612	40	3,909	1,527	0.092	0.111	1,360	2,248	234	0.65	64	
Open Blown Ceiling Insul.	72	59	66	58	3	20,602	3.9	4,649	0.8	1,305	5,954	40	3,900	286	0.066	0.080	0.263	435	101	0.60	59	
Cavity Fill Insul.	29	24	27	22	2	14,181	0.6	697	0.4	730	1,427	9	864	489	0.026	0.032	0.221	365	59	0.32	32	
Sloped Attic Insul.	31	25	30	24	1	17,210	0.8	961	0.2	385	1,346	10	961	555	0.033	0.040	0.233	385	54	0.32	32	
Kneewall Insul.	23	18	22	17	1	13,079	0.3	317	0.1	87	405	4	406	569	0.015	0.019	0.053	87	22	0.19	18	
Infil. Reduction	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-	
Found./Crawl. Insul.	30	10	29	9	1	11,109	0.4	469	0.3	502	971	3	284	370	0.043	0.052	0.304	502	97	0.10	10	
Bandjoist Insul.	35	2	33	-	2	4,374	0.0	0	0.2	382	382	2	196	125	0.000	0	0.116	191	191	0.06	6	
Furnace Blower Fan ¹	75	68	72	-	68	0	0.0	0	6.7	11,083	11,083	(0)	(37)	0	0.000	0	0.099	163	163	(0.01)	(1)	
Exhaust Ventilator ²	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-	
Total Heating System Repl	52	2	50	-	2	117,533	0.0	0	0.1	207	207	37	3,665	2,260	0.000	0	0.063	104	104	0.74	73	
Condensing Htg Sys Repl	50	0	50	-	-	110,773	0.0	0	0.0	0	0	37	3,665	2,215	-	-	-	-	-	0.74	73	
Non-Cond Htg Sys Repl	0	0	0	-	-	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-	
Electric Htg Sys Repl	2	2	0	-	2	6,760	0.0	0	0.1	207	207	0	0	3,380	0.000	0	0.063	104	104	-	-	
Heat Pump Repl	0	0	0	-	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-	
Other Htg Sys Repl	0	0	0	-	0	0	0.0	0	0.0	0	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	79	13	66	259	29	230	67,748	0.0	0.0	1,780	10.2	1,864	858	0.000	0.002	137	0.154	28				
Temp. Reduct.	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-	-	-	-	
WH Wrap	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-	-	-	-	
Pipe Insul.	75	13	62	75	13	62	167	0.0	0.0	566	0.4	149	2	0.000	0.000	44	0.01	2				
LF Showerhead	31	4	27	31	4	27	88	0.0	0.0	709	0.5	158	3	0.000	0.004	177	0.02	6				
Faucet Aerator	65	9	56	100	11	89	52	0.0	0.0	370	0.3	103	1	0.000	0.001	41	0.01	2				
Std-Eff Wtr Htr Repl.	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-	-	-	-	
Hi-Eff or Electric Wtr Htr Repl.	55	1	54	53	1	52	67,441	0.0	0.0	135	8.9	1,454	1,226	0.000	0.003	135	0.17	27				
Lighting	69	69	676	676	676	4,110	1.9	3.5	17,889	-	-	60	0.027	0.050	259	-	-	-	-	-	-	
Refrigerator/Freezer³	33	33	33	33	33	24,242	2.2	2.1	18,062	-	-	735	0.067	0.063	547	-	-	-	-	-	-	
Refrigerator Removal	0	0	0	0	0	0	0.0	0.0	0	-	-	0	-	-	-	-	-	-	-	-	-	
Refrigerator Exchange	29	29	27	27	27	21,454	1.8	1.7	14,914	-	-	740	0.063	0.059	514	-	-	-	-	-	-	
Freezer Removal	0	0	0	0	0	0	0.0	0.0	0	-	-	0	-	-	-	-	-	-	-	-	-	
Freezer Exchange	6	6	6	6	6	2,788	0.4	0.4	3,148	-	-	465	0.065	0.060	525	-	-	-	-	-	-	
Total Non-Efficiency Measures	83					50,738						611										
Misc Ins.Attic Access/Vent	0					0						0										
Duct Sealing	0					0						0										
Duct Insulation	0					0						0										
Damming Material	0					0						0										
Htg. Sys. Tune & Clean	0					0						0										
Htg. Sys./WH Other	0					0						0										
Air Conditioning Work	0					0						0										
Water Heater Repair	0					0						0										
Refrigerator Coil Clean	0					0						0										
Waterbed Mattress Pad	0					0						0										
Programmable Tstat	0					0						0										
Unspecified Utility Meas.	0					0						0										
CO Detector	0					0						0										
Smoke Detector	0					0						0										
Fuses	0					0						0										
Htg Sys Safety Check	0					0						0										
Htg Sys Ventilation	0					0						0										
Water Heater Ventilation	21					3,824						182										
Bathroom Ventilation	0					0						0										
Dryer Ventilation	0					0						0										
Other Exhaust Ventilation	0					0						0										
Health/Safety Repairs	55					67,441						1,226										
Health/Safety Other	0					0						0										
Consumables	0					0						0										
General Repairs	0					0						0										
Meter Refrig (no action)	0					0						0										
Meter Freezer (no action)	0					0						0										
Support	83					46,914						565										
Transportation Allowance	0					0						0										
Landlord Contr Misc	0					0						0										
Landlord Contr Furnace	0					0						0										
Landlord Contr DHW	0					0						0										
Client Contr (Any)	0					0						0										
Lead Safe Work	0					0						0										
Unspecified/Other	0					0						0										

Northeast Iowa Community Action Corporation
Billing Adjusted Costs and Impacts for Utility-Funded Measures Installed During Calendar Year 2014

Total Reported Labor, Materials and Utility Admin Expenditures: \$237,319

Utility Administration Expenditures: -

Total Labor and Material Expenditures: \$237,319

Measure	Number of Dwellings with Impacts			Number of Dwellings with Electricity Impacts Season		Spending on Materials & Labor (\$)	Billing Adjusted First-Year Savings					Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures									
	Total	Electric	Gas	Cooling	Heating		Summer		Electricity		Annual	Pk-Day	Gas	Spending on Materials & Labor (\$)	Summer		Electricity		Annual	Pk-Day	Gas
							kW	kWh	kW	kWh					kWh	therms	Annual	therms			
Total Efficiency Measures	96	85	62	73	85	211,060	4.8	3.3	19,735	71	6,985	2,199	0.066	0.039	232	1.14	113				
Total Shell & Htg. Sys. Repl	81	68	59	42	68	164,669	3.4	4,110	1.4	2,203	6,314	66	6,163	2,033	0.081	98	0.021	32	93	1.12	104
Total Shell Measures	80	67	59	42	67	70,803	3.4	4,110	1.3	2,030	6,140	24	2,219	885	0.081	98	0.019	30	92	0.40	38
Wall Insul.	18	12	14	12	0	10,797	1.0	1,252	0.0	0	1,252	10	893	600	0.087	104	0.000	0	104	0.68	64
Open Blown Ceiling Insul.	37	22	30	22	0	18,552	1.4	1,725	0.0	0	1,725	3	315	501	0.065	78	0.000	0	78	0.11	11
Cavity Fill Insul.	1	0	1	0	0	823	0.0	0	0.0	0	0	1	121	823	-	-	-	-	-	1.29	121
Sloped Attic Insul.	5	2	5	2	0	3,138	0.1	166	0.0	0	166	2	171	628	0.069	83	0.000	0	83	0.37	34
Kneewall Insul.	12	6	11	6	0	5,350	0.3	384	0.0	0	384	2	186	446	0.053	64	0.000	0	64	0.18	17
Infil. Reduction	42	36	17	36	0	11,867	0.4	494	0.0	0	494	2	209	263	0.011	14	0.000	0	14	0.13	12
Found./Crawl. Insul.	7	2	6	2	0	2,940	0.1	89	0.0	0	89	0	45	420	0.037	44	0.000	0	44	0.08	7
Bandjoist Insul.	44	0	44	-	0	17,335	0.0	0	0.0	0	0	3	292	394	-	-	-	-	-	0.07	7
Furnace Blower Fan ¹	80	67	59	-	67	0	0.0	0	1.3	2,030	2,030	(0)	(13)	0	0.000	0	0.019	30	30	(0.00)	(0)
Exhaust Ventilator ²	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Total Heating System Repl	41	1	40	-	1	93,866	0.0	0	0.1	174	174	42	3,944	2,289	0.000	0	0.111	174	174	1.06	99
Condensing Htg Sys Repl	40	0	40	-	-	91,790	0.0	0	0.0	0	0	42	3,944	2,295	-	-	-	-	-	1.06	99
Non-Cond Htg Sys Repl	0	0	0	-	-	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Electric Htg Sys Repl	1	1	0	-	1	2,076	0.0	0	0.1	174	174	0	0	2,076	0.000	0	0.111	174	174	-	-
Heat Pump Repl	0	0	0	-	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Other Htg Sys Repl	0	0	0	-	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
	Total	Electric	Gas	Number of Measures by Fuel Type			Summer	Winter	Annual	Pk-Day	Annual		Summer	Winter	Annual	Pk-Day	Annual				
Water Heating	71	27	44	86	29	57	35,717	0.0	0.0	1,108	4.7	822	503	0.000	0.000	41	0.107	19			
Temp. Reduct.	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-			
WH Wrap	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-			
Pipe Insul.	62	27	35	62	27	35	473	0.0	0.0	880	0.3	104	8	0.000	0.000	33	0.01	3			
LF Showerhead	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-			
Faucet Aerator	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-			
Std-Eff Wtr Htr Repl.	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-			
Hi-Eff or Electric Wtr Htr Repl.	26	2	24	24	2	22	35,244	0.0	0.0	228	4.4	718	1,356	0.000	0.003	114	0.18	30			
Lighting	37	37		232	232		522	0.6	1.2	6,187	-	-	14	0.018	0.032	167	-	-			
Refrigerator/Freezer³	13	13		13	13		10,152	0.8	0.7	6,126	-	-	781	0.058	0.054	471	-	-			
Refrigerator Removal	0	0	0	0	0	0	0	0.0	0.0	0	-	-	0	-	-	-	-	-			
Refrigerator Exchange	12	12	0	11	11	0	8,852	0.7	0.6	5,390	-	-	738	0.055	0.052	449	-	-			
Freezer Removal	0	0	0	0	0	0	0	0.0	0.0	0	-	-	0	-	-	-	-	-			
Freezer Exchange	2	2	0	2	2	0	1,300	0.1	0.1	736	-	-	650	0.045	0.042	368	-	-			
Total Non-Efficiency Measures	98						26,259						268								
Misc Ins.Attic Access/Vent	10						1,234						123								
Duct Sealing	0						0						0								
Duct Insulation	0						0						0								
Damming Material	0						0						0								
Htg. Sys. Tune & Clean	1						50						50								
Htg. Sys./WH Other	0						0						0								
Air Conditioning Work	0						0						0								
Water Heater Repair	0						0						0								
Refrigerator Coil Clean	0						0						0								
Waterbed Mattress Pad	0						0						0								
Programmable Tstat	0						0						0								
Unspecified Utility Meas.	0						0						0								
CO Detector	0						0						0								
Smoke Detector	0						0						0								
Fuses	0						0						0								
Htg Sys Safety Check	0						0						0								
Htg Sys Ventilation	0						0						0								
Water Heater Ventilation	1						171						171								
Bathroom Ventilation	0						0						0								
Dryer Ventilation	0						0						0								
Other Exhaust Ventilation	0						0						0								
Health/Safety Repairs	5						583						117								
Health/Safety Other	0						0						0								
Consumables	0						0						0								
General Repairs	24						2,598						108								
Meter Refrig (no action)	51						0						0								
Meter Freezer (no action)	22						0						0								
Support	97						21,622						223								
Transportation Allowance	0						0						0								
Landlord Contr Misc	0						0						0								
Landlord Contr Furnace	0						0						0								
Landlord Contr DHW	0						0						0								
Client Contr (Any)	0						0						0								
Lead Safe Work	0						0						0								
Unspecified/Other	0						0						0								

¹ Estimates are based upon reduced usage of the furnace due to shell improvements

² Impacts from continuous exhaust fans required by ASHRAE 62.2. The winter impacts exceed summer because these also include heating season impacts for dwellings with electric heat.

³ The total number of dwellings may exceed the number of measures installed in cases where the utility partially funds refrigeration measure replacements. The percentage of expenditures for each appliance is totaled to get the total number of measures installed.

Operation: New View Community Action Agency
Billing Adjusted Costs and Impacts for Utility-Funded Measures Installed During Calendar Year 2014

Total Reported Labor, Materials and Utility Admin Expenditures: \$134,160
 Utility Administration Expenditures: -
 Total Labor and Material Expenditures: \$134,160

Measure	Number of Dwellings with Impacts			Number of Dwellings with Electricity Impacts Season			Spending on Materials & Labor (\$)	Billing Adjusted First-Year Savings					Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures								
	Total	Electric	Gas	Cooling	Heating	Summer kW		Electricity		Annual kWh	Pk-Day therms	Gas Annual therms	Spending on Materials & Labor (\$)	Electricity		Pk-Day therms	Gas Annual therms				
								kWh	kWh					Summer kWh	Winter kWh			Summer kWh	Winter kWh		
Total Efficiency Measures	54	43	34	43	43	114,757	6.6	4.3	28,895	42	3,997	2,125	0.154	0.101	672	1.25	118				
Total Shell & Htg. Sys. Repl	51	38	33	35	38	94,152	4.0	4,869	0.2	281	5,150	42	3,815	1,846	0.115	139	0.005	7	136	1.26	116
Total Shell Measures	51	38	33	35	38	63,274	4.0	4,869	0.2	281	5,150	27	2,436	1,241	0.115	139	0.005	7	136	0.80	74
Wall Insul.	25	20	15	20	0	25,482	1.3	1,510	0.0	0	1,510	9	860	1,019	0.063	76	0.000	0	76	0.62	57
Open Blown Ceiling Insul.	35	28	23	28	0	14,928	1.7	2,094	0.0	0	2,094	8	726	427	0.062	75	0.000	0	75	0.34	32
Cavity Fill Insul.	17	15	11	15	0	8,942	0.4	519	0.0	0	519	4	365	526	0.029	35	0.000	0	35	0.36	33
Sloped Attic Insul.	15	13	9	13	0	3,164	0.3	305	0.0	0	305	3	230	211	0.019	23	0.000	0	23	0.28	26
Kneewall Insul.	4	4	3	4	0	610	0.0	47	0.0	0	47	0	38	153	0.010	12	0.000	0	12	0.14	13
Infil. Reduction	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Found./Crawl. Insul.	18	4	17	4	0	9,627	0.3	393	0.0	0	393	2	212	535	0.081	98	0.000	0	98	0.14	12
Bandjoist Insul.	8	0	8	-	0	521	0.0	0	0.0	0	0	0	10	65	-	-	-	-	-	0.01	1
Furnace Blower Fan ¹	51	38	33	-	38	0	0.0	0	0.2	281	281	(0)	(5)	0	0.000	0	0.005	7	7	(0.00)	(0)
Exhaust Ventilator ²	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Total Heating System Repl	14	0	14	-	0	30,878	0.0	0	0.0	0	0	15	1,379	2,206	-	-	-	-	-	1.07	99
Condensing Htg Sys Repl	14	0	14	-	-	30,878	0.0	0	0.0	0	0	15	1,379	2,206	-	-	-	-	-	1.07	99
Non-Cond Htg Sys Repl	0	0	0	-	-	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Electric Htg Sys Repl	0	0	0	-	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Heat Pump Repl	0	0	0	-	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Other Htg Sys Repl	0	0	0	-	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
	Total	Electric	Gas	Number of Measures by Fuel Type			Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms		Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms				
Water Heating	26	1	25	30	1	29	8,096	0.0	0.0	22	0.9	182	311	0.000	0.000	22	0.038	7			
Temp. Reduct.	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-			
WH Wrap	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-			
Pipe Insul.	25	1	24	24	1	23	438	0.0	0.0	22	0.2	52	18	0.000	0.000	22	0.01	2			
LF Showerhead	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-			
Faucet Aerator	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-			
Std-Eff Wtr Htr Repl.	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-			
Hi-Eff or Electric Wtr Htr Repl.	6	0	6	6	0	6	7,658	0.0	0.0	0	0.8	129	1,276	-	-	-	-	0.13	22		
Lighting	42	42	661	661	4,627	1.9	3.5	17,973	-	-	110	0.045	0.083	428	-	-					
Refrigerator/Freezer³	11	11	13	13	7,882	0.7	0.7	5,750	-	-	717	0.064	0.060	523	-	-					
Refrigerator Removal	0	0	0	0	0	0	0.0	0.0	0	-	-	0	-	-	-	-					
Refrigerator Exchange	8	8	9	9	6,095	0.4	0.4	3,445	-	-	762	0.053	0.050	431	-	-					
Freezer Removal	0	0	0	0	0	0	0.0	0.0	0	-	-	0	-	-	-	-					
Freezer Exchange	4	4	4	4	1,787	0.3	0.3	2,305	-	-	447	0.071	0.066	576	-	-					
Total Non-Efficiency Measures	51					19,403						380									
Misc Ins.Attic Access/Vent	0					0						0									
Duct Sealing	0					0						0									
Duct Insulation	0					0						0									
Damming Material	0					0						0									
Htg. Sys. Tune & Clean	8					649						81									
Htg. Sys./WH Other	0					0						0									
Air Conditioning Work	0					0						0									
Water Heater Repair	0					0						0									
Refrigerator Coil Clean	0					0						0									
Waterbed Mattress Pad	0					0						0									
Programmable Tstat	0					0						0									
Unspecified Utility Meas.	0					0						0									
CO Detector	0					0						0									
Smoke Detector	0					0						0									
Fuses	0					0						0									
Htg Sys Safety Check	0					0						0									
Htg Sys Ventilation	1					175						175									
Water Heater Ventilation	24					6,794						283									
Bathroom Ventilation	0					0						0									
Dryer Ventilation	0					0						0									
Other Exhaust Ventilation	0					0						0									
Health/Safety Repairs	6					7,658						1,276									
Health/Safety Other	0					0						0									
Consumables	0					0						0									
General Repairs	0					0						0									
Meter Refrig (no action)	0					0						0									
Meter Freezer (no action)	0					0						0									
Support	51					11,785						231									
Transportation Allowance	0					0						0									
Landlord Contr Misc	0					0						0									
Landlord Contr Furnace	0					0						0									
Landlord Contr DHW	0					0						0									
Client Contr (Any)	0					0						0									
Lead Safe Work	0					0						0									
Unspecified/Other	0					0						0									

¹ Estimates are based upon reduced usage of the furnace due to shell improvements

² Impacts from continuous exhaust fans required by ASHRAE 62.2. The winter impacts exceed summer because these also include heating season impacts for dwellings with electric heat.

³ The total number of dwellings may exceed the number of measures installed in cases where the utility partially funds refrigeration measure replacements. The percentage of expenditures for each appliance is totaled to get the total number of measures installed.

Operation Threshold
Billing Adjusted Costs and Impacts for Utility-Funded Measures Installed During Calendar Year 2014

Total Reported Labor, Materials and Utility Admin Expenditures: \$296,823

Utility Administration Expenditures: -

Total Labor and Material Expenditures: \$296,823

Measure	Number of Dwellings with Impacts			Number of Dwellings with Electricity Impacts Season			Spending on Materials & Labor (\$)	Billing Adjusted First-Year Savings					Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures									
	Total	Electric	Gas	Cooling	Heating	Summer kW		Electricity		Annual kWh	Pk-Day therms	Gas Annual therms	Spending on Materials & Labor (\$)	Summer		Electricity		Annual kWh	Pk-Day therms	Gas Annual therms		
								kWh	kWh					kWh	kWh							
Total Efficiency Measures	59	56	55	55	56	257,562	8.9	5.9	30,253	121	11,918	4,365	0.162	0.105	540	2.21	217					
Total Shell & Htg. Sys. Repl	59	55	55	48	55	212,035	7.2	8,727	3.4	5,314	14,042	115	10,676	3,594	0.151	182	0.062	97	255	2.08	194	
Total Shell Measures	59	55	55	48	55	149,959	7.2	8,727	3.4	5,314	14,042	82	7,654	2,542	0.151	182	0.062	97	255	1.49	139	
Wall Insul.	36	29	35	29	0	64,857	2.8	3,344	0.0	0	3,344	28	2,577	1,802	0.096	115	0.000	0	115	0.79	74	
Open Blow Ceiling Insul.	49	41	48	41	0	35,221	3.1	3,774	0.0	0	3,774	31	2,873	719	0.076	92	0.000	0	92	0.64	60	
Cavity Fill Insul.	15	9	15	9	0	10,869	0.2	289	0.0	0	289	7	673	725	0.027	32	0.000	0	32	0.48	45	
Sloped Attic Insul.	14	10	13	10	0	6,446	0.3	393	0.0	0	393	6	524	460	0.033	39	0.000	0	39	0.43	40	
Kneewall Insul.	12	9	11	9	0	2,696	0.1	165	0.0	0	165	1	122	225	0.015	18	0.000	0	18	0.12	11	
Infil. Reduction	56	48	53	48	0	20,535	0.5	598	0.0	0	598	6	527	367	0.010	12	0.000	0	12	0.11	10	
Found./Crawl. Insul.	14	1	14	1	0	6,740	0.1	164	0.0	0	164	3	249	481	0.136	164	0.000	0	164	0.19	18	
Bandjoist Insul.	24	0	24	-	0	2,595	0.0	0	0.0	0	0	1	138	108	-	-	-	-	-	0.06	6	
Furnace Blower Fan ¹	59	55	55	-	55	0	0.0	0	3.4	5,314	5,314	(0)	(28)	0	0.000	0	0.062	97	97	(0.01)	(1)	
Exhaust Ventilator ²	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-	
Total Heating System Repl	30	0	30	-	0	62,076	0.0	0	0.0	0	0	32	3,022	2,069	-	-	-	-	-	-	1.08	101
Condensing Htg Sys Repl	30	0	30	-	-	62,076	0.0	0	0.0	0	0	32	3,022	2,069	-	-	-	-	-	-	1.08	101
Non-Cond Htg Sys Repl	0	0	0	-	-	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-	-
Electric Htg Sys Repl	0	0	0	-	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-	-
Heat Pump Repl	0	0	0	-	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-	-
Other Htg Sys Repl	0	0	0	-	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-	-
	Total	Electric	Gas	Number of Measures by Fuel Type				Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms		Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms				
Water Heating	56	6	50	117	11	106	36,499	0.0	0.0	1,259	6.8	1,242	652	0.000	0.004	210	0.135	25				
Temp. Reduct.	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-				
WH Wrap	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-				
Pipe Insul.	51	6	45	51	6	45	960	0.0	0.0	285	0.4	134	19	0.000	0.000	47	0.01	3				
LF Showerhead	20	4	16	21	4	17	210	0.0	0.0	886	0.4	117	11	0.000	0.005	221	0.02	7				
Faucet Aerator	15	1	14	22	1	21	110	0.0	0.0	88	0.1	30	7	0.000	0.002	88	0.01	2				
Std-Eff Wtr Htr Repl.	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-				
Hi-Eff or Electric Wtr Htr Repl.	26	0	26	23	0	23	35,219	0.0	0.0	0	5.9	961	1,355	-	-	-	-	0.23	37			
Lighting	51	51	404	404	404	2,828	1.0	1.9	9,816	-	-	55	0.020	0.037	192	-	-					
Refrigerator/Freezer³	10	10	10	10	10	6,200	0.6	0.6	5,136	-	-	620	0.063	0.059	514	-	-					
Refrigerator Removal	0	0	0	0	0	0	0.0	0.0	0	-	-	0	-	-	-	-	-					
Refrigerator Exchange	6	6	6	6	6	4,467	0.4	0.4	3,404	-	-	745	0.070	0.065	567	-	-					
Freezer Removal	0	0	0	0	0	0	0.0	0.0	0	-	-	0	-	-	-	-	-					
Freezer Exchange	4	4	4	4	4	1,733	0.2	0.2	1,732	-	-	433	0.053	0.050	433	-	-					
Total Non-Efficiency Measures	82					39,261						479										
Misc Ins.Attic Access/Vent	29					2,437						84										
Duct Sealing	1					82						82										
Duct Insulation	0					0						0										
Damming Material	0					0						0										
Htg. Sys. Tune & Clean	25					1,844						74										
Htg. Sys./WH Other	0					0						0										
Air Conditioning Work	0					0						0										
Water Heater Repair	0					0						0										
Refrigerator Coil Clean	0					0						0										
Waterbed Mattress Pad	0					0						0										
Programmable Tstat	0					0						0										
Unspecified Utility Meas.	0					0						0										
CO Detector	0					0						0										
Smoke Detector	0					0						0										
Fuses	0					0						0										
Htg Sys Safety Check	0					0						0										
Htg Sys Ventilation	0					0						0										
Water Heater Ventilation	4					599						150										
Bathroom Ventilation	0					0						0										
Dryer Ventilation	0					0						0										
Other Exhaust Ventilation	0					0						0										
Health/Safety Repairs	20					848						42										
Health/Safety Other	0					0						0										
Consumables	0					0						0										
General Repairs	45					6,761						150										
Meter Refrig (no action)	66					0						0										
Meter Freezer (no action)	29					0						0										
Support	57					26,690						468										
Transportation Allowance	0					0						0										
Landlord Contr Misc	0					0						0										
Landlord Contr Furnace	0					0						0										
Landlord Contr DHW	0					0						0										
Client Contr (Any)	0					0						0										
Lead Safe Work	0					0						0										
Unspecified/Other	0					0						0										

¹ Estimates are based upon reduced usage of the furnace due to shell improvements

² Impacts from continuous exhaust fans required by ASHRAE 62.2. The winter impacts exceed summer because these also include heating season impacts for dwellings with electric heat.

³ The total number of dwellings may exceed the number of measures installed in cases where the utility partially funds refrigeration measure replacements. The percentage of expenditures for each appliance is totaled to get the total number of measures installed.

**Red Rock Area Community Action
Billing Adjusted Costs and Impacts for Utility-Funded Measures Installed During Calendar Year 2014**

Total Reported Labor, Materials and Utility Admin Expenditures: \$223,077

Utility Administration Expenditures: -

Total Labor and Material Expenditures: \$223,077

Measure	Number of Dwellings with Impacts			Number of Dwellings with Electricity Impacts Season			Spending on Materials & Labor (\$)	Billing Adjusted First-Year Savings					Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures									
	Total	Electric	Gas	Cooling	Heating	Summer kW		Electricity		Annual kWh	Pk-Day therms	Gas Annual therms	Spending on Materials & Labor (\$)	Summer		Electricity		Annual kWh	Pk-Day therms	Gas Annual therms		
								kWh	kWh					kWh	kWh	kWh	kWh					
Total Efficiency Measures	35	22	35	22	22		184,794	2.7	1.1	7,446	77	7,488	5,280	0.122	0.048	338	2.21	214				
Total Shell & Htg. Sys. Repl	35	21	35	21	21		157,853	2.3	2,721	0.4	662	3,383	74	6,896	4,504	0.107	130	0.020	32	161	2.11	197
Total Shell Measures	35	21	35	21	21		99,563	2.3	2,721	0.4	662	3,383	53	4,971	2,845	0.107	130	0.020	32	161	1.52	142
Wall Insul.	22	13	22	13	0		40,723	0.8	1,019	0.0	0	1,019	23	2,124	1,851	0.065	78	0.000	0	78	1.04	97
Open Blown Ceiling Insul.	30	20	30	20	0		22,640	0.9	1,047	0.0	0	1,047	10	941	755	0.043	52	0.000	0	52	0.34	31
Cavity Fill Insul.	7	5	7	5	0		3,434	0.1	118	0.0	0	118	3	243	491	0.020	24	0.000	0	24	0.37	35
Sloped Attic Insul.	10	8	10	8	0		5,756	0.3	334	0.0	0	334	7	683	576	0.035	42	0.000	0	42	0.73	68
Kneewall Insul.	8	6	8	6	0		3,319	0.1	91	0.0	0	91	2	209	415	0.013	15	0.000	0	15	0.28	26
Infil. Reduction	35	15	35	15	0		13,545	0.1	78	0.0	0	78	4	371	387	0.004	5	0.000	0	5	0.11	11
Found./Crawl. Insul.	15	1	15	1	0		7,512	0.0	33	0.0	0	33	3	282	501	0.027	33	0.000	0	33	0.20	19
Bandjoist Insul.	21	0	21	-	0		2,635	0.0	0	0.0	0	0	1	136	125	-	-	-	-	-	0.07	6
Furnace Blower Fan ¹	35	21	35	-	21		0	0.0	0	0.4	662	662	(0)	(17)	0	0.000	0	0.020	32	32	(0.01)	(0)
Exhaust Ventilator ²	0	0	0	0	0		0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Total Heating System Repl	18	0	18	-	0		58,091	0.0	0	0.0	0	21	1,924	3,227	-	-	-	-	-	-	1.15	107
Condensing Htg Sys Repl	18	0	18	-	-		58,091	0.0	0	0.0	0	21	1,924	3,227	-	-	-	-	-	-	1.15	107
Non-Cond Htg Sys Repl	0	0	0	-	-		0	0.0	0	0.0	0	0	0	0	-	-	-	-	-	-	-	-
Electric Htg Sys Repl	0	0	0	-	0		0	0.0	0	0.0	0	0	0	0	-	-	-	-	-	-	-	-
Heat Pump Repl	0	0	0	-	0		0	0.0	0	0.0	0	0	0	0	-	-	-	-	-	-	-	-
Other Htg Sys Repl	0	0	0	-	0		0	0.0	0	0.0	0	0	0	0	-	-	-	-	-	-	-	-
	Total	Electric	Gas	Number of Measures by Fuel Type				Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms		Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms				
Water Heating	27	3	24	36	3	33	22,175	0.0	0.0	179	3.3	592	821	0.000	0.001	60	0.139	25				
Temp. Reduct.	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-				
WH Wrap	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-				
Pipe Insul.	24	1	23	24	1	23	365	0.0	0.0	22	0.3	89	15	0.000	0.000	22	0.01	4				
LF Showerhead	1	1	0	1	1	0	10	0.0	0.0	92	0.0	0	10	0.000	0.002	92	-	-				
Faucet Aerator	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-				
Std-Eff Wtr Htr Repl.	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-				
Hi-Eff or Electric Wtr Htr Repl.	15	1	14	11	1	10	21,800	0.0	0.0	64	3.1	503	1,453	0.000	0.002	64	0.22	36				
Lighting	18	18	-	153	153	-	1,071	0.2	0.4	2,277	-	-	60	0.013	0.025	127	-	-				
Refrigerator/Freezer³	6	6	-	6	6	-	3,895	0.2	0.2	1,607	-	-	649	0.033	0.031	268	-	-				
Refrigerator Removal	0	0	0	0	0	0	0	0.0	0.0	0	-	-	0	-	-	-	-	-				
Refrigerator Exchange	5	5	0	5	5	0	3,245	0.2	0.2	1,343	-	-	649	0.033	0.031	269	-	-				
Freezer Removal	0	0	0	0	0	0	0	0.0	0.0	0	-	-	0	-	-	-	-	-				
Freezer Exchange	1	1	0	1	1	0	650	0.0	0.0	264	-	-	650	0.032	0.030	264	-	-				
Total Non-Efficiency Measures	35	-	-	-	-	-	38,283	-	-	-	-	-	1,094	-	-	-	-	-				
Misc Ins.Attic Access/Vent	8	-	-	-	-	-	1,567	-	-	-	-	-	196	-	-	-	-	-				
Duct Sealing	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-				
Duct Insulation	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-				
Damming Material	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-				
Htg. Sys. Tune & Clean	13	-	-	-	-	-	1,625	-	-	-	-	-	125	-	-	-	-	-				
Htg. Sys./WH Other	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-				
Air Conditioning Work	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-				
Water Heater Repair	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-				
Refrigerator Coil Clean	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-				
Waterbed Mattress Pad	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-				
Programmable Tstat	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-				
Unspecified Utility Meas.	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-				
CO Detector	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-				
Smoke Detector	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-				
Fuses	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-				
Htg Sys Safety Check	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-				
Htg Sys Ventilation	2	-	-	-	-	-	500	-	-	-	-	-	250	-	-	-	-	-				
Water Heater Ventilation	18	-	-	-	-	-	5,410	-	-	-	-	-	301	-	-	-	-	-				
Bathroom Ventilation	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-				
Dryer Ventilation	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-				
Other Exhaust Ventilation	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-				
Health/Safety Repairs	8	-	-	-	-	-	461	-	-	-	-	-	58	-	-	-	-	-				
Health/Safety Other	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-				
Consumables	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-				
General Repairs	32	-	-	-	-	-	11,054	-	-	-	-	-	345	-	-	-	-	-				
Meter Refrig (no action)	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-				
Meter Freezer (no action)	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-				
Support	32	-	-	-	-	-	17,666	-	-	-	-	-	552	-	-	-	-	-				
Transportation Allowance	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-				
Landlord Contr Misc	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-				
Landlord Contr Furnace	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-				
Landlord Contr DHW	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-				
Client Contr (Any)	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-				
Lead Safe Work	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-				
Unspecified/Other	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-				

¹ Estimates are based upon reduced usage of the furnace due to shell improvements

² Impacts from continuous exhaust fans required by ASHRAE 62.2. The winter impacts exceed summer because these also include heating season impacts for dwellings with electric heat.

³ The total number of dwellings may exceed the number of measures installed in cases where the utility partially funds refrigeration measure replacements. The percentage of expenditures for each appliance is totaled to get the total number of measures installed.

South Central Iowa Community Action Program
Billing Adjusted Costs and Impacts for Utility-Funded Measures Installed During Calendar Year 2014

Total Reported Labor, Materials and Utility Admin Expenditures: \$168,434

Utility Administration Expenditures: -

Total Labor and Material Expenditures: \$168,434

Measure	Number of Dwellings with Impacts			Number of Dwellings with Electricity Impacts Season			Spending on Materials & Labor (\$)	Billing Adjusted First-Year Savings					Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures										
	Total	Electric	Gas	Cooling	Heating	Summer kW		Electricity		Annual kWh	Pk-Day therms	Gas Annual therms	Spending on Materials & Labor (\$)	Summer		Electricity		Annual kWh	Pk-Day therms	Gas Annual therms			
								kWh	kWh					kWh	kWh	kWh	kWh						
Total Efficiency Measures	36	32	28	29	32		137,589	3.6	8.0	22,869	76	6,950	3,822	0.124	0.250	715	2.71	248					
Total Shell & Htg. Sys. Repl	35	31	28	24	31		114,655	2.7	3,310	6.7	9,818	13,128	73	6,420	3,276	0.114	138	0.215	317	423	2.61	229	
Total Shell Measures	35	31	28	24	31		59,262	2.7	3,310	6.3	9,265	12,575	46	4,038	1,693	0.114	138	0.203	299	406	1.64	144	
Wall Insul.	15	12	14	12	1		15,494	1.0	1,184	0.5	807	1,990	13	1,110	1,033	0.082	99	0.547	807	166	0.90	79	
Open Blown Ceiling Insul.	25	20	20	18	5		16,725	1.3	1,525	3.0	4,363	5,889	20	1,770	669	0.070	85	0.592	873	294	1.01	88	
Cavity Fill Insul.	12	10	8	8	4		6,515	0.2	220	1.3	1,861	2,081	2	191	543	0.023	28	0.315	465	208	0.27	24	
Sloped Attic Insul.	6	3	5	3	1		2,232	0.0	48	0.2	226	273	2	133	372	0.013	16	0.153	226	91	0.30	27	
Kneewall Insul.	1	1	0	1	1		138	0.0	0	0.0	8	9	0	0	138	0.000	0	0.006	8	9	-	-	
Infil. Reduction	33	26	26	24	7		9,945	0.2	223	0.3	501	724	6	530	301	0.008	9	0.049	72	26	0.23	20	
Found./Crawl. Insul.	9	2	8	2	1		6,012	0.1	110	0.0	56	166	3	246	668	0.046	55	0.038	56	83	0.35	31	
Bandjoist Insul.	20	2	18	-	2		2,200	0.0	0	0.0	50	50	1	74	110	0.000	0	0.017	25	25	0.05	4	
Furnace Blower Fan ¹	28	24	28	-	24		0	0.0	0	0.9	1,394	1,394	(0)	(15)	0	0.000	0	0.039	58	58	(0.01)	(1)	
Exhaust Ventilator ²	0	0	0	0	0		0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-	-
Total Heating System Repl	22	4	18	-	4		55,393	0.0	0.4	553	553	27	2,381	2,518	0.000	0	0.094	138	138	1.50	132		
Condensing Htg Sys Repl	18	0	18	-	-		45,734	0.0	0	0.0	0	0	27	2,381	2,541	-	-	-	-	-	1.50	132	
Non-Cond Htg Sys Repl	0	0	0	-	-		0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-	
Electric Htg Sys Repl	4	4	0	-	4		9,659	0.0	0	0.4	553	553	0	0	2,415	0.000	0	0.094	138	138	-	-	
Heat Pump Repl	0	0	0	-	0		0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-	
Other Htg Sys Repl	0	0	0	-	0		0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-	
	Total	Electric	Gas	Number of Measures by Fuel Type				Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms		Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms					
Water Heating	27	10	17	68	31	37	16,601	0.0	0.0	1,975	2.9	531	615	0.000	0.004	198	0.168	31					
Temp. Reduct.	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-					
WH Wrap	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-					
Pipe Insul.	5	3	2	5	3	2	17	0.0	0.0	135	0.0	9	3	0.000	0.000	45	0.01	4					
LF Showerhead	17	8	9	20	9	11	184	0.0	0.0	1,104	0.3	94	11	0.000	0.003	138	0.03	10					
Faucet Aerator	21	10	11	32	15	17	70	0.0	0.0	399	0.1	35	3	0.000	0.001	40	0.01	3					
Std-Eff Wtr Htr Repl.	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-					
Hi-Eff or Electric Wtr Htr Repl.	14	4	10	11	4	7	16,331	0.0	0.0	337	2.4	394	1,167	0.000	0.002	84	0.24	39					
Lighting	21	21		236	236		488	0.5	1.0	4,989	-	-	23	0.025	0.046	238	-	-					
Refrigerator/Freezer³	8	8		8	8		5,845	0.3	0.3	2,776	-	-	731	0.043	0.040	347	-	-					
Refrigerator Removal	0	0		0	0		0	0.0	0.0	0	-	-	0	-	-	-	-	-					
Refrigerator Exchange	8	8		8	8		5,845	0.3	0.3	2,776	-	-	731	0.043	0.040	347	-	-					
Freezer Removal	0	0		0	0		0	0.0	0.0	0	-	-	0	-	-	-	-	-					
Freezer Exchange	0	0		0	0		0	0.0	0.0	0	-	-	0	-	-	-	-	-					
Total Non-Efficiency Measures	37						30,845						834										
Misc Ins.Attic Access/Vent	24						1,016						42										
Duct Sealing	1						302						302										
Duct Insulation	1						162						162										
Damming Material	0						0						0										
Htg. Sys. Tune & Clean	10						590						59										
Htg. Sys./WH Other	0						0						0										
Air Conditioning Work	0						0						0										
Water Heater Repair	0						0						0										
Refrigerator Coil Clean	0						0						0										
Waterbed Mattress Pad	0						0						0										
Programmable Tstat	0						0						0										
Unspecified Utility Meas.	0						0						0										
CO Detector	0						0						0										
Smoke Detector	0						0						0										
Fuses	0						0						0										
Htg Sys Safety Check	0						0						0										
Htg Sys Ventilation	1						200						200										
Water Heater Ventilation	19						3,100						163										
Bathroom Ventilation	0						0						0										
Dryer Ventilation	0						0						0										
Other Exhaust Ventilation	0						0						0										
Health/Safety Repairs	9						384						43										
Health/Safety Other	0						0						0										
Consumables	0						0						0										
General Repairs	33						8,416						255										
Meter Refrig (no action)	22						0						0										
Meter Freezer (no action)	6						0						0										
Support	36						16,675						463										
Transportation Allowance	0						0						0										
Landlord Contr Misc	0						0						0										
Landlord Contr Furnace	0						0						0										
Landlord Contr DHW	0						0						0										
Client Contr (Any)	0						0						0										
Lead Safe Work	0						0						0										
Unspecified/Other	0						0						0										

¹ Estimates are based upon reduced usage of the furnace due to shell improvements

² Impacts from continuous exhaust fans required by ASHRAE 62.2. The winter impacts exceed summer because these also include heating season impacts for dwellings with electric heat.

³ The total number of dwellings may exceed the number of measures installed in cases where the utility partially funds refrigeration measure replacements. The percentage of expenditures for each appliance is totaled to get the total number of measures installed.

**Community Action of South Eastern Iowa
Billing Adjusted Costs and Impacts for Utility-Funded Measures Installed During Calendar Year 2014**

Total Reported Labor, Materials and Utility Admin Expenditures: \$436,658
Utility Administration Expenditures: -
Total Labor and Material Expenditures: \$436,658

Measure	Number of Dwellings with Impacts			Number of Dwellings with Electricity Impacts Season			Spending on Materials & Labor (\$)	Billing Adjusted First-Year Savings					Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures										
	Total	Electric	Gas	Cooling	Heating	Summer kW		Electricity		Annual kWh	Pk-Day therms	Gas Annual therms	Spending on Materials & Labor (\$)	Summer		Electricity		Pk-Day therms	Annual				
								kWh	kWh					kWh	kWh	kWh	kWh						
Total Efficiency Measures	61	56	55	56	56		395,860	12.2	5.3	25,128	307	26,744	6,490	0.218	0.094	449	5.58	486					
Total Shell & Htg. Sys. Repl	61	56	55	55	56		362,826	11.7	14,068	4.5	6,366	20,434	296	24,900	5,948	0.212	256	0.081	114	365	5.38	453	
Total Shell Measures	61	56	55	55	56		253,735	11.7	14,068	4.5	6,366	20,434	191	16,113	4,160	0.212	256	0.081	114	365	3.48	293	
Wall Insul.	53	49	48	49	1		126,374	5.2	6,271	1.3	1,837	8,108	101	8,500	2,384	0.106	128	1.302	1,837	165	2.10	177	
Open Blown Ceiling Insul.	58	53	53	53	1		85,507	4.6	5,586	0.7	1,034	6,620	60	5,064	1,474	0.087	105	0.733	1,034	125	1.13	96	
Cavity Fill Insul.	1	1	1	1	0		32	0.0	8	0.0	0	8	0	7	32	0.007	8	0.000	0	8	0.09	7	
Sloped Attic Insul.	16	14	14	14	1		8,299	0.7	886	0.3	398	1,283	12	988	519	0.052	63	0.282	398	92	0.84	71	
Kneewall Insul.	11	10	9	10	0		3,382	0.1	165	0.0	0	165	2	190	307	0.014	16	0.000	0	16	0.25	21	
Infil. Reduction	35	35	29	35	0		8,334	0.3	337	0.0	0	337	4	346	238	0.008	10	0.000	0	10	0.14	12	
Found./Crawl. Insul.	28	12	26	12	0		15,687	0.7	815	0.0	0	815	8	656	560	0.056	68	0.000	0	68	0.30	25	
Bandjoist Insul.	38	0	38	-	0		6,120	0.0	0	0.0	0	0	5	400	161	-	-	-	-	-	0.13	11	
Furnace Blower Fan ¹	60	55	55	-	55		0	0.0	0	2.2	3,097	3,097	(0)	(38)	0	0.000	0	0.040	56	56	(0.01)	(1)	
Exhaust Ventilation ²	0	0	0	0	0		0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-	
Total Heating System Repl	39	0	39	-	0		109,092	0.0	0	0.0	0	0	104	8,786	2,797	-	-	-	-	-	-	2.68	225
Condensing Htg Sys Repl	39	0	39	-	-		109,092	0.0	0	0.0	0	0	104	8,786	2,797	-	-	-	-	-	-	2.68	225
Non-Cond Htg Sys Repl	0	0	0	-	-		0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-	-
Electric Htg Sys Repl	0	0	0	-	0		0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-	-
Heat Pump Repl	0	0	0	-	0		0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-	-
Other Htg Sys Repl	0	0	0	-	0		0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-	-
	Total	Electric	Gas	Number of Measures by Fuel Type				Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms		Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms					
Water Heating	27	1	26	27	1	26	29,049	0.0	0.0	22	11.3	1,844	1,076	0.000	0.000	22	0.435	71					
Temp. Reduct.	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-					
WH Wrap	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-					
Pipe Insul.	1	1	0	1	1	0	3	0.0	0.0	22	0.0	0	3	0.000	0.000	22	-	-					
LF Showerhead	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-					
Faucet Aerator	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-					
Std-Eff Wtr Htr Repl.	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-					
Hi-Eff or Electric Wtr Htr Repl.	26	0	26	26	0	26	29,046	0.0	0.0	0	11.3	1,844	1,117	-	-	-	0.43	71					
Lighting	28	28		181	181		305	0.3	0.5	2,685	-	-	11	0.010	0.019	96	-	-					
Refrigerator/Freezer³	7	7		7	7		3,680	0.2	0.2	1,987	-	-	526	0.035	0.033	284	-	-					
Refrigerator Removal	0	0		0	0		0	0.0	0.0	0	-	-	0	-	-	-	-	-					
Refrigerator Exchange	6	6		6	6		3,481	0.2	0.2	1,701	-	-	580	0.035	0.033	283	-	-					
Freezer Removal	0	0		0	0		0	0.0	0.0	0	-	-	0	-	-	-	-	-					
Freezer Exchange	1	1		1	1		199	0.0	0.0	286	-	-	199	0.035	0.033	286	-	-					
Total Non-Efficiency Measures	61						40,799						669										
Misc Ins.Attic Access/Vent	0						0						0										
Duct Sealing	0						0						0										
Duct Insulation	0						0						0										
Damming Material	0						0						0										
Htg. Sys. Tune & Clean	3						344						115										
Htg. Sys./WH Other	0						0						0										
Air Conditioning Work	0						0						0										
Water Heater Repair	0						0						0										
Refrigerator Coil Clean	0						0						0										
Waterbed Mattress Pad	0						0						0										
Programmable Tstat	0						0						0										
Unspecified Utility Meas.	0						0						0										
CO Detector	0						0						0										
Smoke Detector	0						0						0										
Fuses	0						0						0										
Htg Sys Safety Check	0						0						0										
Htg Sys Ventilation	1						150						150										
Water Heater Ventilation	2						479						240										
Bathroom Ventilation	0						0						0										
Dryer Ventilation	0						0						0										
Other Exhaust Ventilation	0						0						0										
Health/Safety Repairs	26						29,046						1,117										
Health/Safety Other	0						0						0										
Consumables	0						0						0										
General Repairs	0						0						0										
Meter Refrig (no action)	0						0						0										
Meter Freezer (no action)	0						0						0										
Support	61						39,826						653										
Transportation Allowance	0						0						0										
Landlord Contr Misc	0						0						0										
Landlord Contr Furnace	0						0						0										
Landlord Contr DHW	0						0						0										
Client Contr (Any)	0						0						0										
Lead Safe Work	0						0						0										
Unspecified/Other	0						0						0										

¹ Estimates are based upon reduced usage of the furnace due to shell improvements

² Impacts from continuous exhaust fans required by ASHRAE 62.2. The winter impacts exceed summer because these also include heating season impacts for dwellings with electric heat.

³ The total number of dwellings may exceed the number of measures installed in cases where the utility partially funds refrigeration measure replacements. The percentage of expenditures for each appliance is totaled to get the total number of measures installed.

Southern Iowa Economic Development Authority
Billing Adjusted Costs and Impacts for Utility-Funded Measures Installed During Calendar Year 2014

Total Reported Labor, Materials and Utility Admin Expenditures: \$344,489
 Utility Administration Expenditures: -
 Total Labor and Material Expenditures: \$344,489

Measure	Number of Dwellings with Impacts			Number of Dwellings with Electricity Impacts Season			Spending on Materials & Labor (\$)	Billing Adjusted First-Year Savings					Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures									
	Total	Electric	Gas	Cooling	Heating	Summer kW		Electricity		Annual kWh	Pk-Day therms	Gas Annual therms	Spending on Materials & Labor (\$)	Summer		Electricity		Pk-Day therms	Gas Annual therms			
								kWh	kWh					kWh	kWh	kWh	kWh					
Total Efficiency Measures	80	80	46	78	80	302,428	15.7	47.4	113,739	161	14,636	3,780	0.201	0.592	1,422	3.49	318					
Total Shell & Htg. Sys. Repl	80	80	46	71	80	266,441	12.0	14,414	41.3	60,936	75,350	156	13,694	3,331	0.168	203	0.517	762	942	3.38	298	
Total Shell Measures	80	80	46	71	80	180,746	12.0	14,414	41.1	60,539	74,953	105	9,233	2,259	0.168	203	0.513	757	937	2.28	201	
Wall Insul.	48	46	32	45	16	75,254	4.7	5,689	15.4	22,696	28,385	58	5,066	1,568	0.105	126	0.962	1,419	617	1.80	158	
Open Blown Ceiling Insul.	61	59	34	55	26	54,679	4.6	5,597	12.6	18,561	24,158	19	1,654	895	0.084	102	0.484	714	409	0.55	49	
Cavity Fill Insul.	14	12	9	11	5	7,134	0.5	638	2.7	3,997	4,635	7	620	510	0.048	58	0.542	799	386	0.78	69	
Sloped Attic Insul.	15	14	8	13	7	4,696	0.5	628	3.3	4,886	5,514	3	292	313	0.040	48	0.473	698	394	0.41	36	
Kneewall Insul.	9	9	7	8	2	3,920	0.2	252	0.2	238	490	3	253	436	0.026	31	0.081	119	54	0.41	36	
Infil. Reduction	76	61	43	56	30	16,780	0.3	391	2.0	3,011	3,402	6	534	221	0.006	7	0.068	100	56	0.14	12	
Found./Crawl. Insul.	29	21	17	17	12	10,878	1.0	1,220	2.3	3,401	4,621	5	437	375	0.059	72	0.192	283	220	0.29	26	
Bandjoist Insul.	53	18	35	-	18	7,505	0.0	0	1.5	2,168	2,168	5	403	142	0.000	0	0.082	120	120	0.13	12	
Furnace Blower Fan ¹	49	49	46	-	49	0	0.0	0	1.1	1,581	1,581	(0)	(24)	0	0.000	0	0.022	32	32	(0.01)	(1)	
Exhaust Ventilator ²	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-	
Total Heating System Repl	30	5	25	-	5	85,695	0.0	0	0.3	397	397	51	4,460	2,857	0.000	0	0.054	79	79	2.03	178	
Condensing Htg Sys Repl	25	0	25	-	-	71,670	0.0	0	0.0	0	0	51	4,460	2,867	-	-	-	-	-	2.03	178	
Non-Cond Htg Sys Repl	0	0	0	-	-	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-	
Electric Htg Sys Repl	3	3	0	-	3	7,025	0.0	0	0.2	253	253	0	0	2,342	0.000	0	0.057	84	84	-	-	
Heat Pump Repl	2	2	0	-	2	7,000	0.0	0	0.1	144	144	0	0	3,500	0.000	0	0.049	72	72	-	-	
Other Htg Sys Repl	0	0	0	-	0	0	0.0	0	0.0	0	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	65	39	26	146	84	63	22,272	0.0	0.1	4,461	5.1	942	343	0.000	0.002	114	0.196	36				
Temp. Reduct.	0	0	0	0	0	0	0	0.0	0.0	0	0	0	0	-	-	-	-	-				
WH Wrap	0	0	0	0	0	0	0	0.0	0.0	0	0	0	0	-	-	-	-	-				
Pipe Insul.	38	20	18	38	20	18	237	0.0	0.0	956	0.3	93	6	0.000	0.000	48	0.01	5				
LF Showerhead	13	8	5	13	8	5	130	0.0	0.0	1,204	0.2	61	10	0.000	0.003	151	0.04	12				
Faucet Aerator	47	30	17	82	53	29	245	0.0	0.0	1,929	0.2	71	5	0.000	0.001	64	0.01	4				
Std-Eff Wtr Htr Repl.	0	0	0	0	0	0	0	0.0	0.0	0	0	0	0	-	-	-	-	-				
Hi-Eff or Electric Wtr Htr Repl.	17	3	14	13	3	11	21,660	0.0	0.0	372	4.4	717	1,274	0.000	0.003	124	0.31	51				
Lighting	71	71		796	796		3,158	2.7	5.0	25,887	-	-	44	0.038	0.071	365	-	-				
Refrigerator/Freezer³	14	14		14	14		10,557	1.0	0.9	8,041	-	-	754	0.071	0.066	574	-	-				
Refrigerator Removal	0	0	0	0	0	0	0	0.0	0.0	0	-	-	0	-	-	-	-	-				
Refrigerator Exchange	12	12	0	12	12	0	9,559	0.9	0.9	7,469	-	-	797	0.077	0.072	622	-	-				
Freezer Removal	0	0	0	0	0	0	0	0.0	0.0	0	-	-	0	-	-	-	-	-				
Freezer Exchange	2	2	0	2	2	0	998	0.1	0.1	572	-	-	499	0.035	0.033	286	-	-				
Total Non-Efficiency Measures	77						42,060						546									
Misc Ins.Attic Access/Vent	8						625						78									
Duct Sealing	1						350						350									
Duct Insulation	0						0						0									
Damming Material	0						0						0									
Htg. Sys. Tune & Clean	17						2,125						125									
Htg. Sys./WH Other	0						0						0									
Air Conditioning Work	0						0						0									
Water Heater Repair	0						0						0									
Refrigerator Coil Clean	0						0						0									
Waterbed Mattress Pad	0						0						0									
Programmable Tstat	0						0						0									
Unspecified Utility Meas.	0						0						0									
CO Detector	0						0						0									
Smoke Detector	0						0						0									
Fuses	0						0						0									
Htg Sys Safety Check	0						0						0									
Htg Sys Ventilation	12						2,000						167									
Water Heater Ventilation	29						5,638						194									
Bathroom Ventilation	0						0						0									
Dryer Ventilation	0						0						0									
Other Exhaust Ventilation	0						0						0									
Health/Safety Repairs	6						425						71									
Health/Safety Other	0						0						0									
Consumables	0						0						0									
General Repairs	74						22,921						310									
Meter Refrig (no action)	0						0						0									
Meter Freezer (no action)	0						0						0									
Support	22						7,976						363									
Transportation Allowance	0						0						0									
Landlord Contr Misc	0						0						0									
Landlord Contr Furnace	0						0						0									
Landlord Contr DHW	0						0						0									
Client Contr (Any)	0						0						0									
Lead Safe Work	0						0						0									
Unspecified/Other	0						0						0									

¹ Estimates are based upon reduced usage of the furnace due to shell improvements

² Impacts from continuous exhaust fans required by ASHRAE 62.2. The winter impacts exceed summer because these also include heating season impacts for dwellings with electric heat.

³ The total number of dwellings may exceed the number of measures installed in cases where the utility partially funds refrigeration measure replacements. The percentage of expenditures for each appliance is totaled to get the total number of measures installed.

**Upper Des Moines Opportunity
Billing Adjusted Costs and Impacts for Utility-Funded Measures Installed During Calendar Year 2014**

Total Reported Labor, Materials and Utility Admin Expenditures: \$370,827
 Utility Administration Expenditures: -
 Total Labor and Material Expenditures: \$370,827

Measure	Number of Dwellings with Impacts			Number of Dwellings with Electricity Impacts Season			Spending on Materials & Labor (\$)	Billing Adjusted First-Year Savings					Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures										
	Total	Electric	Gas	Cooling	Heating	Summer kW		Electricity		Annual kWh	Pk-Day therms	Gas Annual therms	Spending on Materials & Labor (\$)	Summer		Electricity		Annual kWh	Pk-Day therms	Gas Annual therms			
								kWh	kWh					kWh	kWh	kWh	kWh						
Total Efficiency Measures	69	48	52	48	48		319,725	7.2	2.6	16,204	125	12,710	4,634	0.150	0.053	338	2.40	244					
Total Shell & Htg. Sys. Repl	68	47	52	45	47		270,498	6.6	7,966	1.5	2,493	10,458	117	11,365	3,978	0.147	177	0.033	53	223	2.25	219	
Total Shell Measures	68	47	52	45	47		167,209	6.6	7,966	1.5	2,493	10,458	78	7,592	2,459	0.147	177	0.033	53	223	1.50	146	
Wall Insul.	51	35	36	35	0		65,337	2.7	3,229	0.0	0	3,229	31	2,993	1,281	0.076	92	0.000	0	92	0.85	83	
Open Blown Ceiling Insul.	64	45	47	45	0		38,113	2.3	2,733	0.0	0	2,733	17	1,698	596	0.050	61	0.000	0	61	0.37	36	
Cavity Fill Insul.	22	15	17	15	0		16,774	0.5	602	0.0	0	602	9	871	762	0.033	40	0.000	0	40	0.53	51	
Sloped Attic Insul.	26	16	19	16	0		10,237	0.6	783	0.0	0	783	9	921	394	0.041	49	0.000	0	49	0.50	48	
Kneewall Insul.	15	8	14	8	0		4,234	0.1	143	0.0	0	143	3	262	282	0.015	18	0.000	0	18	0.19	19	
Infil. Reduction	52	28	47	28	0		16,887	0.2	265	0.0	0	265	5	454	325	0.008	9	0.000	0	9	0.10	10	
Found./Crawl. Insul.	22	5	19	5	0		9,748	0.2	211	0.0	0	211	2	231	443	0.035	42	0.000	0	42	0.12	12	
Bandjoist Insul.	28	0	28	-	0		5,879	0.0	0	0.0	0	0	2	187	210	-	-	-	-	-	0.07	7	
Furnace Blower Fan ¹	68	47	52	-	47		0	0.0	0	1.5	2,493	2,493	(0)	(25)	0	0.000	0	0.033	53	53	(0.00)	(0)	
Exhaust Ventilator ²	0	0	0	0	0		0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-	
Total Heating System Repl	40	0	40	-	0		103,289	0.0	0	0.0	0	0	39	3,774	2,582	-	-	-	-	-	-	0.97	94
Condensing Htg Sys Repl	40	0	40	-	-		103,289	0.0	0	0.0	0	0	39	3,774	2,582	-	-	-	-	-	-	0.97	94
Non-Cond Htg Sys Repl	0	0	0	-	-		0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-	-
Electric Htg Sys Repl	0	0	0	-	0		0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-	-
Heat Pump Repl	0	0	0	-	0		0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-	-
Other Htg Sys Repl	0	0	0	-	0		0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-	-
	Total	Electric	Gas	Number of Measures by Fuel Type				Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms		Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms					
Water Heating	46	5	41	73	7	66	45,430	0.0	0.0	301	7.9	1,345	988	0.000	0.001	60	0.193	33					
Temp. Reduct.	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-					
WH Wrap	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-					
Pipe Insul.	39	5	34	39	5	34	780	0.0	0.0	147	0.3	108	20	0.000	0.000	29	0.01	3					
LF Showerhead	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-					
Faucet Aerator	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-					
Std-Eff Wtr Htr Repl.	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-					
Hi-Eff or Electric Wtr Htr Repl.	35	2	33	34	2	32	44,650	0.0	0.0	154	7.6	1,237	1,276	0.000	0.002	77	0.23	37					
Lighting	44	44		421	421		2,947	0.5	1.0	5,096	-	-	67	0.012	0.022	116	-	-					
Refrigerator/Freezer ³	1	1		1	1		850	0.0	0.0	348	-	-	850	0.043	0.040	348	-	-					
Refrigerator Removal	0	0		0	0		0	0.0	0.0	0	-	-	0	-	-	-	-	-					
Refrigerator Exchange	1	1		1	1		850	0.0	0.0	348	-	-	850	0.043	0.040	348	-	-					
Freezer Removal	0	0		0	0		0	0.0	0.0	0	-	-	0	-	-	-	-	-					
Freezer Exchange	0	0		0	0		0	0.0	0.0	0	-	-	0	-	-	-	-	-					
Total Non-Efficiency Measures	68						51,102						751										
Misc Ins.Attic Access/Vent	23						1,804						78										
Duct Sealing	1						165						165										
Duct Insulation	0						0						0										
Damming Material	0						0						0										
Htg. Sys. Tune & Clean	8						940						118										
Htg. Sys./WH Other	0						0						0										
Air Conditioning Work	0						0						0										
Water Heater Repair	0						0						0										
Refrigerator Coil Clean	0						0						0										
Waterbed Mattress Pad	0						0						0										
Programmable Tstat	0						0						0										
Unspecified Utility Meas.	0						0						0										
CO Detector	0						0						0										
Smoke Detector	0						0						0										
Fuses	0						0						0										
Htg Sys Safety Check	0						0						0										
Htg Sys Ventilation	11						2,400						218										
Water Heater Ventilation	21						5,198						248										
Bathroom Ventilation	0						0						0										
Dryer Ventilation	0						0						0										
Other Exhaust Ventilation	0						0						0										
Health/Safety Repairs	12						553						46										
Health/Safety Other	0						0						0										
Consumables	0						0						0										
General Repairs	29						4,304						148										
Meter Refrig (no action)	0						0						0										
Meter Freezer (no action)	0						0						0										
Support	67						35,739						533										
Transportation Allowance	0						0						0										
Landlord Contr Misc	0						0						0										
Landlord Contr Furnace	0						0						0										
Landlord Contr DHW	0						0						0										
Client Contr (Any)	0						0						0										
Lead Safe Work	0						0						0										
Unspecified/Other	0						0						0										

¹ Estimates are based upon reduced usage of the furnace due to shell improvements

² Impacts from continuous exhaust fans required by ASHRAE 62.2. The winter impacts exceed summer because these also include heating season impacts for dwellings with electric heat.

³ The total number of dwellings may exceed the number of measures installed in cases where the utility partially funds refrigeration measure replacements. The percentage of expenditures for each appliance is totaled to get the total number of measures installed.

West Central Development Corporation
Billing Adjusted Costs and Impacts for Utility-Funded Measures Installed During Calendar Year 2014

Total Reported Labor, Materials and Utility Admin Expenditures: \$326,209
 Utility Administration Expenditures: -
 Total Labor and Material Expenditures: \$326,209

Measure	Number of Dwellings with Impacts			Number of Dwellings with Electricity Impacts Season		Spending on Materials & Labor (\$)	Billing Adjusted First-Year Savings					Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures									
	Total	Electric	Gas	Cooling	Heating		Summer		Electricity		Annual	Pk-Day therms	Gas Annual therms	Spending on Materials & Labor (\$)	Summer		Electricity		Annual	Pk-Day therms	Gas Annual therms
							kW	kWh	kW	kWh					kWh	kWh	kWh	kWh			
Total Efficiency Measures	61	48	50	48	48	257,338	14.0		4.4		30,687	115	10,616	4,219	0.292	0.092		639	2.31	212	
Total Shell & Htg. Sys. Repl	61	48	50	48	48	212,848	13.0	15,738	2.8	4,039	19,778	109	9,371	3,489	0.272	0.058	84	412	2.17	187	
Total Shell Measures	61	48	50	48	48	120,948	13.0	15,738	2.7	3,892	19,630	72	6,241	1,983	0.272	0.056	81	409	1.45	125	
Wall Insul.	43	34	37	34	1	45,901	5.3	6,343	0.6	831	7,174	31	2,646	1,067	0.155	0.187	0.576	831	211	0.83	72
Open Blown Ceiling Insul.	53	43	44	43	1	28,726	4.5	5,405	0.1	182	5,587	15	1,316	542	0.104	0.126	0.126	182	130	0.35	30
Cavity Fill Insul.	6	5	5	5	0	3,491	0.5	608	0.0	0	608	3	257	582	0.101	0.122	0.000	0	122	0.60	51
Sloped Attic Insul.	26	20	20	20	0	12,009	1.5	1,750	0.0	0	1,750	13	1,087	462	0.073	0.088	0.000	0	88	0.63	54
Kneewall Insul.	16	11	14	11	0	3,201	0.5	654	0.0	0	654	3	289	200	0.049	0.059	0.000	0	59	0.24	21
Infil. Reduction	60	27	49	27	3	18,169	0.4	427	0.2	252	679	5	400	303	0.013	0.016	0.058	84	25	0.09	8
Found./Crawl. Insul.	32	7	28	7	2	7,836	0.5	551	0.6	885	1,437	2	180	245	0.065	0.079	0.307	443	205	0.07	6
Bandjoist Insul.	21	1	20	-	1	1,615	0.0	0	0.1	110	110	1	85	77	0.000	0	0.076	110	110	0.05	4
Furnace Blower Fan ¹	58	45	50	-	45	0	0.0	0	1.1	1,632	1,632	(0)	(19)	0	0.000	0	0.025	36	36	(0.00)	(0)
Exhaust Ventilator ²	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Total Heating System Repl	31	2	29	-	2	91,900	0.0	0	0.1	147	147	36	3,129	2,965	0.000	0	0.051	74	74	1.25	108
Condensing Htg Sys Repl	29	0	29	-	-	84,900	0.0	0	0.0	0	0	36	3,129	2,928	-	-	-	-	-	1.25	108
Non-Cond Htg Sys Repl	0	0	0	-	-	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Electric Htg Sys Repl	2	2	0	-	2	7,000	0.0	0	0.1	147	147	0	0	3,500	0.000	0	0.051	74	74	-	-
Heat Pump Repl	0	0	0	-	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Other Htg Sys Repl	0	0	0	-	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
	Total	Electric	Gas	Number of Measures by Fuel Type			Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms		Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms				
Water Heating	49	11	38	143	29	114	37,876	0.0	0.0	1,896	6.5	1,246	773	0.000	0.003	172	0.172	33			
Temp. Reduct.	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-			
WH Wrap	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-			
Pipe Insul.	39	8	31	39	8	31	757	0.0	0.0	292	0.4	122	19	0.000	0.000	37	0.01	4			
LF Showerhead	23	6	17	24	6	18	240	0.0	0.0	934	0.5	165	10	0.000	0.004	156	0.03	10			
Faucet Aerator	33	8	25	57	13	44	283	0.0	0.0	387	0.3	83	9	0.000	0.001	48	0.01	3			
Std-Eff Wtr Htr Repl.	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-			
Hi-Eff or Electric Wtr Htr Repl.	28	3	25	23	2	20	36,596	0.0	0.0	283	5.4	875	1,307	0.000	0.002	94	0.21	35			
Lighting	39	39		428	428		2,975	0.7	1.3	6,847	-	-	76	0.018	0.034	176	-	-			
Refrigerator/Freezer³	5	5		5	5		3,640	0.3	0.2	2,166	-	-	728	0.053	0.050	433	-	-			
Refrigerator Removal	0	0	0	0	0	0	0	0.0	0.0	0	-	-	0	-	-	-	-	-			
Refrigerator Exchange	5	5	0	5	5	0	3,640	0.3	0.2	2,166	-	-	728	0.053	0.050	433	-	-			
Freezer Removal	0	0	0	0	0	0	0	0.0	0.0	0	-	-	0	-	-	-	-	-			
Freezer Exchange	0	0	0	0	0	0	0	0.0	0.0	0	-	-	0	-	-	-	-	-			
Total Non-Efficiency Measures	61						68,871						1,129								
Misc Ins.Attic Access/Vent	47						6,411						136								
Duct Sealing	0						0						0								
Duct Insulation	0						0						0								
Damming Material	0						0						0								
Htg. Sys. Tune & Clean	19						2,375						125								
Htg. Sys./WH Other	0						0						0								
Air Conditioning Work	0						0						0								
Water Heater Repair	0						0						0								
Refrigerator Coil Clean	0						0						0								
Waterbed Mattress Pad	0						0						0								
Programmable Tstat	0						0						0								
Unspecified Utility Meas.	0						0						0								
CO Detector	0						0						0								
Smoke Detector	0						0						0								
Fuses	0						0						0								
Htg Sys Safety Check	0						0						0								
Htg Sys Ventilation	11						2,132						194								
Water Heater Ventilation	38						8,800						232								
Bathroom Ventilation	0						0						0								
Dryer Ventilation	0						0						0								
Other Exhaust Ventilation	0						0						0								
Health/Safety Repairs	27						1,384						51								
Health/Safety Other	0						0						0								
Consumables	0						0						0								
General Repairs	60						15,349						256								
Meter Refrig (no action)	19						0						0								
Meter Freezer (no action)	8						0						0								
Support	59						32,420						549								
Transportation Allowance	0						0						0								
Landlord Contr Misc	0						0						0								
Landlord Contr Furnace	0						0						0								
Landlord Contr DHW	0						0						0								
Client Contr (Any)	0						0						0								
Lead Safe Work	0						0						0								
Unspecified/Other	0						0						0								

¹ Estimates are based upon reduced usage of the furnace due to shell improvements

² Impacts from continuous exhaust fans required by ASHRAE 62.2. The winter impacts exceed summer because these also include heating season impacts for dwellings with electric heat.

³ The total number of dwellings may exceed the number of measures installed in cases where the utility partially funds refrigeration measure replacements. The percentage of expenditures for each appliance is totaled to get the total number of measures installed.

Community Action Agency of Siouxland
Billing Adjusted Costs and Impacts for Utility-Funded Measures Installed During Calendar Year 2014

Total Reported Labor, Materials and Utility Admin Expenditures: \$239,349
 Utility Administration Expenditures: -
 Total Labor and Material Expenditures: \$239,349

Measure	Number of Dwellings with Impacts			Number of Dwellings with Electricity Impacts Season			Spending on Materials & Labor (\$)	Billing Adjusted First-Year Savings					Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures									
	Total	Electric	Gas	Cooling	Heating	Summer kW		Electricity		Annual kWh	Pk-Day therms	Gas Annual therms	Spending on Materials & Labor (\$)	Summer		Electricity		Annual kWh	Pk-Day therms	Gas Annual therms		
								kWh	kWh					kWh	kWh	kWh	kWh					
Total Efficiency Measures	53	44	50	44	44		216,925	9.3	12.5	54,037	114	10,997	4,093	0.211	0.283	1,228	2.28	220				
Total Shell & Htg. Sys. Repl	52	44	49	36	44		176,593	5.9	7.106	7.3	11,154	18,260	109	9,969	3,396	0.164	197	0.166	253	415	2.23	203
Total Shell Measures	52	44	49	36	44		69,726	5.9	7.106	7.2	11,044	18,150	57	5,183	1,341	0.164	197	0.164	251	413	1.16	106
Wall Insul.	14	12	13	12	1		13,336	1.3	1,555	0.7	1,094	2,650	13	1,183	953	0.107	130	0.716	1,094	221	1.00	91
Open Blown Ceiling Insul.	43	33	40	33	3		40,096	4.0	4,852	3.2	4,861	9,712	31	2,845	932	0.122	147	1.060	1,620	294	0.78	71
Cavity Fill Insul.	8	4	7	4	1		5,832	0.3	362	0.3	459	820	9	790	729	0.075	90	0.300	459	205	1.24	113
Sloped Attic Insul.	2	2	2	2	0		451	0.0	43	0.0	0	43	1	63	226	0.018	22	0.000	0	22	0.35	31
Kneewall Insul.	2	1	2	1	0		1,144	0.0	43	0.0	0	43	1	85	572	0.036	43	0.000	0	43	0.46	42
Infil. Reduction	0	0	0	0	0		0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Found./Crawl. Insul.	14	4	13	4	1		8,867	0.2	251	0.1	216	467	3	238	633	0.052	63	0.141	216	117	0.20	18
Bandjoist Insul.	0	0	0	-	0		0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Furnace Blower Fan ¹	49	41	49	-	41		0	0.0	0	2.9	4,414	4,414	(0)	(19)	0	0.000	0	0.070	108	108	(0.00)	(0)
Exhaust Ventilator ²	0	0	0	0	0		0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Total Heating System Repl	38	1	37	-	1		106,867	0.0	0	0.1	110	110	52	4,786	2,812	0.000	0	0.072	110	110	1.42	129
Condensing Htg Sys Repl	37	0	37	-	-		103,367	0.0	0	0.0	0	0	52	4,786	2,794	-	-	-	-	-	1.42	129
Non-Cond Htg Sys Repl	0	0	0	-	-		0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Electric Htg Sys Repl	1	1	0	-	1		3,500	0.0	0	0.1	110	110	0	0	3,500	0.000	0	0.072	110	110	-	-
Heat Pump Repl	0	0	0	-	0		0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Other Htg Sys Repl	0	0	0	-	0		0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
	Total	Electric	Gas	Number of Measures by Fuel Type				Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms		Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms				
Water Heating	48	13	35	151	37	114	26,497	0.0	0.1	5,167	4.9	1,027	552	0.000	0.008	397	0.141	29				
Temp. Reduct.	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-				
WH Wrap	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-				
Pipe Insul.	47	12	35	47	12	35	731	0.0	0.0	837	0.4	127	16	0.000	0.000	70	0.01	4				
LF Showerhead	42	11	31	48	14	34	468	0.0	0.1	3,238	0.9	272	11	0.000	0.007	294	0.03	9				
Faucet Aerator	23	4	19	38	7	31	158	0.0	0.0	363	0.2	53	7	0.000	0.002	91	0.01	3				
Std-Eff Wtr Htr Repl.	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-				
Hi-Eff or Electric Wtr Htr Repl.	19	4	15	18	4	14	25,140	0.0	0.0	730	3.5	575	1,323	0.000	0.005	182	0.23	38				
Lighting	43	43		520	520		3,736	2.1	3.8	19,626	-	-	87	0.048	0.089	456	-	-				
Refrigerator/Freezer³	19	19		20	20		10,099	1.4	1.3	10,983	-	-	532	0.071	0.066	578	-	-				
Refrigerator Removal	0	0		0	0		0	0.0	0.0	0	-	-	0	-	-	-	-	-				
Refrigerator Exchange	18	18		18	18		9,231	1.2	1.2	10,001	-	-	513	0.068	0.064	556	-	-				
Freezer Removal	0	0		0	0		0	0.0	0.0	0	-	-	0	-	-	-	-	-				
Freezer Exchange	2	2		2	2		868	0.1	0.1	982	-	-	434	0.060	0.056	491	-	-				
Total Non-Efficiency Measures	53						22,424						423									
Misc Ins.Attic Access/Vent	0						0						0									
Duct Sealing	0						0						0									
Duct Insulation	0						0						0									
Damming Material	0						0						0									
Htg. Sys. Tune & Clean	1						80						80									
Htg. Sys./WH Other	0						0						0									
Air Conditioning Work	0						0						0									
Water Heater Repair	0						0						0									
Refrigerator Coil Clean	0						0						0									
Waterbed Mattress Pad	0						0						0									
Programmable Tstat	0						0						0									
Unspecified Utility Meas.	0						0						0									
CO Detector	0						0						0									
Smoke Detector	0						0						0									
Fuses	0						0						0									
Htg Sys Safety Check	0						0						0									
Htg Sys Ventilation	0						0						0									
Water Heater Ventilation	2						338						169									
Bathroom Ventilation	0						0						0									
Dryer Ventilation	0						0						0									
Other Exhaust Ventilation	0						0						0									
Health/Safety Repairs	19						25,140						1,323									
Health/Safety Other	0						0						0									
Consumables	0						0						0									
General Repairs	0						0						0									
Meter Refrig (no action)	24						0						0									
Meter Freezer (no action)	9						0						0									
Support	53						22,006						415									
Transportation Allowance	0						0						0									
Landlord Contr Misc	0						0						0									
Landlord Contr Furnace	0						0						0									
Landlord Contr DHW	0						0						0									
Client Contr (Any)	0						0						0									
Lead Safe Work	0						0						0									
Unspecified/Other	0						0						0									

¹ Estimates are based upon reduced usage of the furnace due to shell improvements

² Impacts from continuous exhaust fans required by ASHRAE 62.2. The winter impacts exceed summer because these also include heating season impacts for dwellings with electric heat.

³ The total number of dwellings may exceed the number of measures installed in cases where the utility partially funds refrigeration measure replacements. The percentage of expenditures for each appliance is totaled to get the total number of measures installed.

Polk County Development Services
Billing Adjusted Costs and Impacts for Utility-Funded Measures Installed During Calendar Year 2014

Total Reported Labor, Materials and Utility Admin Expenditures: \$492,292
 Utility Administration Expenditures: -
 Total Labor and Material Expenditures: \$492,292

Measure	Number of Dwellings with Impacts			Number of Dwellings with Electricity Impacts Season			Spending on Materials & Labor (\$)	Billing Adjusted First-Year Savings						Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures							
	Total	Electric	Gas	Cooling	Heating	Summer kW		Electricity		Annual kWh	Pk-Day therms	Gas Annual therms	Spending on Materials & Labor (\$)	Summer		Electricity		Annual kWh	Pk-Day therms	Gas Annual therms	
								kWh	kWh					kWh	kWh	kWh	kWh				
Total Efficiency Measures	99	99	97	96	99	418,810	17.4	18.7	74,061	229	21,691	4,230	0.181	0.189	748	2.36	224				
Total Shell & Htg. Sys. Repl	97	97	95	57	97	337,158	13.3	16.020	12.0	18,132	34,152	217	19,444	3,476	0.233	281	0.124	187	352	2.29	205
Total Shell Measures	97	97	95	57	97	208,185	13.3	16.020	11.8	17,740	33,760	152	13,554	2,146	0.233	281	0.121	183	348	1.60	143
Wall Insul.	56	42	55	42	1	70,100	5.8	7,007	0.7	1,032	8,039	43	3,840	1,252	0.138	167	0.704	1,032	191	0.79	70
Open Blown Ceiling Insul.	71	54	69	54	2	53,118	4.9	5,908	2.3	3,475	9,384	63	5,620	748	0.091	109	1.142	1,738	174	0.91	81
Cavity Fill Insul.	46	37	46	37	0	20,530	1.5	1,795	0.0	0	1,795	22	1,987	446	0.040	49	0.000	0	49	0.48	43
Sloped Attic Insul.	21	17	21	17	0	9,051	0.5	605	0.0	0	605	7	605	431	0.030	36	0.000	0	36	0.33	29
Kneewall Insul.	25	20	24	20	1	7,757	0.4	504	0.7	1,038	1,542	5	447	310	0.021	25	0.665	1,038	77	0.21	19
Infil. Reduction	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Found./Crawl. Insul.	57	3	57	3	0	47,630	0.2	201	0.0	0	201	12	1,103	836	0.055	67	0.000	0	67	0.21	19
Bandjoist Insul.	0	0	0	-	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Furnace Blower Fan ¹	95	95	95	-	95	0	0.0	0	8.1	12,194	12,194	(1)	(47)	0	0.000	0	0.086	128	128	(0.01)	(0)
Exhaust Ventilator ²	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Total Heating System Repl	60	2	58	-	2	128,973	0.0	0.3	393	393	66	5,889	2,150	0.000	0	0.127	196	196	1.13	102	
Condensing Htg Sys Repl	58	0	58	-	-	125,732	0.0	0	0.0	0	0	66	5,889	2,168	-	-	-	-	-	1.13	102
Non-Cond Htg Sys Repl	0	0	0	-	-	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Electric Htg Sys Repl	1	1	0	-	1	3,143	0.0	0	0.0	72	72	0	0	3,143	0.000	0	0.049	72	72	-	-
Heat Pump Repl	1	1	0	-	1	98	0.0	0	0.2	320	320	0	0	98	0.000	0	0.205	320	320	-	-
Other Htg Sys Repl	0	0	0	-	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
	Total	Electric	Gas	Number of Measures by Fuel Type				Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms		Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms			
Water Heating	98	10	88	370	39	330	64,818	0.0	0.0	2,455	11.6	2,247	661	0.000	0.005	246	0.132	26			
Temp. Reduct.	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-			
WH Wrap	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-			
Pipe Insul.	95	10	85	95	10	85	556	0.0	0.0	389	0.7	231	6	0.000	0.000	39	0.01	3			
LF Showerhead	52	6	46	52	6	46	520	0.0	0.0	956	1.0	302	10	0.000	0.004	159	0.02	7			
Faucet Aerator	88	10	78	172	19	153	497	0.0	0.0	573	0.6	197	6	0.000	0.001	57	0.01	3			
Std-Eff Wtr Htr Repl.	3	0	3	3	0	3	4,352	0.0	0.0	0	0.2	37	1,451	-	-	-	0.08	12			
Hi-Eff or Electric Wtr Htr Repl.	52	5	47	48	4	43	58,893	0.0	0.0	537	9.1	1,480	1,133	0.000	0.003	107	0.19	31			
Lighting	90	90	1,083	1,083	7,581	3.1	5.7	29,369	-	-	84	0.034	0.063	326	-	-	-	-			
Refrigerator/Freezer³	18	18	18	18	18	9,253	1.0	0.9	8,085	-	-	514	0.055	0.052	449	-	-	-			
Refrigerator Removal	0	0	0	0	0	0	0.0	0.0	0	-	-	0	-	-	-	-	-	-			
Refrigerator Exchange	18	18	18	18	18	9,253	1.0	0.9	8,085	-	-	514	0.055	0.052	449	-	-	-			
Freezer Removal	0	0	0	0	0	0	0.0	0.0	0	-	-	0	-	-	-	-	-	-			
Freezer Exchange	0	0	0	0	0	0	0.0	0.0	0	-	-	0	-	-	-	-	-	-			
Total Non-Efficiency Measures	98					73,482						750									
Misc Ins.Attic Access/Vent	1					120						120									
Duct Sealing	0					0						0									
Duct Insulation	0					0						0									
Damming Material	0					0						0									
Htg. Sys. Tune & Clean	16					1,959						122									
Htg. Sys./WH Other	0					0						0									
Air Conditioning Work	0					0						0									
Water Heater Repair	0					0						0									
Refrigerator Coil Clean	0					0						0									
Waterbed Mattress Pad	0					0						0									
Programmable Tstat	5					466						93									
Unspecified Utility Meas.	0					0						0									
CO Detector	1					40						40									
Smoke Detector	0					0						0									
Fuses	0					0						0									
Htg Sys Safety Check	0					0						0									
Htg Sys Ventilation	9					909						101									
Water Heater Ventilation	29					5,928						204									
Bathroom Ventilation	0					0						0									
Dryer Ventilation	0					0						0									
Other Exhaust Ventilation	0					0						0									
Health/Safety Repairs	52					58,893						1,133									
Health/Safety Other	0					0						0									
Consumables	0					0						0									
General Repairs	0					0						0									
Meter Refrig (no action)	0					0						0									
Meter Freezer (no action)	0					0						0									
Support	98					64,060						654									
Transportation Allowance	0					0						0									
Landlord Contr Misc	0					0						0									
Landlord Contr Furnace	0					0						0									
Landlord Contr DHW	0					0						0									
Client Contr (Any)	0					0						0									
Lead Safe Work	0					0						0									
Unspecified/Other	0					0						0									

¹ Estimates are based upon reduced usage of the furnace due to shell improvements
² Impacts from continuous exhaust fans required by ASHRAE 62.2. The winter impacts exceed summer because these also include heating season impacts for dwellings with electric heat.
³ The total number of dwellings may exceed the number of measures installed in cases where the utility partially funds refrigeration measure replacements. The percentage of expenditures for each appliance is totaled to get the total number of measures installed.
 Dalhoff Associates, LLC

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APPENDIX A -- CLIENT CHARACTERISTICS

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Household characteristics										
Quarterly gross income	\$3,618	\$3,727	\$3,911	\$4,002	\$4,190	\$4,130	\$4,344	\$4,355	\$4,286	\$4,406
Average members	2.8	2.8	2.9	2.8	2.8	2.9	2.9	2.8	2.7	2.7
Percentage of households with:										
Elderly	35.2	32.3	32.6	31.5	34.2	24.0	29.1	29.4	30.8	28.9
Handicapped	42.7	42.5	43.1	42.7	35.7	25.4	32.9	30.1	32.6	31.3
Young children	18.3	15.6	18.7	21.5	21.5	18.6	25.2	21.9	20.1	22.4
Housing type (%)										
Single family home	91.0	90.3	90.7	87.7	87.9	82.6	89.6	87.3	84.8	87.4
Mobile home	7.2	7.7	7.8	7.5	9.9	7.6	10.0	10.2	11.9	10.6
Duplex	0.9	2.1	0.6	0.1	0.3	0.3	0.1	0.7	3.2	1.9
Three+ unit apartment	0.8	0.0	0.4	1.3	1.0	6.8	0.3	1.8	0.1	0.1
Rent a room	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Unknown/other	0.0	0.0	0.6	3.5	1.0	2.6	0.0	0.0	0.0	0.0
Heating system type (%)										
Natural gas	84.4	84.0	84.3	85.8	85.6	82.7	81.0	80.8	80.3	84.2
Propane	10.7	11.7	11.4	10.1	9.3	11.9	12.9	13.3	12.3	9.2
Fuel oil	1.4	1.0	0.6	0.7	0.3	0.8	0.8	0.8	0.9	0.2
Electricity	3.4	3.3	3.5	3.3	4.7	4.5	5.4	5.1	6.4	6.4
Other	0.0	0.0	0.2	0.1	0.1	0.0	0.0	0.0	0.2	0.0
Air conditioning type (%)										
Central	47.8	49.8	56.3	52.5	55.3	54.1	58.7	57.3	60.2	63.6
Room	39.8	37.4	8.7	34.6	32.5	31.4	27.8	30.4	29.4	26.3
None or Missing Data	12.4	12.8	35.0	12.8	12.2	14.5	13.6	12.3	10.4	10.1
Blower door readings (average cfm50)										
Pre	3,723	3,856	3,639	3,608	3,374	3,281	3,294	3,454	3,281	3,437
Post	2,310	2,389	2,216	2,215	2,120	2,040	2,054	2,139	2,053	2,100

