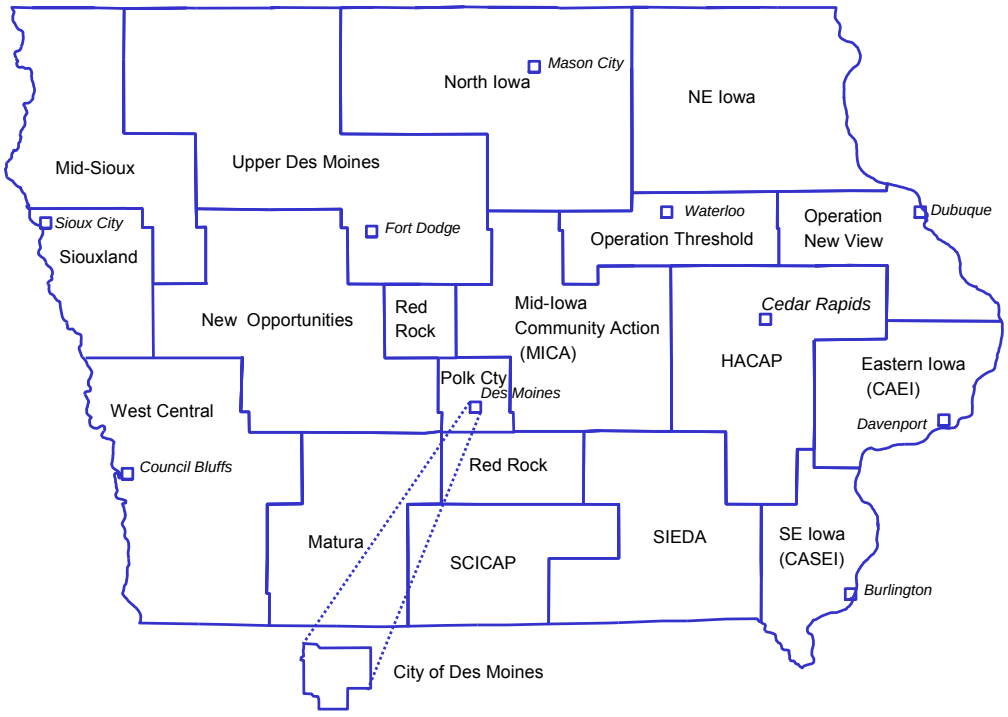
REPORT ON THE IMPACTS AND COSTS OF THE IOWA LOW-INCOME WEATHERIZATION PROGRAM -- Calendar Year 2015

September 30, 2016

Iowa Local Weatherization Agencies



DALHOFF ASSOCIATES, LLC
533 Marshall Circle
Verona, WI 53593

Voice: 608-845-6551

Greg.Dalhoff@DalhoffAssociates.com

REPORT ON THE IMPACTS AND COSTS OF IOWA'S LOW-INCOME WEATHERIZATION PROGRAM

Calendar Year 2015

September 30, 2016

Prepared for the

Iowa Statewide Low-Income Collaborative

by

Dalhoff Associates, LLC

533 Marshall Circle

Verona, WI 53593

608-845-6551

email: Greg.Dalhoff@DalhoffAssociates.com

TABLE OF CONTENTS

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 2015 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 program[1]. The estimated impacts were adjusted using billing analysis of the program clients.

PROGRAM COSTS AND IMPACTS

The WAP program spent $18,615,919 for materials, labor, and support while installing measures in 1,514 dwellings during calendar year (CY) 2015. Spending was 0.5% less than in 2014. Federal and state funding accounted for 69% of overall expenditures while utilities funded the remaining 31%.

The average household expenditures for materials, labor, and support increased by 8.7% to $12,310 from $11,233 in 2014. The major measures installed by the program in 2015 are essentially unchanged from the 2014 program.

First-year savings totaled 357,800 therms; 1,157,300 kWh electricity; 34,300 gallons of propane; and 8 gallons of fuel oil (a single home). First-year peak demand savings totaled 3,720 therms, 330 kW summer demand, and 250 kW winter demand.

Average savings were 765 kWh of electricity for 1,514 dwellings with electricity impacts. The program saved an average of 273 therms of natural gas for 1,311 dwellings with gas impacts. In addition, the program delivered first-year savings of 281 gallons of propane in 122 dwellings with propane impacts, and 8 gallons of fuel oil in 1 dwelling with fuel oil impacts.

First-year client energy cost savings totaled $444,200, averaging $293.

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

Overall Program Impacts

	Electricity (kWh and kW)			Natural Gas (therms)			Propane (gals)	Fuel Oil (gals)
	Overall	DCAA	Utility	Overall	DCAA	Utility	DCAA	DCAA
Energy	1,157,300	510,100	647,200	357,800	144,100	213,700	34,300	8
Summer Demand	330	140	200	NA	NA	NA	NA	NA
Winter Demand	250	130	120	3,720	1,490	2,230	NA	NA

Average Impacts[1] 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	765	343	644	273	112	239	281	8
Summer Demand	0.221	0.094	0.194	NA	NA	NA	NA	NA
Winter Demand	0.168	0.090	0.121	2.8	1.2	2.5	NA	NA

Expenditures and First Year Client Fuel Bill Savings

Totals	Overall	DCAA	Utility	Averages	Overall	DCAA	Utility
Expenditures	$18,631,000	$12,829,300	$5,801,700	**Expenditures**	$12,310	$8,470	$4,990
Client Fuel Savings	$444,200	$219,500	$224,700	**Client Fuel Savings**	$293	$145	$193

[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 $5,801,700, accounting for 31% of total program expenditures. The utility expenditures averaged $4,990 for the 1,163 dwellings that received utility-funded measures.

Utility-funded measures accounted for 56% of electricity savings and 60% of gas savings. Utility-funded measures saved a total of 647,200 kWh, averaging of 644 kWh of electricity for the 1,005 dwellings with utility-funded electricity measures. Utility funded measures also saved a total of 213,700 therms, averaging 239 therms of natural gas for the 893 dwellings with utility-funded natural gas measures. Utility-funded measures reduced peak electricity demand by 200 kW in the summer and 120 kW in the winter, and provided 2,230 peak-day therms of gas savings.

Utility-funded measures yielded first-year client bill savings of $224,700, averaging $193 per dwelling that received utility-funded efficiency measures. Electricity bill savings averaged $70 per household for utility-funded electricity measures. Gas bill savings averaged $173 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 275 therms $\pm$ 16 at 90% confidence. This represents a 26.9% savings $\pm$ 1.3% at 90% confidence for natural gas measures. Mobile home savings averaged 125 therms $\pm$ 36 at 90% confidence, equating to a 14.5% 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 2015 program found that savings averaged 1,254 kWh $\pm$ 1,724 for dwellings with electric main heat, and 631 kWh $\pm$ 201 for dwellings heated with other fuels.

CHANGES IN PROGRAM DELIVERY AND REPORTING

There were no significant changes in measures delivered for the CY 2015 program, as compared to the CY 2014 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 2015.

1. SUMMARY OF PROGRAM IMPACTS AND EXPENDITURES

AGGREGATE PROGRAM EXPENDITURES AND IMPACTS

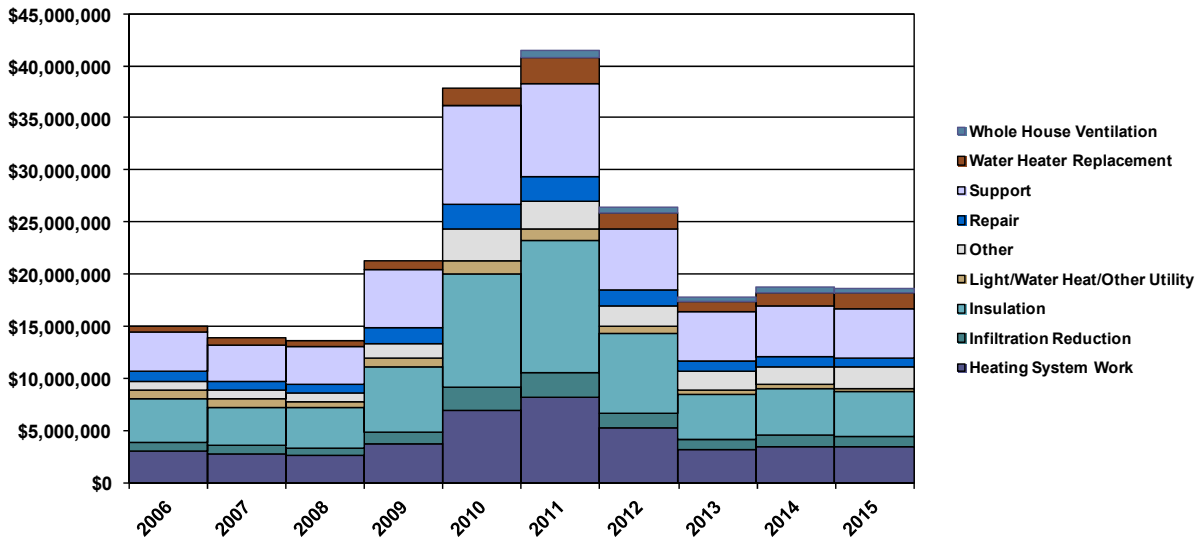


Figure 1.1a Overall Program Expenditures

Program spending totaled $18,615,919 for materials, labor, and support in houses weatherized to completion during calendar year (CY) 2015, decreasing by 0.5 percent from $18,718,201 spent in 2014 (see Figure 1.1a, totals exclude administration expenditures). Spending is roughly 20% higher than pre-ARRA spending levels (pre-2009).

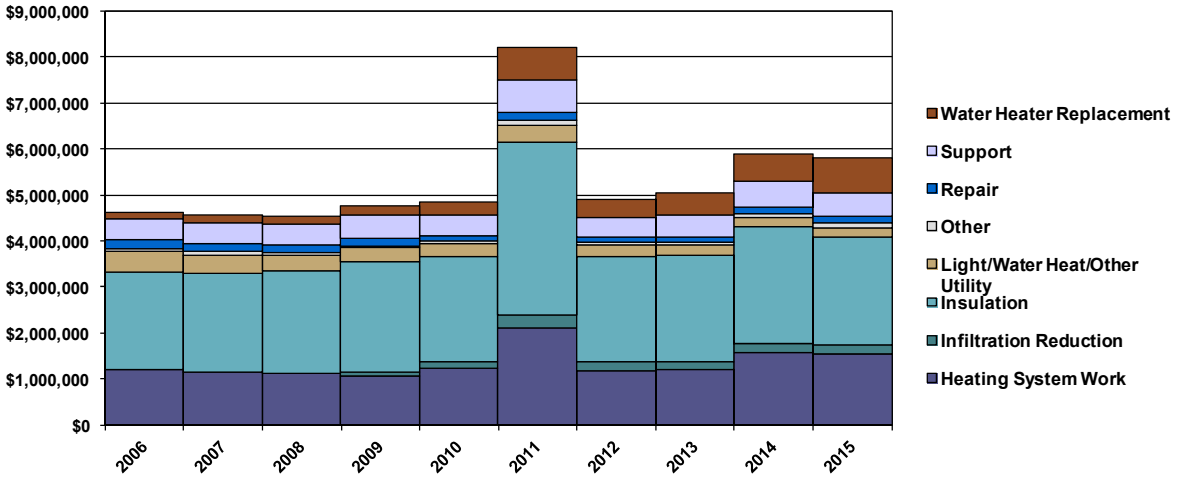


Figure 1.1b Utility Expenditures

A total of 1,514 dwellings were weatherized in 2015, compared to 1,667 in 2014. The utilities funded measures in 1,279 dwellings (77%).

The utilities spent $5,801,658 in 2015, which was slightly less than in 2014 ($5,886,542). (Figure 1.1b). Utility expenditures accounted for 31% of the total low-income program expenditures.

First year natural gas savings totaled 357,800 therms for the program overall (Figure 1.2a) – utility funding was credited with 213,700 therms, or 60% of the total (Fig 1.2b).

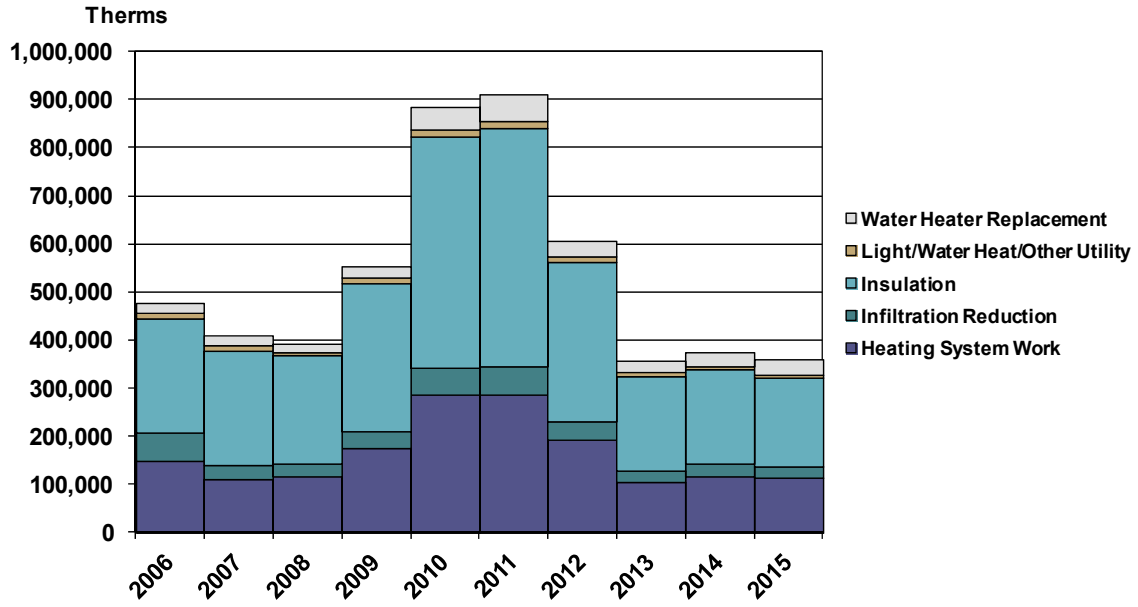


Figure 1.2a First Year Energy Savings (therms) – Program

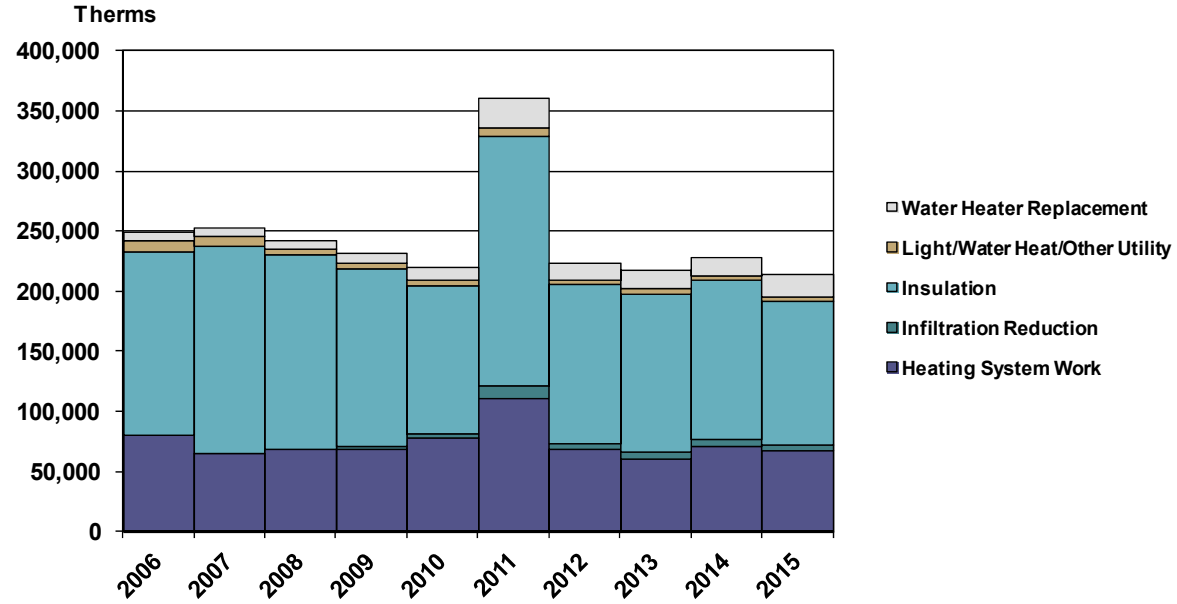


Figure 1.2b First Year Energy Savings (therms) – Utility only

Electricity savings totaled 1,157,300 kWh for the program overall (Figure 1.2c) – utility funding was credited with 647,200, or 56% of the total (Fig 1.2d).

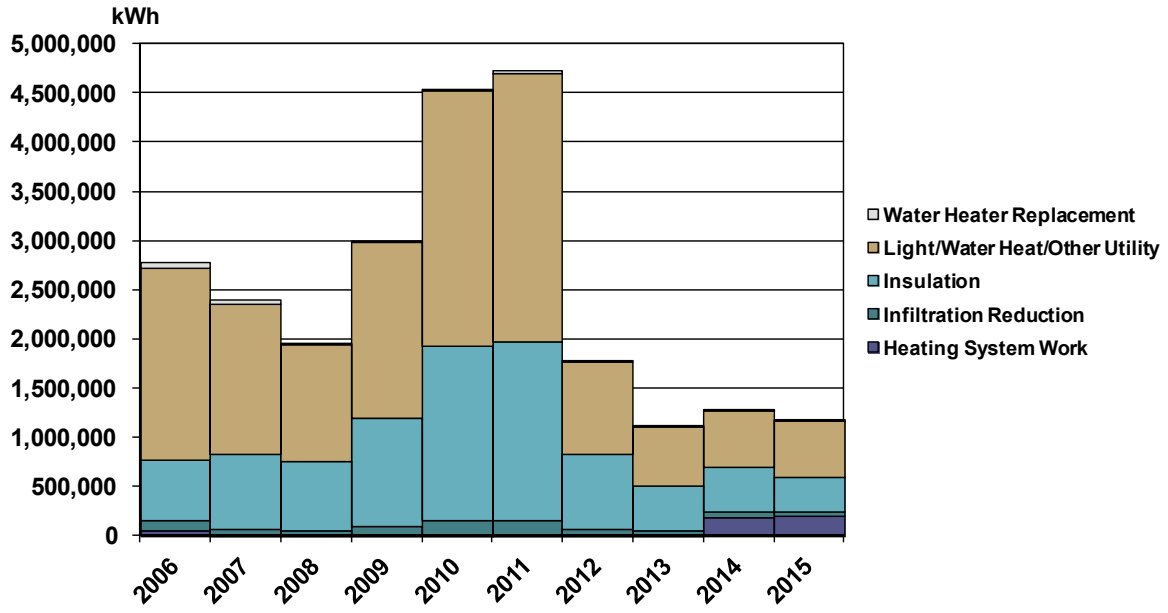


Figure 1.2c First Year Energy Savings (kWh) – Program

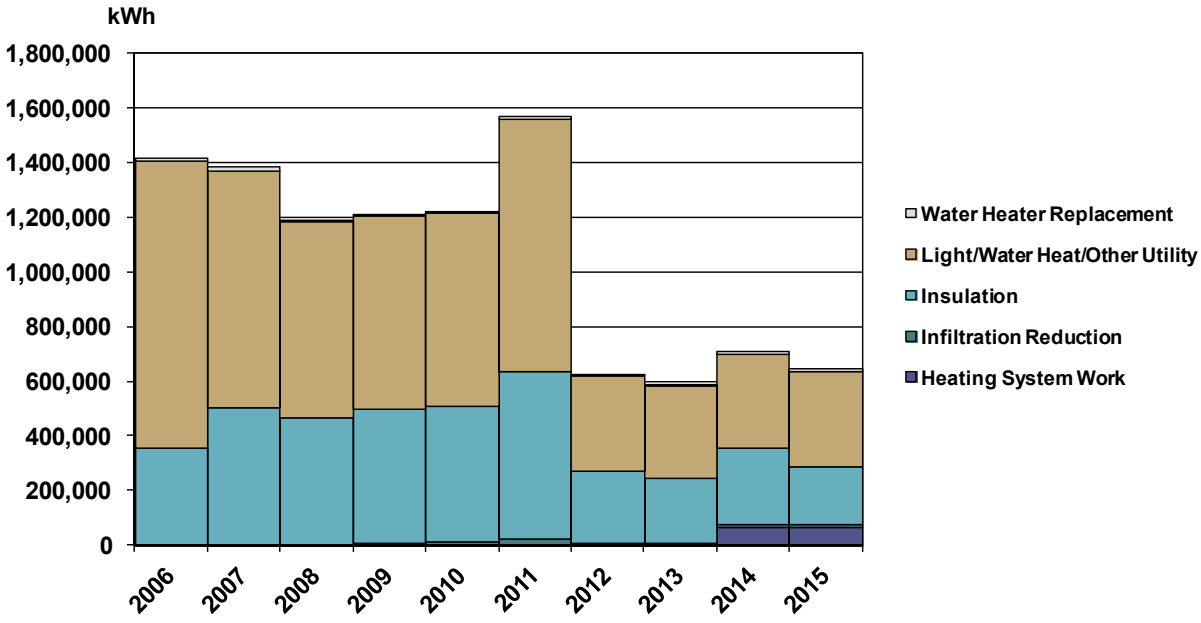


Figure 1.2d First Year Energy Savings (kWh) – Utility only

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. Water heating accounted for 10.1%, refrigeration measures 1.4%, lighting 2.9%.

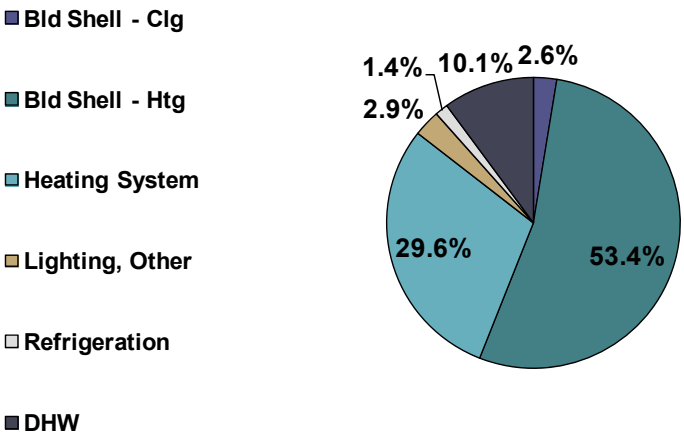


Figure 1.3a Program Energy Savings by End-Use

Natural gas savings accounted for 83.5% of savings on an MBtu basis, electricity savings accounted for 9.2% of savings, and propane savings accounted for 7.3%. First-year savings totaled 357,800 therms; 1,157,300 kWh electricity; 34,300 gallons of propane; and 8 gallons of fuel oil. First-year peak demand savings totaled 3,720 therms, 330 kW summer demand, and 250 kW winter demand.

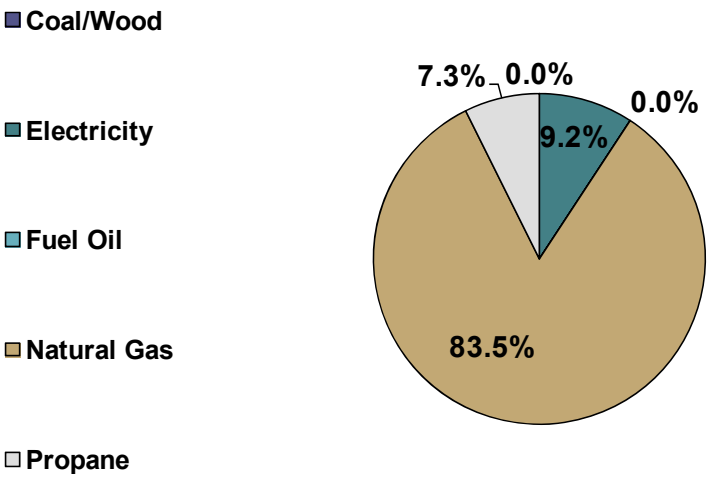


Figure 1.3b Program Energy Savings by Fuel Type

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.

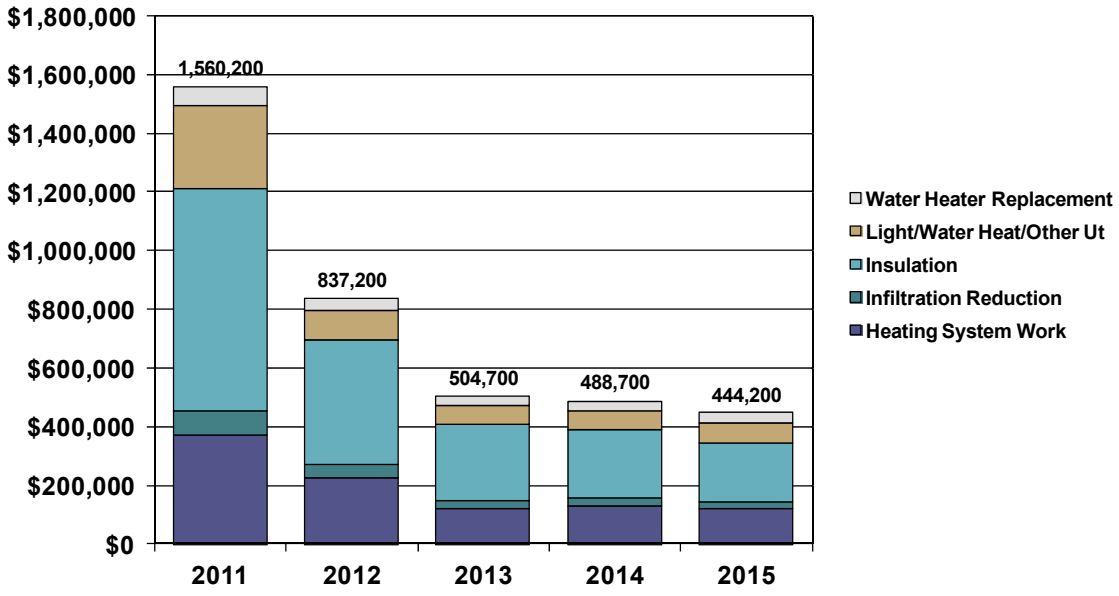


Figure 1.4a First Year Client Fuel Cost Savings (Nominal Dollars)

The nominal first year client energy bill savings totaled $444,200 (Figure 1.4a).

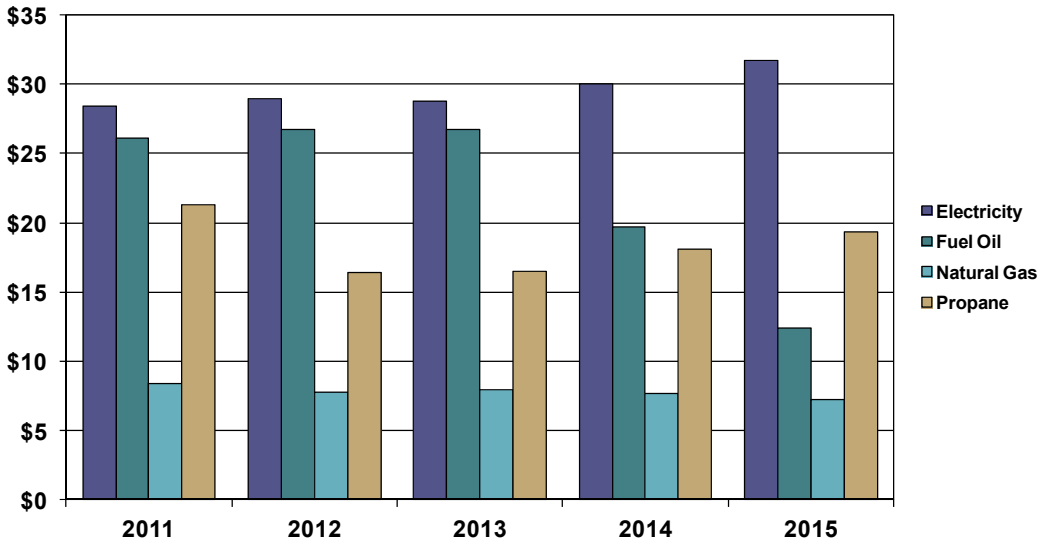


Figure 1.4b Average Fuel Cost per MBtu (Nominal Dollars)

Natural gas prices decreased by 7% from CY 2014, while electricity prices increased by 5.8%, and propane increased by 6.4% (Figure 1.4b).

CLIENT SAVINGS BY FUEL TYPE AND END-USE

Natural gas savings provided 58% of client bill savings, electricity accounted for 28%, propane accounted for 14%, and fuel oil provided less than 1% (Figure 1.5a).

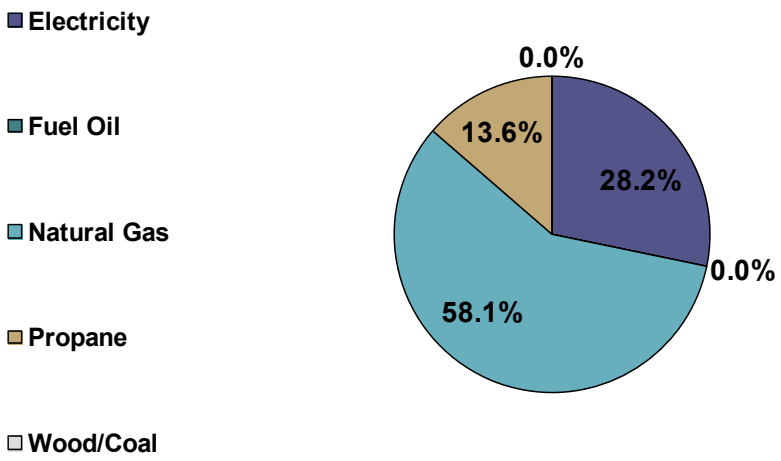


Figure 1.5a Client Bill Savings by Fuel Type

Approximately 53% of client bill savings are attributable to the heating impacts of shell measures (insulation and infiltration reduction), and 23% was due to heating system work (Figure 1.5b). Taken together, heating impacts from shell improvements and heating system measures accounted for 76% of total client bill savings.

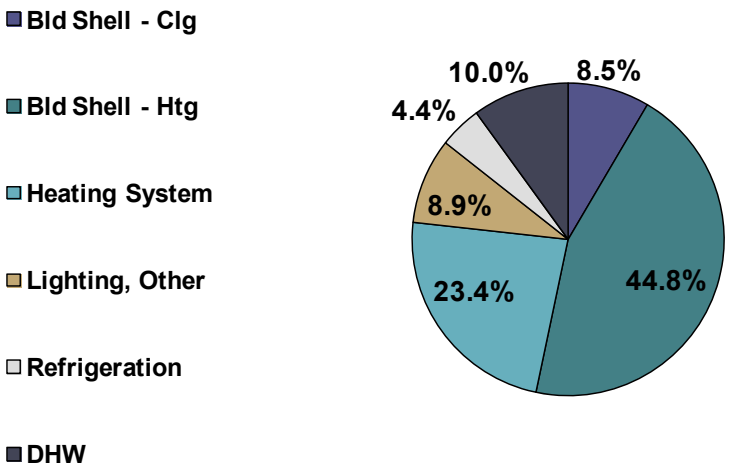


Figure 1.5b Client Bill Savings by End Use

UTILITY FUNDING IMPACTS

Utility funding reached a total of 1,163 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 1,132 with energy savings (Table 1.1). Utility expenditures for labor and material totaled $5,278,200; an additional $523,500 was spent for program support. Materials and labor expenditures averaged $4,538 across all dwellings receiving utility funded measures, and total expenditures including program support averaged $4,990.

Table 1.1 Utility Expenditures for Measures, Labor, and Support, and Counts of Dwellings with Impacts

	Total Expenditures		Counts of Dwellings With Energy Impacts					
Utility	Excluding Program Support	With Program Support	Electric Impacts	Pct of Prg	Gas Impacts	Pct of Prg	Total	Pct of Prg
Alliant IPL	$ 2,534,900	$ 2,790,300	641	42.4%	380	29.0%	715	47.2%
Black Hills Corp	$ 532,200	$ 590,000			128	9.8%	129	8.5%
MidAmerican	$ 2,211,100	$ 2,421,400	362	23.9%	384	29.3%	458	30.3%
Total Utilities	$ 5,278,200	$ 5,801,700	1,005	66.4%	893	68.1%	1,132	74.8%

Note: expenditures exclude utility administation costs

In addition, the utilities spent $255,300 on program administration. Utility expenditures totaled $6,057,000 including spending on program measures, labor, support, and administration.

Utility-funded measures accounted for 56% of electricity savings and 60% of gas savings. Utility-funded measures saved a total of 647,200 kWh, averaging of 644 kWh of electricity for the 1,005 dwellings with utility-funded electricity measures. Utility funded measures also saved a total of 213,700 therms, averaging 239 therms of natural gas for the 893 dwellings with utility-funded natural gas measures. Utility-funded measures reduced peak electricity demand by 200 kW in the summer and 120 kW in the winter, and provided 2,230 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	Pct of Prg	Summer Demand Savings	Pct of Prg	Winter Demand Savings	Pct of Prg	First Year Fuel Cost Savings	Pct of Prg
Electricity	(kWh)		(kW)		(kW)			
Alliant IPL	355,000	30.7%	110	33.9%	62	24.4%	$ 38,800	31.0%
MidAmerican	290,700	25.1%	80	24.3%	59	23.1%	$ 31,600	25.2%
Total Electric Utilities	647,200	55.9%	200	58.2%	121	47.6%	$ 70,500	56.2%
Gas	Therms				Peak Day Therms			
Alliant IPL	96,400	26.9%			1,010	27.2%	$ 69,300	26.9%
Black Hills Corp	20,500	5.7%			210	5.7%	$ 14,800	5.7%
MidAmerican	96,700	27.0%			1,010	27.0%	$ 70,000	27.1%
Total Gas Utilities	213,700	59.7%			2,230	60.0%	$ 154,100	59.7%

Utility-funded measures yielded first-year client bill savings of $224,700, averaging $193 per dwelling that received utility-funded measures. Electricity bill savings from utility-funded measures averaged $70 per household for utility-funded electricity measures. Gas bill savings from utility-funded measures averaged $173 for households with utility-funded gas measures.

Figure 1.6 provides a average utility funding for labor and materials (excluding support and administration) and percentages of dwellings with utility funding for the past five years.

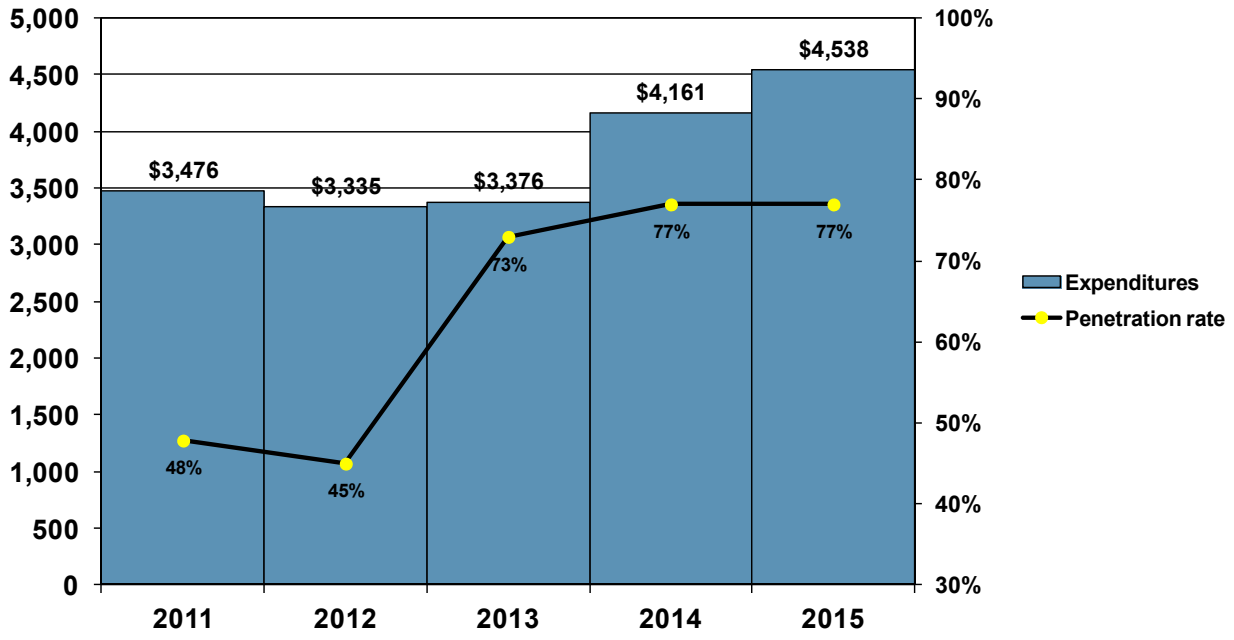


Figure 1.6 Average Utility Spending on Materials and Labor (excluding Support and Administration), and Percentage of Homes Receiving Utility-Funded Measures with Impacts

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 Total	Utility	Utility Percentage
Wall Insulation	$1,674,795	$1,030,869	61.6%
Attic Insulation	$1,477,546	$859,803	58.2%
Kneewall Insulation	$150,381	$91,268	60.7%
Floor/Crawlspace Insulation	$434,573	$250,040	57.5%
Bandjoist Insulation	$152,759	$87,144	57.0%
Infiltration Reduction	$1,005,719	$204,838	20.4%
High Efficiency Htg Sys Repl.	$2,847,991	$1,479,679	52.0%
Electric Htg Sy/Ht Pump Repl.	$139,029	$20,100	14.5%
Pipe Wrap	$18,213	$9,808	53.9%
Faucet Aerator	$2,960	$1,841	62.2%
Shower Head	$2,766	$1,861	67.3%
Water Heater Replacement - Hi Eff	$1,531,538	$762,163	49.8%
Compact Fluorescent Lighting	$73,469	$45,460	61.9%
Exchange Refrigerator	$196,233	$113,599	57.9%
Exchange Freezer	$35,308	$17,380	49.2%
Repairs	$785,187	$121,538	15.5%
Programmable Thermostat	$4,467	$3,977	89.0%
Htg Sys Tune/Clean	$77,542	$16,936	21.8%
Htg Sys Ventilation	$154,888	$68,393	44.2%
Water Heater Ventilation	$89,809	$43,375	48.3%
Other	$3,019,108	$48,139	1.6%
Overall Excluding Support	$13,874,279	$5,278,210	38.0%
Support	$4,756,716	$523,448	11.0%
Overall Including Support	$18,630,995	$5,801,658	31.1%

AVERAGE EXPENDITURES AND IMPACTS

The nominal average household expenditures for all dwellings weatherized in 2015 increased by 8.6% to $12,290 (Figure 1.7). Support accounted for the largest portion of expenditures (26%), followed by insulation (23%) and heating system work (18%).

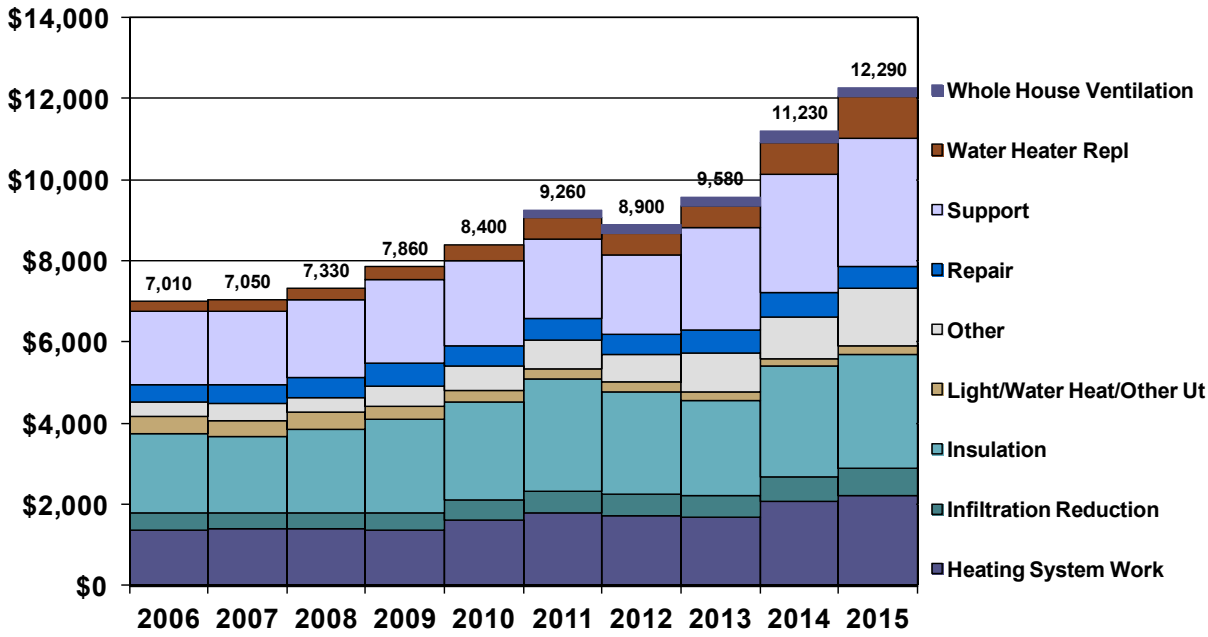


Figure 1.7 Average Program Expenditures per Housing Unit

The average savings per dwelling was 28.3 MBtu for clients weatherized during 2014 (Figure 1.8).

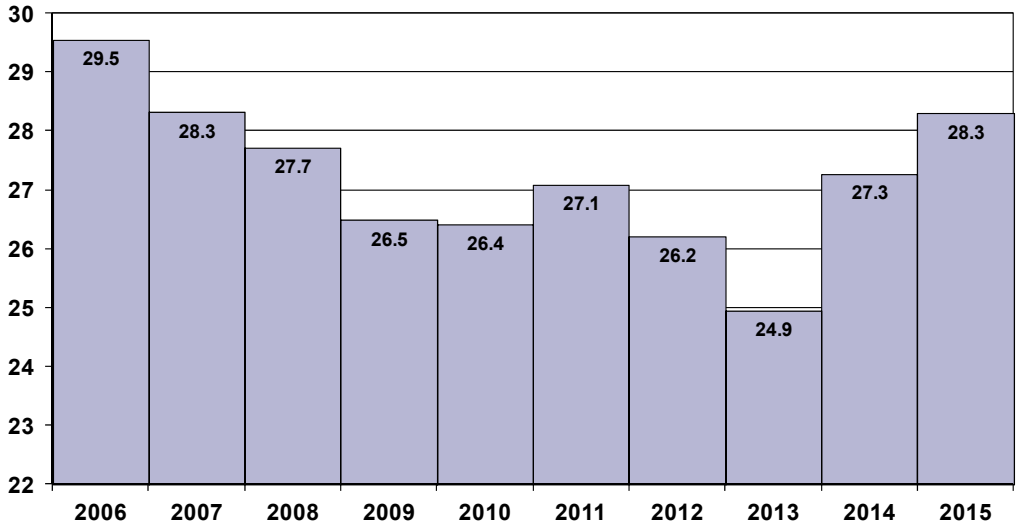


Figure 1.8 Average Energy Savings per Housing Unit (MBtu)

First-year client fuel bill savings was unchanged from 2014, averaging $293 (Figure 1.9).

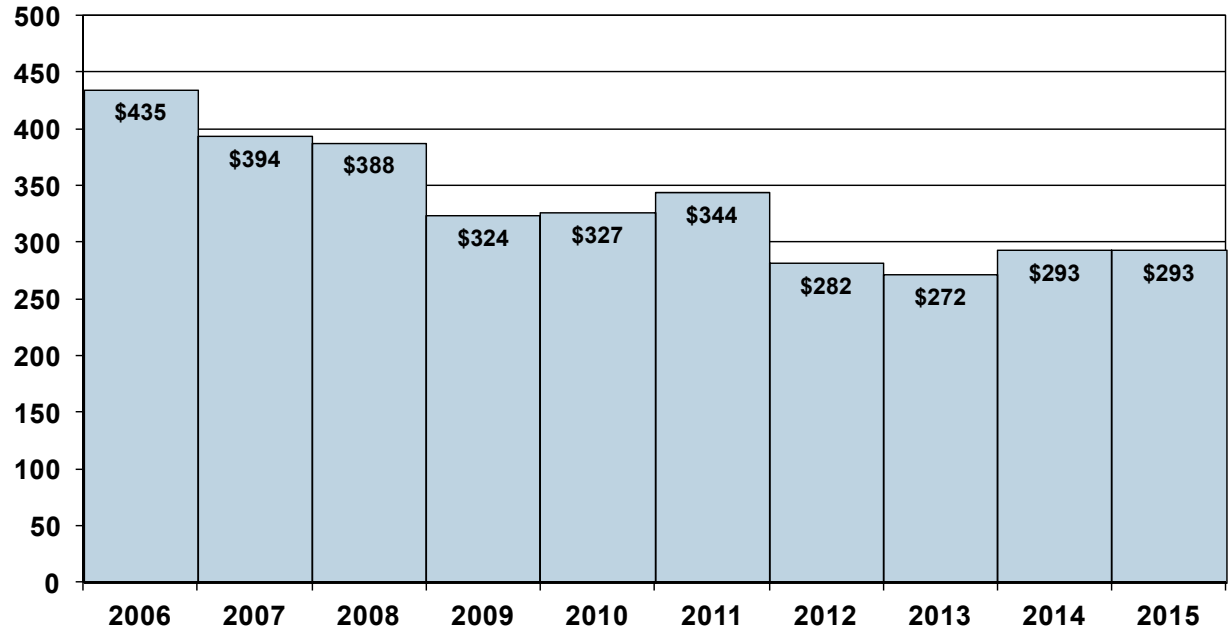


Figure 1.9 Average Annual Client Fuel Bill Savings per Housing Unit

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 a low of $184 per dwelling for NE Iowa to a high of $396 for SE Iowa.

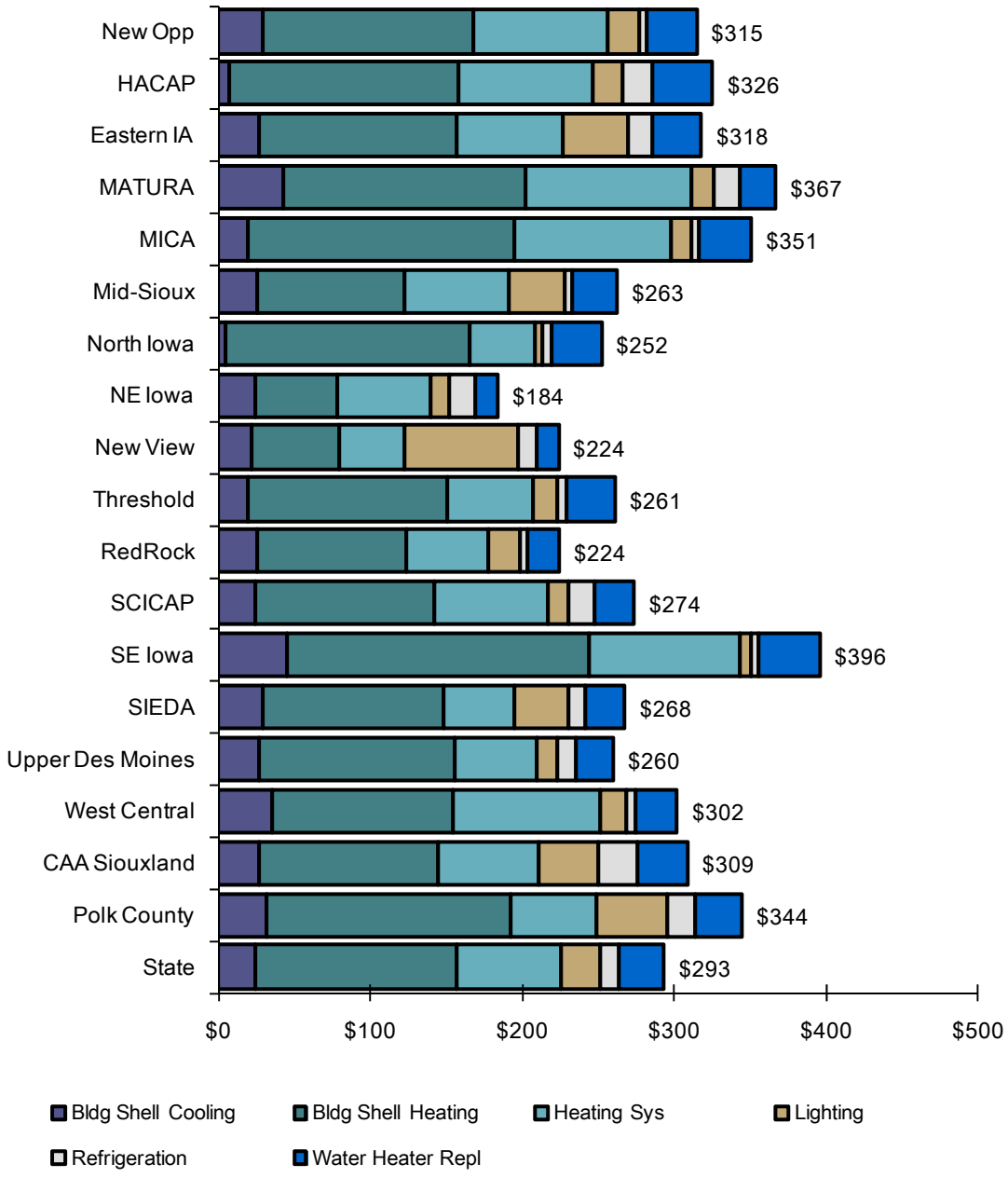


Figure 1.10 Average Annual Fuel Bill Savings per Housing Unit by Agency

Figure 1.11 shows the average expenditures for all households with impacts, ranging from a low of $6,250 for NE Iowa to $17,300 for RedRock. The statewide average expenditure was $12,290 per dwelling.

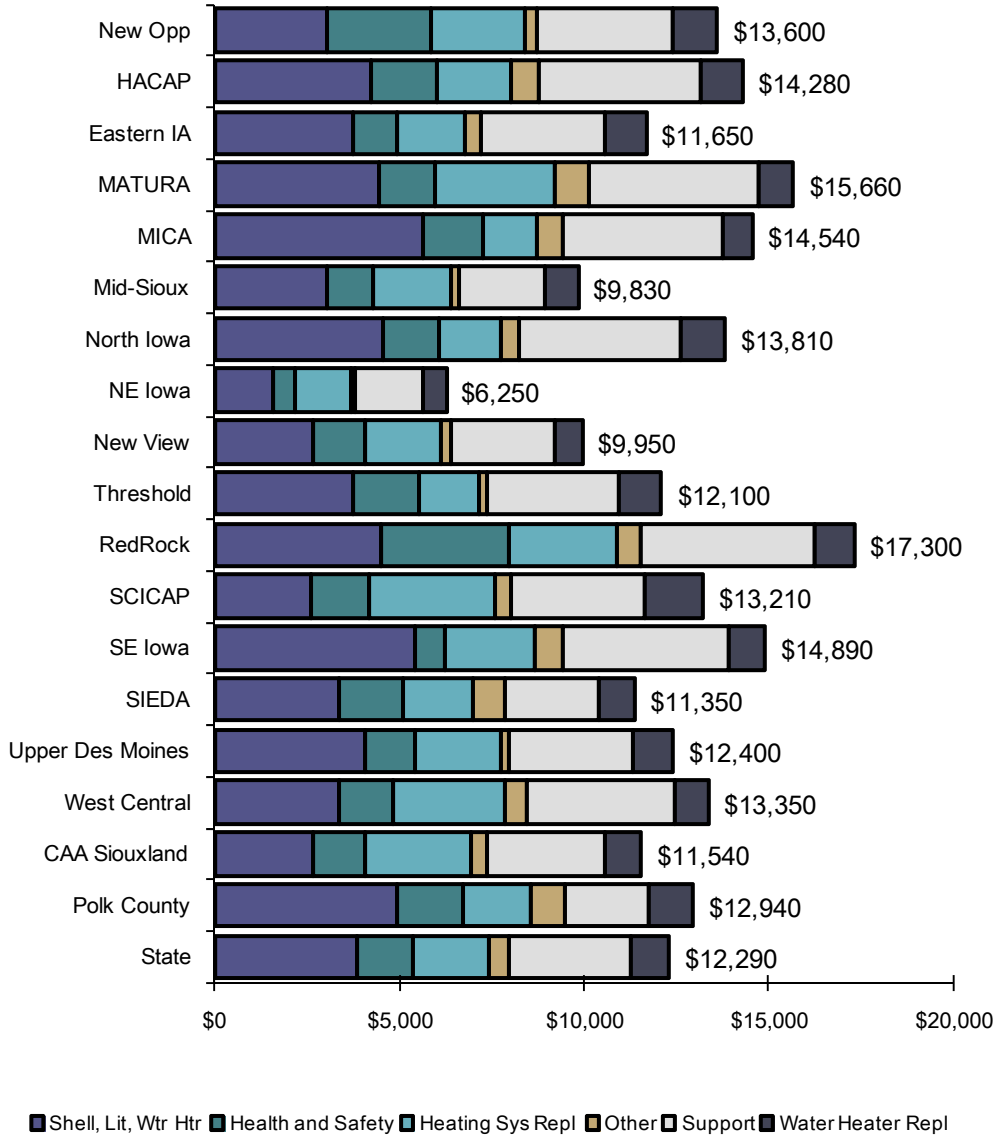


Figure 1.11 Average Expenditures per Housing Unit by Agency

This page intentionally left blank

The average installation rates, costs, and savings for energy efficiency and heating and water heating system replacement measures for calendar year programs 2013-2015 are shown in Figures 1.12a and 1.12b.

The installation rates of nearly all insulation measures and infiltration reduction in the 2015 program have increased slightly over the past three years The exception is floor/crawlspace insulation which has remained around 42% for the period (see Figure 1.12a, left chart).

Condensing heating system replacement rates increased from 58.7% to 62.7%, an increase which is partially offset be a reduction in non-condensing heating system replacements from 5.3% to 3.9%.

The installation rates of pipe insulation has increased over the period while remaining relatively unchanged for other water heating efficiency measures. The rates of high-efficiency water heater replacements increased significantly, from 50.2% to 64.5% year over year.

Refrigerator replacement rates continue to decrease annually, and were installed in 16.6% of dwellings in the 2015 program. Freezer installation rates have remained steady at around 4.4% of dwellings.

Figure 1.12a, right chart, shows that the average measure costs. Insulation costs increased slightly from the prior year. Condensing heating system costs increased by 5% while the costs for non-condensing units increased by 2%. The cost of water heater replacements increased by 8% for high efficiency units and decreased by 13% for standard efficiency units.

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 2013 through 2015.

The average electricity savings tended to be slightly lower than in previous years, though refrigerator and freezer replacement savings were somewhat higher. This is likely attributable to typical annual year to year variation.

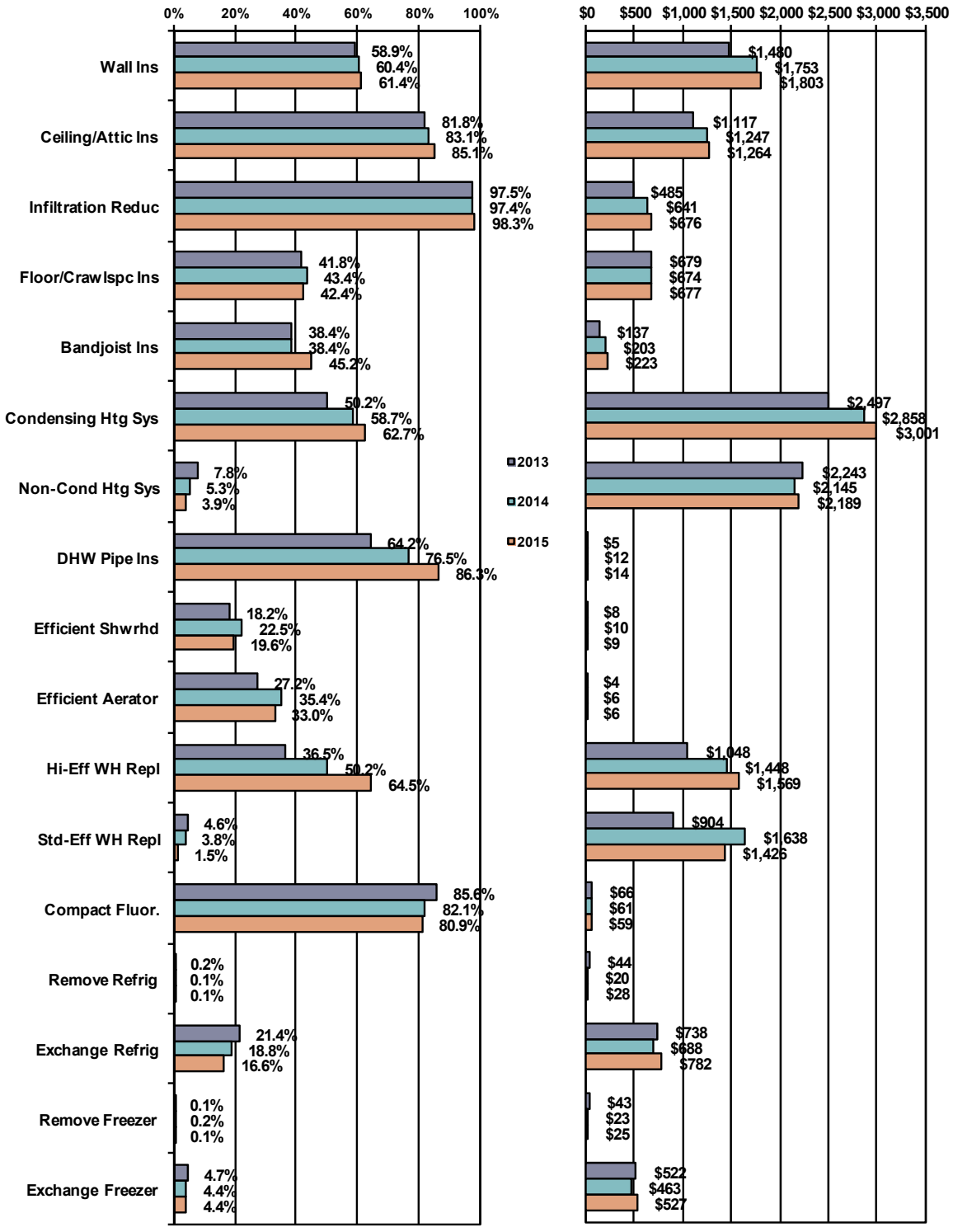


Figure 1.12a Average Installation Rates and Measure Costs of Efficiency Measures, Heating System and Water Heating Replacements

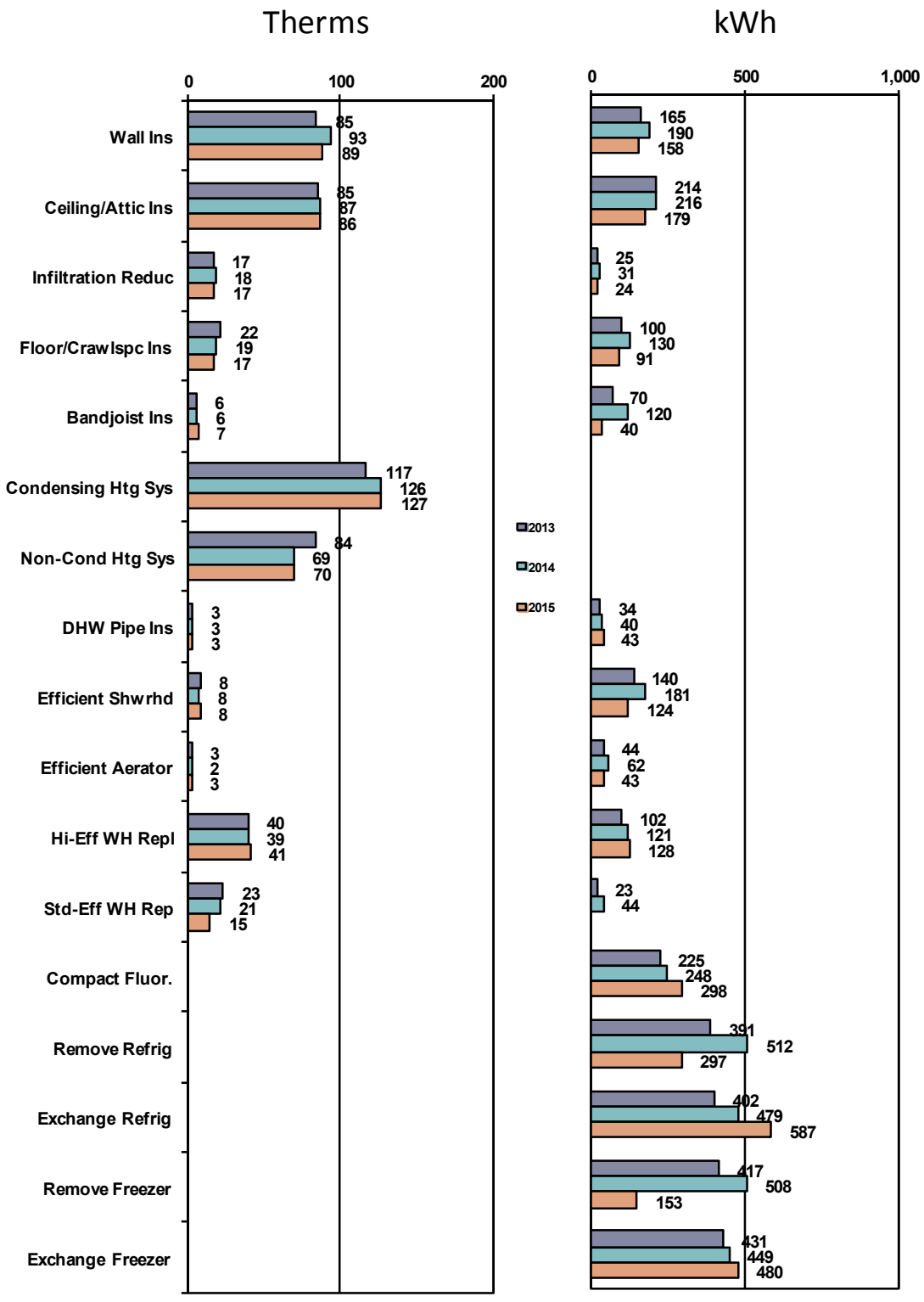


Figure 1.12b Average Gas and Electricity Savings of Efficiency Measures, Heating System and Water Heating Replacements

Tables 1.4 and 1.5 provide tabular data corresponding to data shown in Figure 1.12a and b but for a five year period. Table 1.4 provides a listing of the percentage of households receiving measures. Small percentage changes from the previous year are to be expected, and typically correct for lower or higher installation rates of the prior year. The year over year (recent year) change tends to be greatest for measures with very low installation rates and/or savings which 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 (6.8%) and high efficiency water heating systems (28.3%) as well as a reduction in refrigerator replacements (-12%).

Table 1.4 Installation Rates of Measures

Measure	2011	2012	2013	2014	2015	Recent Year Change (%)
Insulation and Infiltration Reduction Measures						
Wall Insulation	63.0	62.9	59.8	60.4	61.4	1.5%
Ceiling/Attic Insulation	84.5	84.0	82.0	83.1	85.1	2.3%
Floor/Crawlspace Insulation	43.8	43.3	42.8	43.5	42.4	-2.4%
Bandjoist Insulation	48.8	48.9	38.4	39.6	45.2	14.2%
Infiltration Reduction	99.0	98.4	97.5	97.4	98.3	0.9%
Heating System Measures						
Htg. Sys. Replacement	60.7	60.5	58.4	64.0	66.6	4.1%
High Eff Htg Sys Repl	52.3	54.2	50.6	58.7	62.7	6.8%
Std/Unspec Eff Htg Sys Repl	8.4	6.3	7.8	5.3	3.9	-26.2%
Htg. Sys. Tune and Clean	42.6	40.0	39.5	32.9	27.5	-16.3%
Heating System Safety Check	24.5	21.3	15.0	13.1	15.2	16.1%
Heating System Ventilation	13.7	9.5	33.3	24.4	43.4	78.1%
Water Heater Measures						
Pipe Wrap	73.6	75.7	75.0	76.6	86.3	12.7%
Shower Head	24.8	22.5	21.7	22.5	19.6	-13.1%
Faucet Aerator	38.7	35.2	33.0	35.4	33.0	-6.9%
Water Heater Replacement	48.4	45.4	48.2	54.1	65.9	21.9%
Hi-Eff Wtr Htr Repl.	27.3	27.1	38.9	50.2	64.5	28.3%
Std-Eff Wtr Htr Repl.	21.1	18.3	9.4	3.8	1.5	-62.2%
Water Heater Ventilation	20.6	22.4	20.3	29.8	31.5	5.6%
Water Heater Repair	7.8	11.0	9.7	7.7	5.4	-30.1%
Lighting Measures						
Compact Fluorescent Bulbs	86.2	84.9	86.1	82.9	81.6	-1.6%
Refrigeration Measures	28.6	24.7	24.8	22.0	19.7	-10.3%
Refrigerator Removal	0.2	0.1	0.3	0.1	0.1	120.1%
Refrigerator Exchange	24.0	21.1	21.4	18.8	16.6	-12.0%
Freezer Removal	0.2	0.1	0.1	0.2	0.1	-26.6%
Freezer Exchange	7.3	5.5	4.7	4.4	4.4	-0.4%
Health and Safety (other than heating & water heating measures listed above)						
CO Detector	76.7	77.3	81.1	84.4	85.2	1.0%
Smoke Detector	45.2	48.8	59.9	59.8	61.2	2.2%
Exhaust Ventilation	81.0	83.5	80.4	82.4	84.5	2.5%
Fuses	0.6	0.6	0.1	0.5	0.9	92.6%
Repairs	88.5	87.6	88.4	87.3	88.1	1.0%

Table 1.5 shows details of the average installed costs for each measure over the past 5 years. As with the installation rates, the greatest changes tend to occur for measures with few installations and/or small costs. Of measures that are more expensive, the cost increases where greatest for heating condensing heating system replacements (5%), refrigerator replacements (13.6%), high efficiency water heater replacements (8.4%).

Table 1.5 Average Measure Costs

Measure	2010	2011	2012	2013	2014	2015	Recent Year Change (%)
Insulation and Infiltration Reduction Measures							
Wall Insulation	1,477	1,712	1,587	1,466	1,753	1,803	2.9%
Ceiling/Attic Insulation	1,115	1,240	1,096	1,124	1,247	1,264	1.3%
Infiltration Reduction	484	528	505	556	641	676	5.4%
Floor/Crawlspace Insulation	662	797	725	683	674	677	0.4%
Bandjoist Insulation	136	151	157	164	203	223	10.2%
Heating System Measures							
Htg. Sys. Replacement							
Condensing Htg Sys Repl	2,497	2,503	2,460	2,388	2,858	3,001	5.0%
Non-Cond Htg Sys Repl	2,243	2,421	2,077	2,766	2,145	2,189	2.1%
Htg. Sys. Tune and Clean	114	141	147	155	219	186	-15.1%
Heating System Safety Check	94	127	119	135	138	145	5.6%
Heating System Ventilation	128	138	131	238	236	236	-0.2%
Water Heater Measures							
Pipe Wrap	5	5	5	5	12	14	12.0%
Shower Head	8	9	9	9	10	9	-2.0%
Faucet Aerator	4	4	4	4	6	6	7.2%
Water Heater Replacement							
Hi-Eff Wtr Htr Repl.	1,048	1,171	1,197	1,175	1,448	1,569	8.4%
Std-Eff Wtr Htr Repl.	904	1,035	1,037	1,097	1,638	1,426	-13.0%
Water Heater Ventilation	223	216	226	213	237	188	-20.7%
Water Heater Repair	107	94	97	102	115	122	6.0%
Lighting Measures							
CFL Bulbs (avg spent per home)	66	65	62	60	63	59	-4.9%
Refrigeration Measures							
Refrigerator Removal	44	39	25	18	20	28	37.5%
Refrigerator Exchange	738	719	730	698	688	782	13.6%
Freezer Removal	43	71	39	25	23	25	7.1%
Freezer Exchange	522	510	532	498	463	527	13.9%
Health and Safety (other than heating & water heating measures listed above)							
CO Detector	54	51	52	49	57	62	7.9%
Smoke Detector	35	44	45	47	52	59	14.5%
Exhaust Ventilation	462	436	452	659	734	830	13.0%
Fuses	64	71	108	22	103	82	-20.0%
Repairs	628	603	573	636	668	589	-12.0%
Support	2,280	2,415	2,424	2,631	3,106	3,452	11.1%

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 $45. The highest average bill savings were attained by New View, averaging $90 per unit. North Iowa and Southeast Iowa averaged less than $20 per dwelling.

Table 1.6 Installation Rates and Savings of Baseload Measures

	Water Heating			Lighting	Refrigeration				
Agency	Pipe Wrap	Eff Shower-head	Eff Faucet Aerator	Compact Fluor	Ex-change Refrig	Ex-change Freezer	Remove Refrig	Remove Freezer	Average First Year Bill
New Opp	31%	0%	0%	98%	8%	0%	0%	0%	$26.73
HACAP	79%	1%	0%	88%	20%	6%	0%	0%	$43.06
Eastern IA	88%	20%	58%	91%	19%	3%	0%	0%	$65.43
Matura	97%	29%	39%	71%	26%	3%	3%	0%	$40.75
MICA	84%	10%	33%	77%	9%	4%	0%	0%	$24.37
Mid-Sioux	96%	16%	16%	86%	8%	2%	0%	0%	$47.65
North Iowa	98%	42%	82%	95%	29%	11%	1%	2%	$18.36
NE Iowa	87%	0%	0%	38%	15%	2%	0%	0%	$32.69
New View	96%	0%	0%	96%	16%	5%	0%	0%	$90.03
Threshold	94%	45%	42%	91%	10%	6%	0%	0%	$30.67
Redrock	93%	17%	3%	77%	10%	0%	0%	0%	$31.08
SCICAP	20%	43%	50%	67%	17%	7%	0%	0%	$37.23
SE Iowa	77%	0%	0%	40%	9%	1%	0%	0%	$16.80
SIEDA	85%	12%	45%	85%	12%	8%	0%	0%	$53.48
Upper Des Moines	98%	0%	0%	95%	19%	4%	0%	0%	$27.88
West Central	75%	39%	75%	68%	8%	3%	0%	0%	$27.44
CAA Siouxland	95%	88%	22%	97%	37%	15%	0%	0%	$77.61
Polk County	97%	32%	80%	91%	18%	2%	0%	0%	$71.27
State	86%	20%	33%	81%	17%	4%	0%	0%	$44.52

* 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.

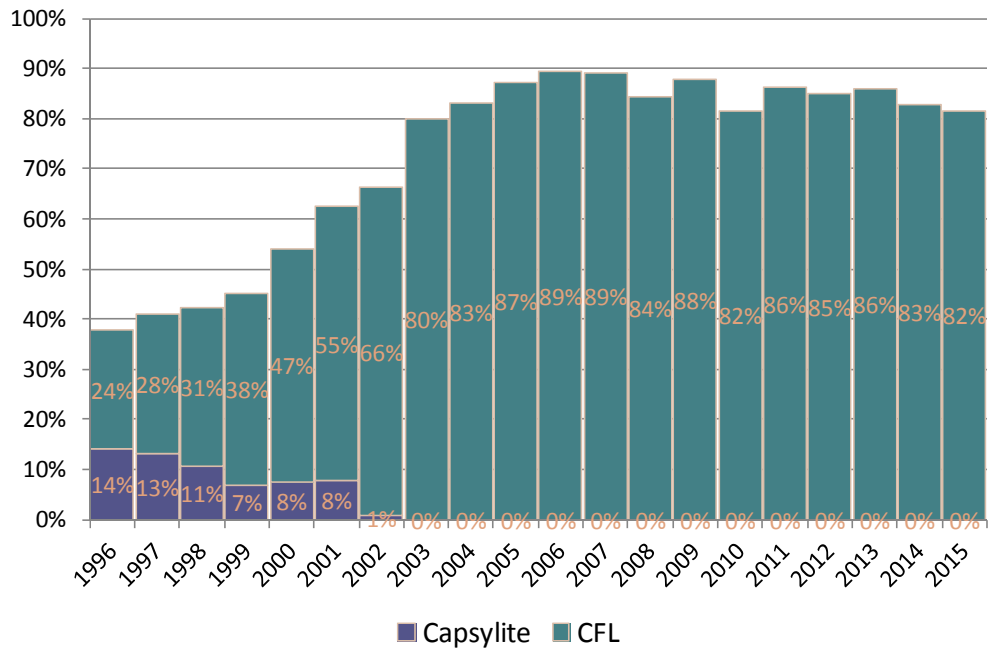


Figure 1.13a Percentage of Housing Units Receiving Lighting Measures

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 and peaked in 2006 and 2007 at 89%. Currently 82% of dwellings receive lighting from the program.

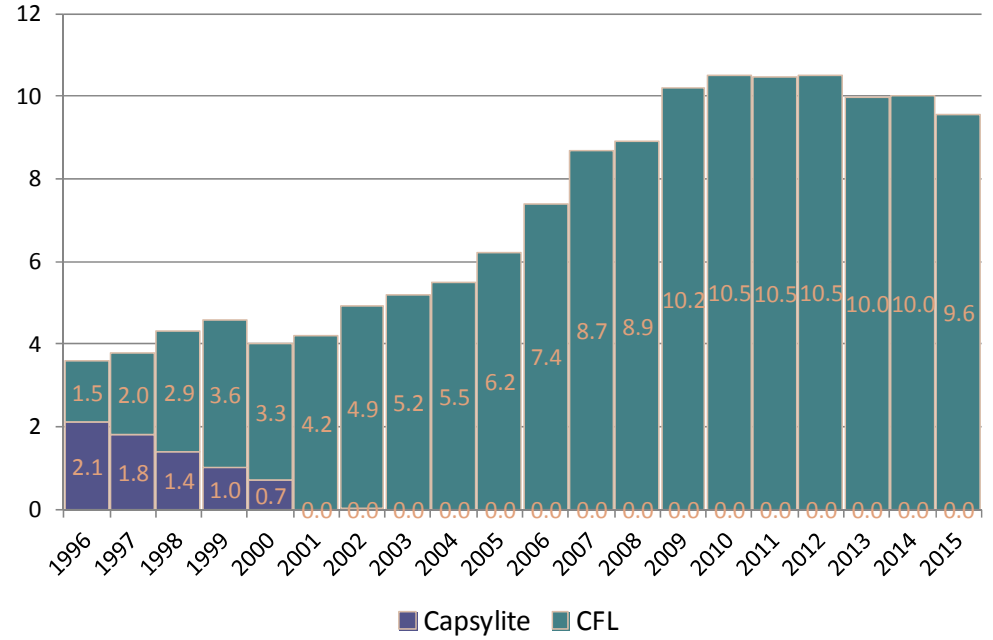


Figure 1.13b Average Number of Bulbs Installed for Housing Units Receiving Lighting Measures

The average number of bulbs installed in dwellings that received at least one lighting measure averaged 9.6 bulbs per house 2015. The peak was in 2010-2013 at 10.5 bulbs per dwelling (Figure 1.13b).

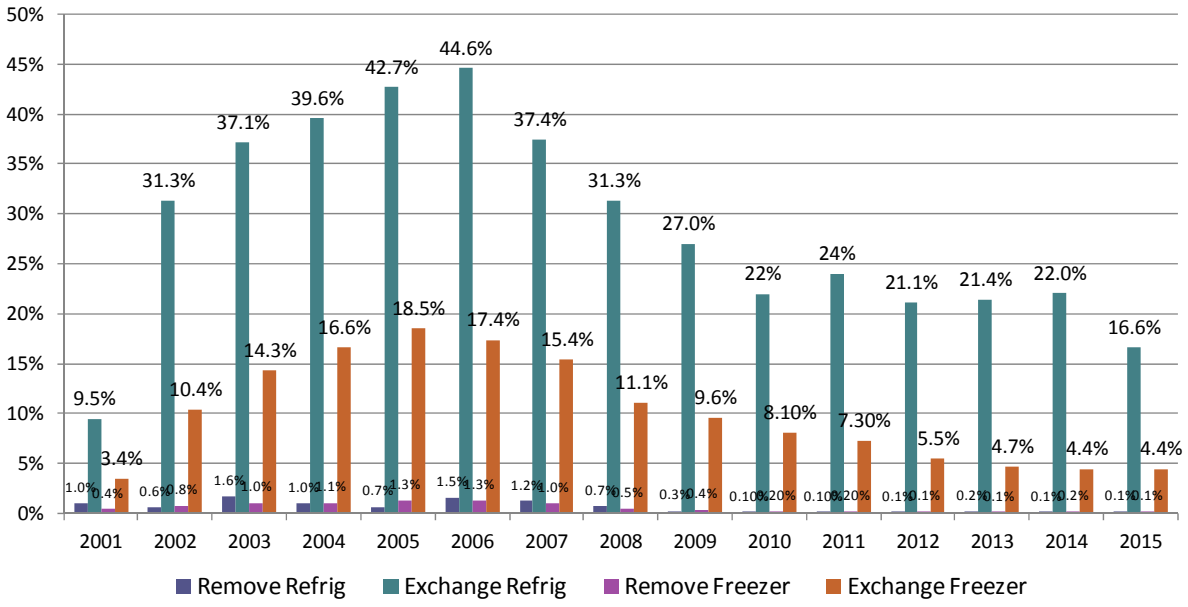


Figure 1.13c Installation Rates of Refrigeration Measures

Figure 1.13c shows the initial ramp up of refrigeration measure installation rates as well as declines in recent years. The installation rates replacement appliances continue to decline. It is likely that the efficiency of in-place units is steadily increasing in the client population as old, inefficient units fail and are replaced by more efficient units. These higher efficiency units are not cost-effective for the program to replace.a

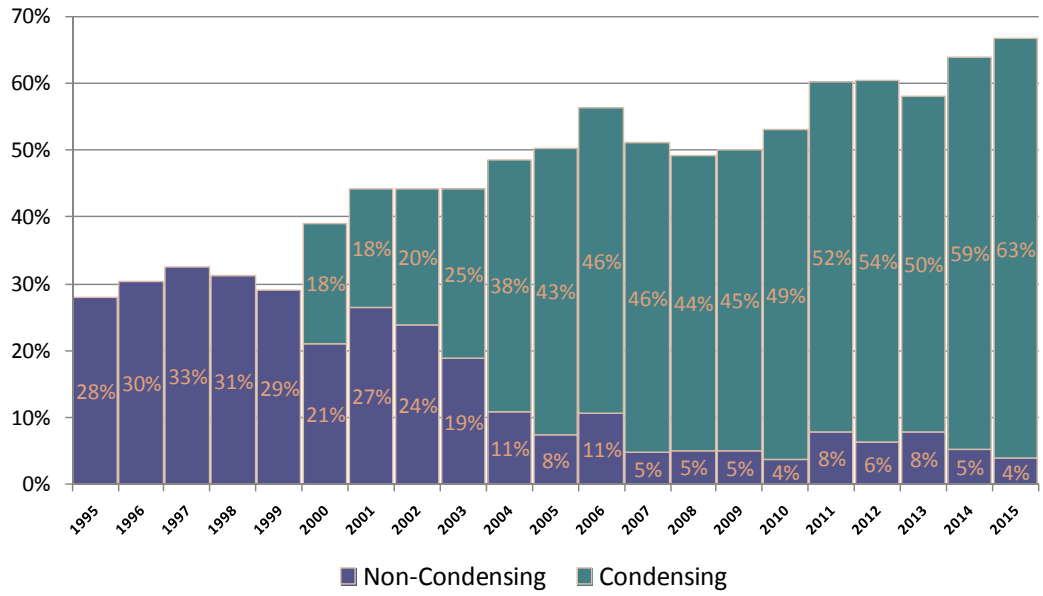


Figure 1.13d Installation Rates of Natural Gas Heating System Replacements

Figure 1.13d shows the transition to condensing (90+ efficiency) furnaces from non-condensing (80% efficiency) heating systems. Overall, 67% of dwellings with natural gas heating received a heating system replacement during 2015, with the vast majority of these being condensing units (63%). 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

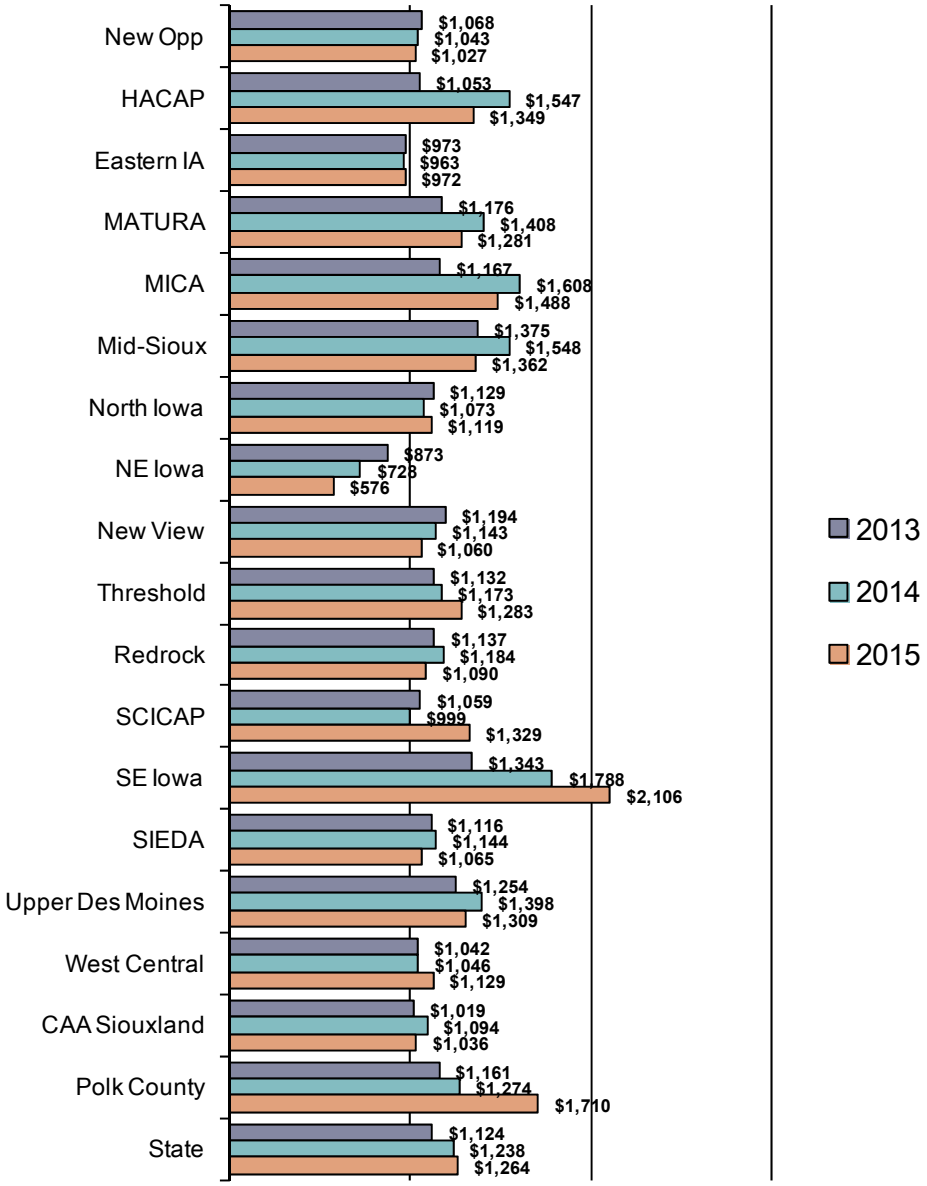


Figure 1.14a Average Program Expenditures on Ceiling Insulation by Agency

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 $1,264 in 2015.

SE Iowa averaged $2,106 per unit. Polk County ($1,710) and MICA ($1,488) were the next highest in expenditures . The lowest average spending was reported by NE Iowa, averaging $576.

Figure 1.14b shows the statewide average expenditure of utility funds on ceiling and attic insulation was $1,051. Polk County spent the most at $1,636, followed by SE Iowa ($1,547). NE Iowa spent the least utility funds ($588) for ceiling and attic insulation.

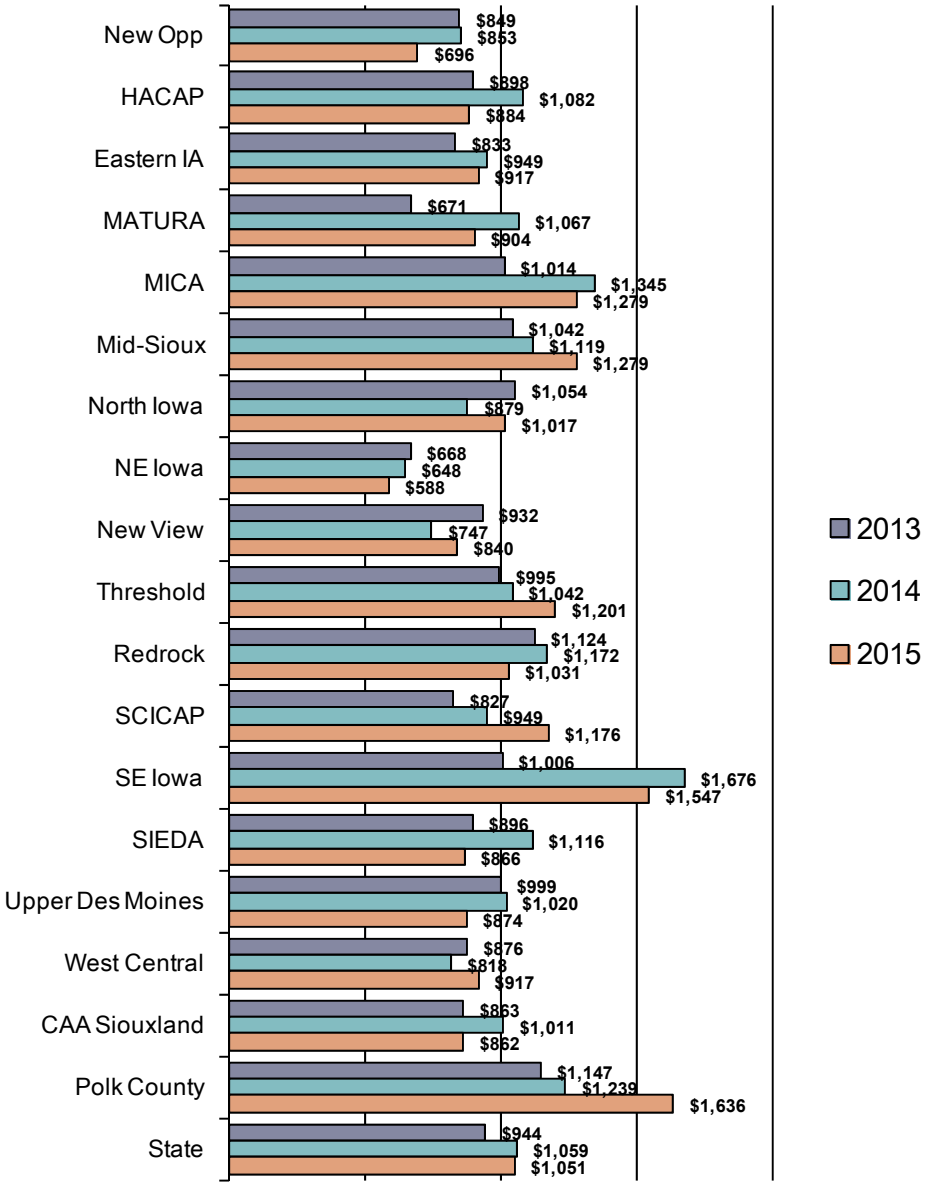


Figure 1.14b Average Utility Expenditures on Ceiling Insulation by Agency

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 $1,803 in CY 2015. SE Iowa, MICA, and North Iowa each averaged more than $2,500. NE Iowa spent the least, averaging $560 per dwelling.

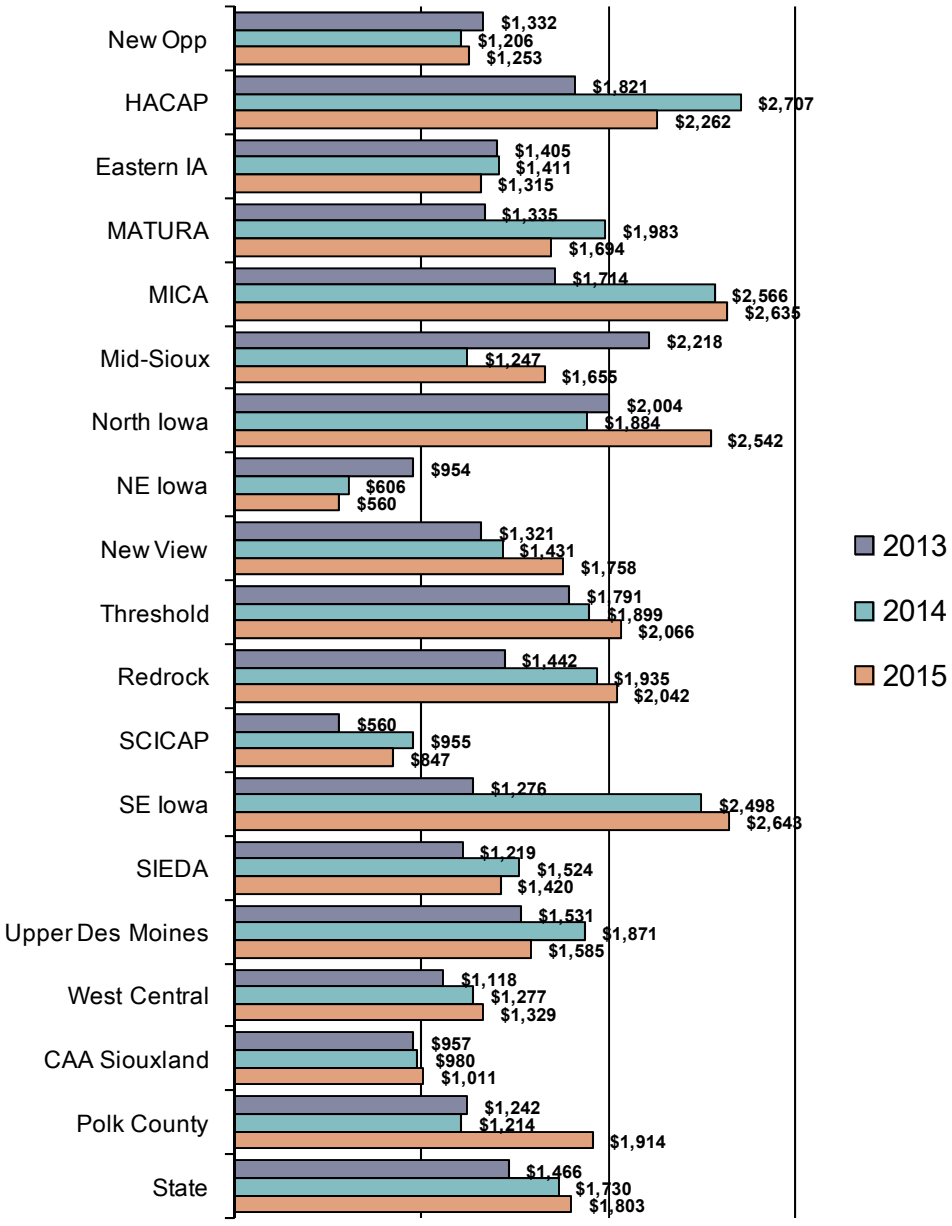


Figure 1.15a Average Program Expenditures on Wall Insulation by Agency

Statewide, the average expenditures for utility-funded wall insulation averaged $1,516 in CY 2015. MICA, North Iowa, and Red Rock spent the most utility funds, averaging over $1,900; SCICAP and NE Iowa spent the least, averaging less than $600 per dwelling.

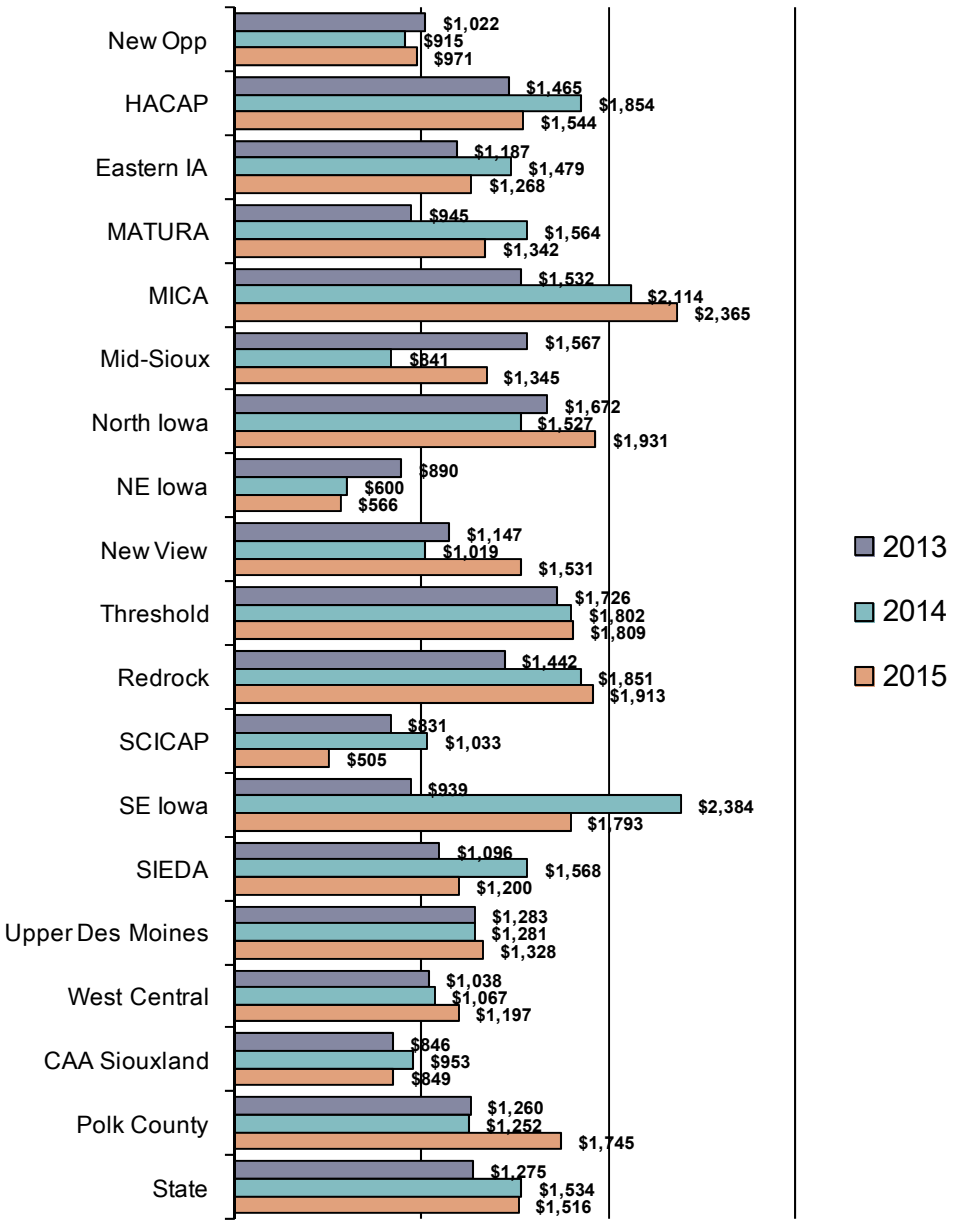


Figure 1.15b Average Utility Expenditures on Wall Insulation by Agency

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 $677. Mid-Sioux, Polk County, and MICA spent the most, averaging over $900, while West Central and SIEDA spent less than $300.

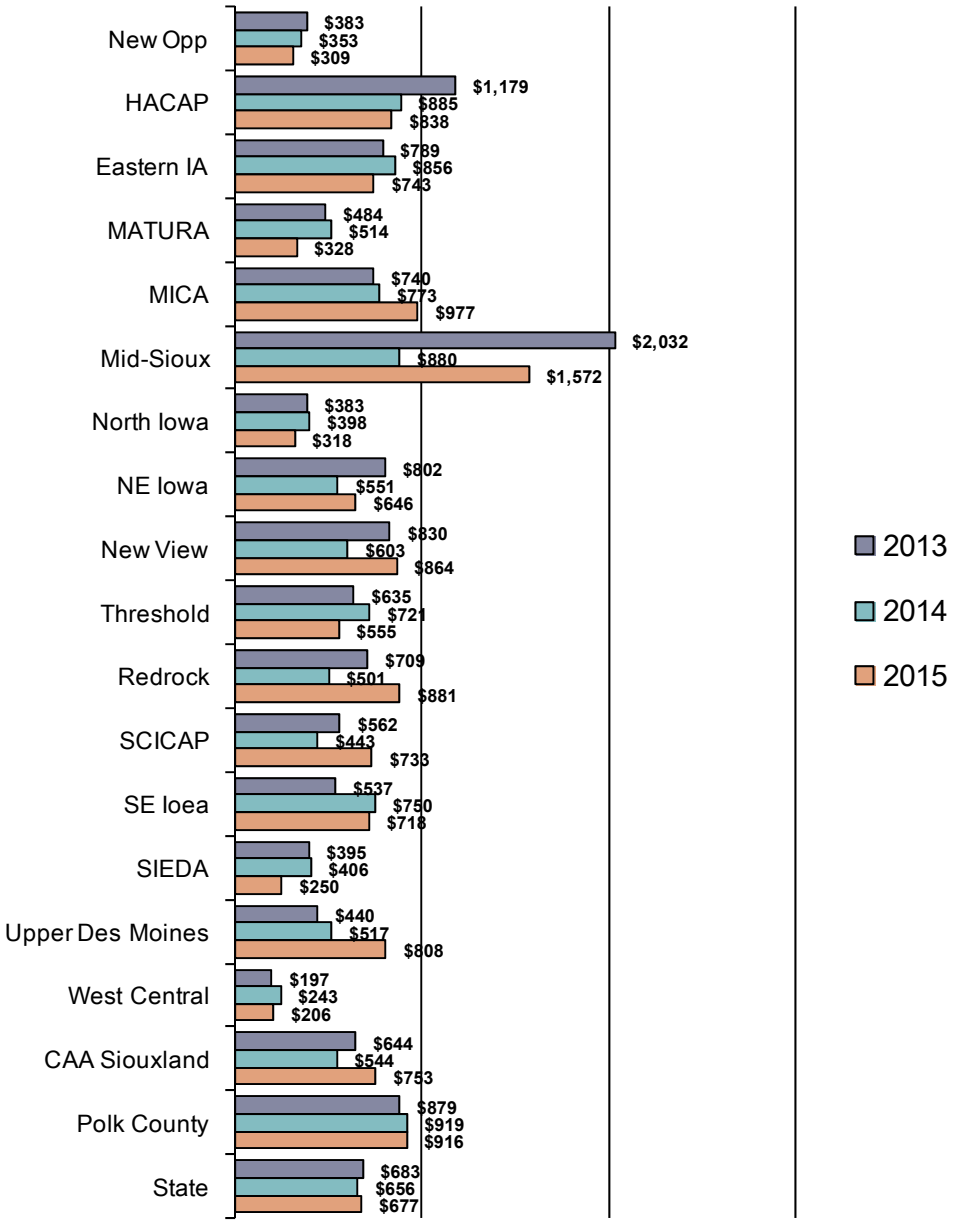


Figure 1.16a Average Program Expenditures on Floor/Crawlspace Insulation by Agency

Statewide, the average expenditure of utility funds for floor/crawlspace insulation was $603. Polk County spent the most at $1,087 while West Central and SIEDA spent less around $200. Mid-Sioux reported no utility spending for this measure.

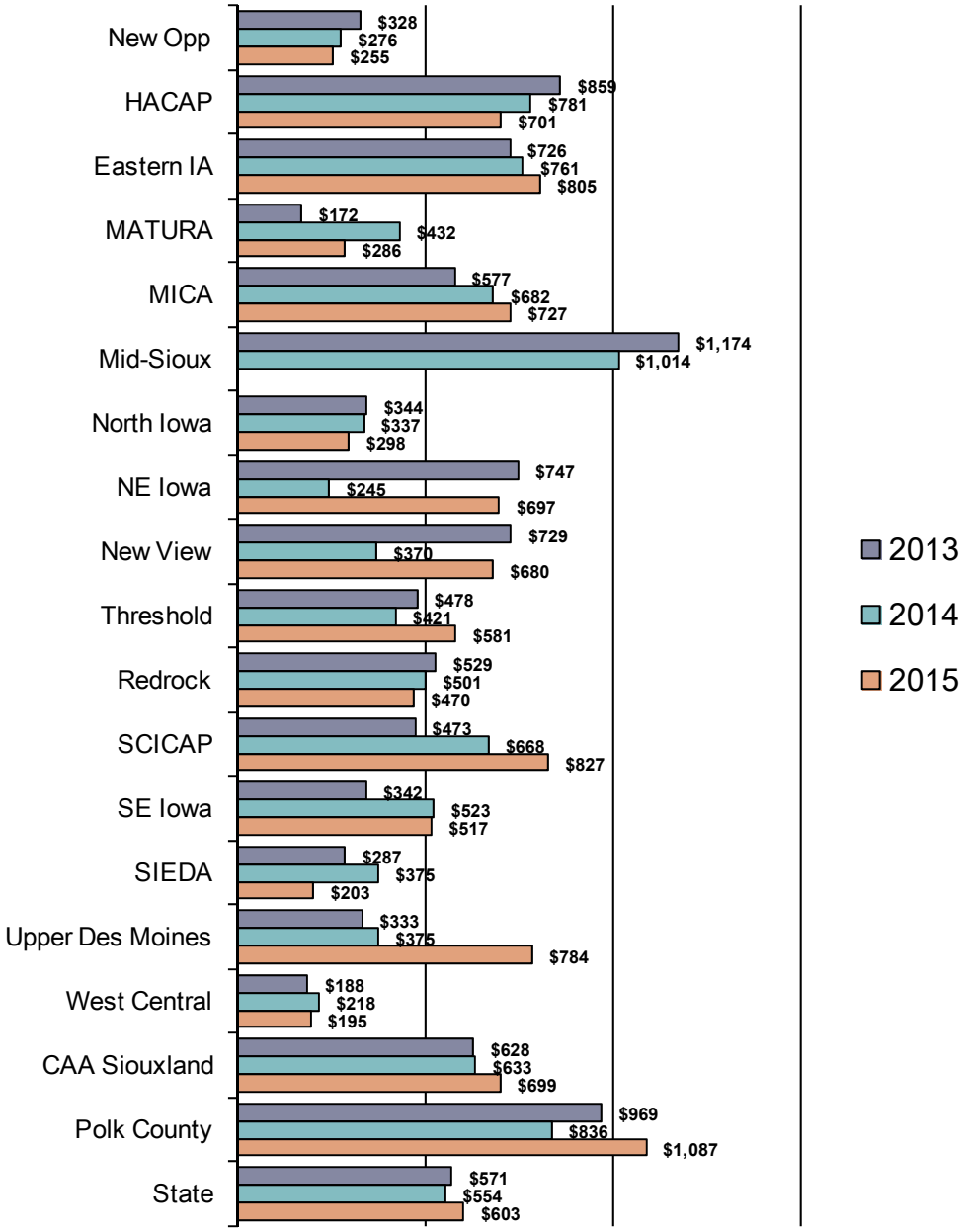


Figure 1.16b Average Utility Expenditures on Floor/Crawlspace Insulation by Agency

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 $2,993 in 2015 (Figure 1.17a). Three agencies reported average expenditures exceeding $4,000, including SCICAP ($5,121) , MATURA ($4,178), and RedRock ($4,002). Three agencies averaged less than $2,500, including MICA ($2,206), Polk County ($2,375), and Threshold ($2,390).

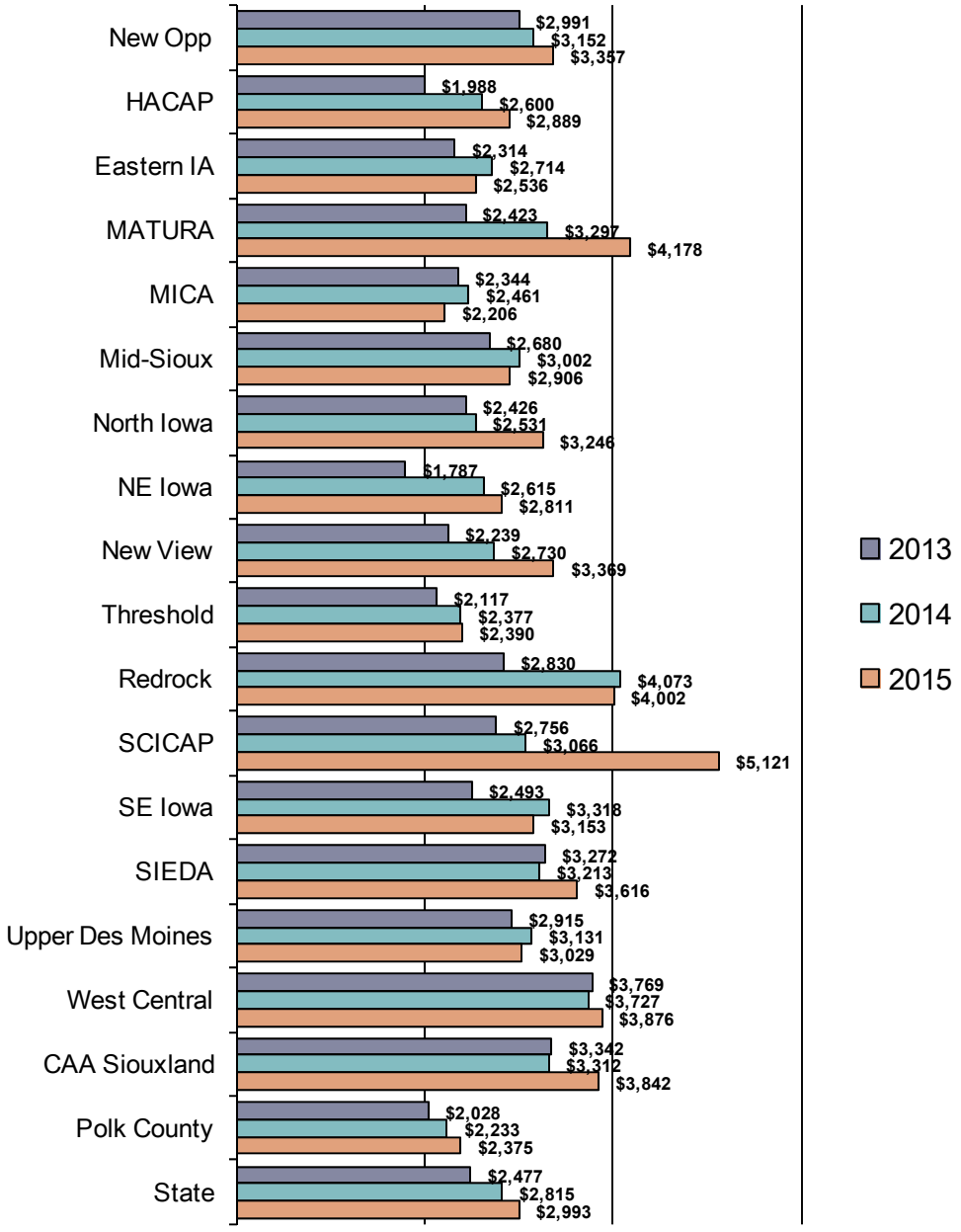


Figure 1.17a Average Program Expenditures on Heating System Replacements by Agency

Figure 1.17b shows the average utility funding for replacement heating systems of $2,608 statewide. SCICAP averaged the highest expenditure at $3,832, followed by MATURA ($3,348) and RedRock ($3,085). MICA spent the least, averaging $1,927 per housing unit.

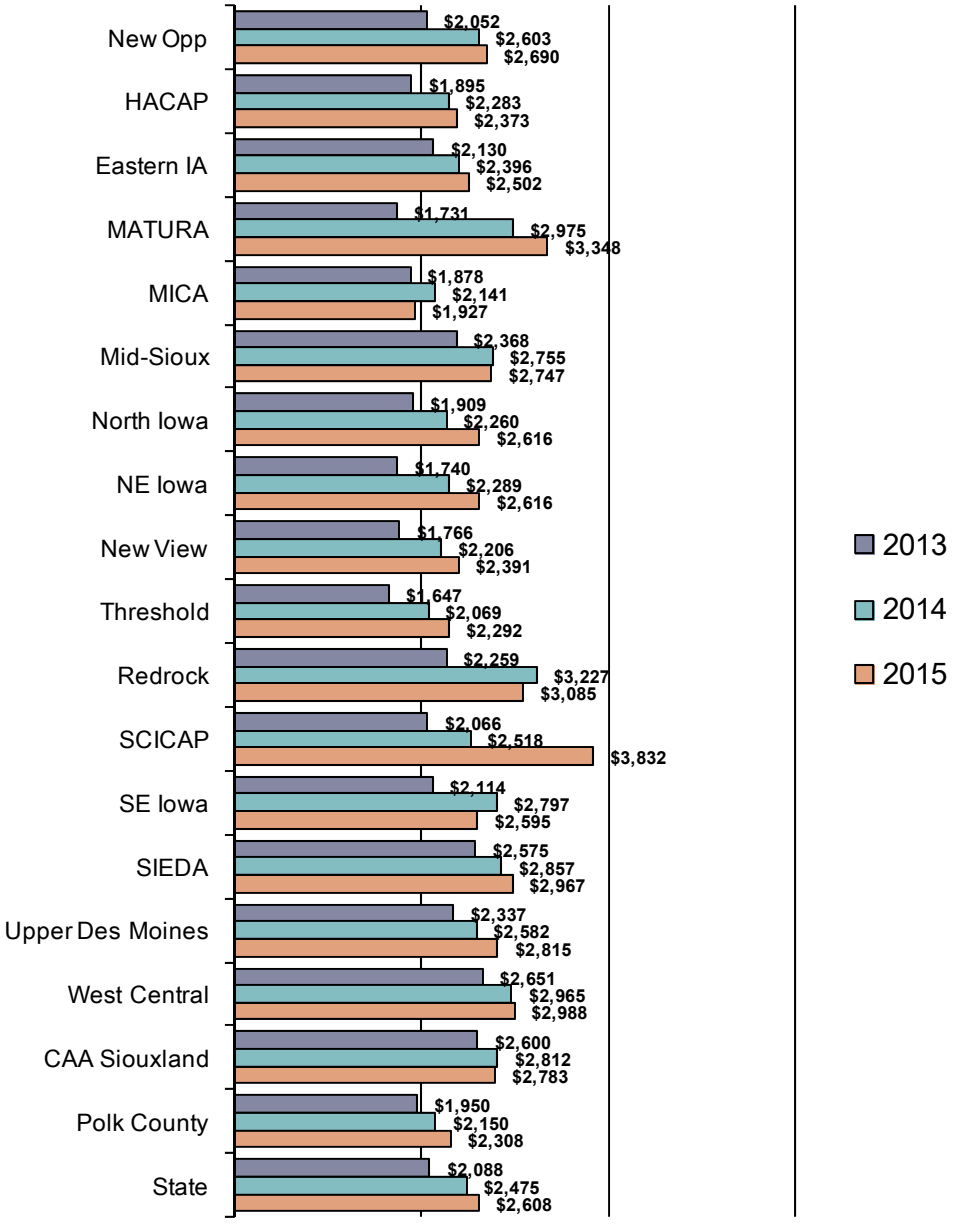


Figure 1.17b Average Utility Expenditures on Heating System Replacements by Agency

This page intentionally left blank

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, 2015 through December 31, 2015 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, 2015 through March, 2016. 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.

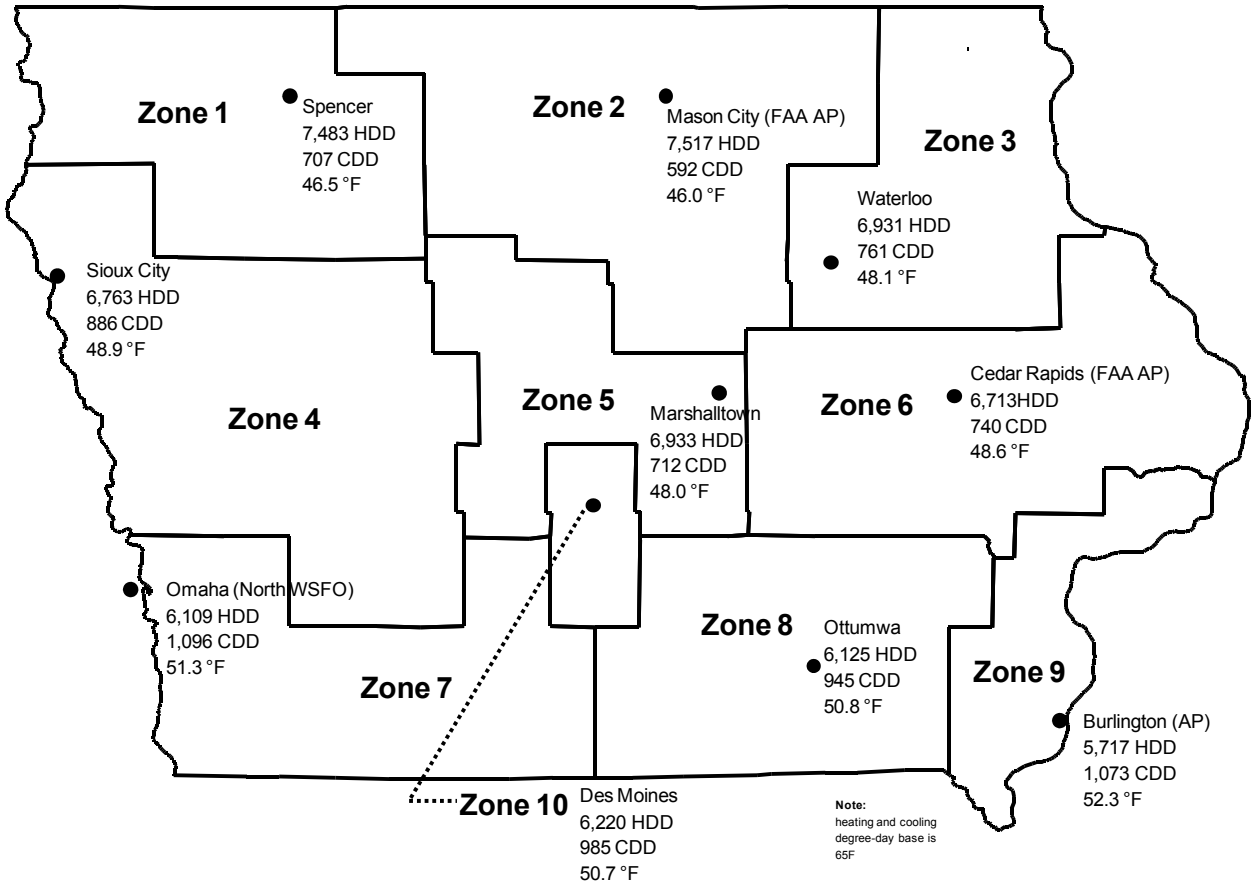


Figure 2.1. Weather zones used in the weather-normalization

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 R^2 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 1,270 weatherization client dwellings with gas heating and 52,614 LIHEAP client dwellings for our comparison group (also with gas heating).

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.

The utilities returned useable data for 84% of the treatment client dwellings and 81% 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. Our final analytic dataset included 786 weatherization client dwellings and 28,901 comparison dwellings, representing 62% and 55% of the requested usage histories for the treatment and comparison groups, respectively.

Table 2.1 Gas Analysis Sample Attrition

		State		IPL		BHC		MAE	
		Trt	Cmpr	Trt	Cmpr	Trt	Cmpr	Trt	Cmpr
Return Rate	Requested	1,270	52,614	391	14,466	216	8,522	663	29,626
Useable Histories	Pre Count	1,115	42,867	376	10,936	199	7,819	540	24,112
	Pre Percentage	87.8%	81.5%	96.2%	75.6%	92.1%	91.8%	81.4%	81.4%
	Post Count	1,072	45,121	334	13,189	196	7,714	542	24,218
	Post Percentage	84.4%	85.8%	85.4%	91.2%	90.7%	90.5%	81.7%	81.7%
	Both Pre and Pst Cnt	1,069	42,549	333	10,773	196	7,685	540	24,091
	Both Pre and Pst Pct	84.2%	80.9%	85.2%	74.5%	90.7%	90.2%	81.4%	81.3%
Passed Model Diagnostics	Pre Count	1,112	42,636	374	10,755	199	7,798	539	24,083
	Pre Percentage	87.6%	81.0%	95.7%	74.3%	92.1%	91.5%	81.3%	81.3%
	Post Count	1,070	44,899	332	12,995	196	7,694	542	24,210
	Post Percentage	84.3%	85.3%	84.9%	89.8%	90.7%	90.3%	81.7%	81.7%
	Both Pre and Pst Cnt	1,064	42,193	329	10,485	196	7,651	539	24,057
	Both Pre and Pst Pct	83.8%	80.2%	84.1%	72.5%	90.7%	89.8%	81.3%	81.2%
Passed Reliability Screens	Pre Count	1,035	38,000	332	9,056	184	6,858	519	22,086
	Pre Percentage	81.5%	72.2%	84.9%	62.6%	85.2%	80.5%	78.3%	74.5%
	Post Count	845	33,647	261	9,934	146	5,341	438	18,372
	Post Percentage	66.5%	64.0%	66.8%	68.7%	67.6%	62.7%	66.1%	62.0%
	Both Pre and Pst Cnt	786	28,901	231	7,162	137	4,773	418	16,966
	Both Pre and Pst Pct	61.9%	54.9%	59.1%	49.5%	63.4%	56.0%	63.0%	57.3%

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		1,118	42,288	349	11,957	197	7,069	572	23,262
Passed Model Diagnostics	Both Pre and Pst Cnt	957	34,894	304	8,964	181	6,362	472	19,568
	Both Pre and Pst Pct	85.6%	82.5%	87.1%	75.0%	91.9%	90.0%	82.5%	84.1%
Passed Reliability Screens	Both Pre and Pst Cnt	710	24,608	219	6,224	124	4,060	367	14,324
	Both Pre and Pst Pct	63.5%	58.2%	62.8%	52.1%	62.9%	57.4%	64.2%	61.6%
Mobile Homes									
Requested		110	2,653	18	805	15	386	77	1,462
Passed Model Diagnostics	Both Pre and Pst Cnt	91	2,135	16	581	13	336	62	1,218
	Both Pre and Pst Pct	82.7%	80.5%	88.9%	72.2%	86.7%	87.0%	80.5%	83.3%
Passed Reliability Screens	Both Pre and Pst Cnt	70	1,444	12	392	11	204	47	848
	Both Pre and Pst Pct	63.6%	54.4%	66.7%	48.7%	73.3%	52.8%	61.0%	58.0%
Multi-Family									
Requested		42	7,673	24	1,704	4	1,067	14	4,902
Passed Model Diagnostics	Both Pre and Pst Cnt	16	5,164	9	940	2	953	5	3,271
	Both Pre and Pst Pct	1.4%	12.2%	37.5%	55.2%	50.0%	89.3%	35.7%	66.7%
Passed Reliability Screens	Both Pre and Pst Cnt	6	2,849	-	546	2	509	4	1,794
	Both Pre and Pst Pct	0.5%	6.7%	0.0%	32.0%	50.0%	47.7%	28.6%	36.6%

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 3% 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 275 therms for single family site-built dwellings. The 90% confidence interval was 15 therms, which is suggestive that 90% certain that the true population mean savings falls in the approximate range of 260 and 290 therms. The overall mean percent savings was 26.9%, with a 1.3% confidence interval.

Net gas savings for mobile homes averaged 125 therms ±36 therms. The overall percentage savings for mobile homes was 14.5%, with a 3.5% confidence interval.

Table 2.3 Gas Fuel Consumption Analysis Results

	Population	Treatment Group					Comparison Group											
	n (with gas heating source)	n	Baseline Cons. (therms)	90% CI	Savings (therms)	90% CI	n	Baseline Cons. (therms)	90% CI	Savings (therms)	90% CI	Net Savings (therms)	90% CI	Percent Savings (%)	90% CI	Estimated Savings	90% CI	Realization Rate (%)
Single Family Detached Framed Dwelling Results																		
New Opportunities	42	30	1,094	88	288	61	58	978	65	9	22	279	65	25.5%	4.7%	236	36	118.1%
HACAP	97	42	1,082	64	309	52	60	1,105	47	-1	23	310	57	28.6%	4.5%	276	28	111.9%
Eastern IA	114	80	963	50	260	39	121	991	38	-5	18	265	43	27.6%	3.8%	238	21	111.2%
MATURA	28	14	1,124	90	305	92	24	1,055	55	15	38	290	99	25.8%	8.3%	231	41	125.6%
MICA	56	39	1,120	93	318	61	42	999	71	14	26	305	66	27.2%	5.0%	257	37	118.3%
Mid-Sioux	40	14	869	119	219	73	15	837	88	-15	36	234	81	26.9%	8.2%	204	44	114.4%
North Iowa	77	42	1,246	128	388	89	37	1,136	86	59	38	329	96	26.4%	5.2%	381	34	86.3%
NE Iowa	102	56	860	65	112	44	104	900	45	-3	14	115	46	13.4%	5.3%	146	23	79.1%
New View	31	16	939	137	170	54	40	991	71	43	40	127	67	13.5%	6.9%	213	39	59.6%
Threshold	78	45	1,049	76	277	41	76	1,000	50	4	23	273	46	26.0%	3.7%	274	28	99.7%
Redrock[1] SCICAP[1]	47	33	859	70	200	41	17	873	104	-22	32	222	52	25.9%	5.7%	199	29	111.5%
SE Iowa	56	20	1,234	109	416	99	5	1,595	26	-46	200	462	223	37.5%	14.4%	330	41	140.1%
SIEDA	43	21	907	126	211	62	24	1,066	130	10	60	200	86	22.1%	7.7%	192	38	104.5%
Upper Des Moines	105	71	938	69	270	42	194	881	41	32	12	239	43	25.5%	3.6%	273	24	87.3%
West Central	50	31	825	77	231	54	64	792	54	-10	27	241	61	29.2%	6.4%	232	36	103.7%
CAA Siouxland	38	24	1,179	107	337	74	44	1,102	44	0	26	338	78	28.6%	6.1%	298	40	113.5%
Polk County	151	92	1,069	69	352	38	33	920	67	5	30	346	49	32.4%	4.3%	351	20	98.6%
Overall	1,155	670	1,020	22	279	14	958	1,006	17	5	7	275	16	26.9%	1.3%	265	8	103.7%
Mobile Homes Results (entire state)																		
Overall	109	61	864	47	135	29	72	843	29	10	21	125	36	14.5%	3.5%	137	14	91.4%

[1.] The results for these two agencies were aggregated due to a combination of a small number of homes and high variability in the sample results.

Table 2.4 Fuel Consumption Analysis Results

	Percentage of Mobile Homes	
	Within Agency	State Overall
New Opportunities	0.0%	0.0%
HACAP	17.9%	19.8%
Eastern IA	9.7%	10.7%
MATURA	0.0%	0.0%
MICA	8.5%	5.3%
Mid-Sioux	5.9%	2.3%
North Iowa	0.0%	0.0%
NE Iowa	7.0%	7.6%
New View	20.0%	8.4%
Threshold	1.2%	0.8%
Redrock1	10.0%	2.3%
SCICAP1	10.0%	2.3%
SE Iowa	3.8%	2.3%
SIEDA	6.4%	3.8%
Upper Des Moines	0.0%	0.0%
West Central	0.0%	0.0%
CAA Siouxland	11.7%	5.3%
Polk County	19.3%	29.0%

The average savings of 125 therms for mobile homes are significantly lower than the 275 therms observed for single family site-built dwellings. New View reported the highest percentage of mobile homes (20%) while Polk County (19.3%) and HACAP (17.9%) reported similarly high percentages. Polk County weatherized 29% of all mobile home dwellings in the program during 2015 due to high number of installations for all housing types combined with a high proportion of mobile home installations (Table 2.4).

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.

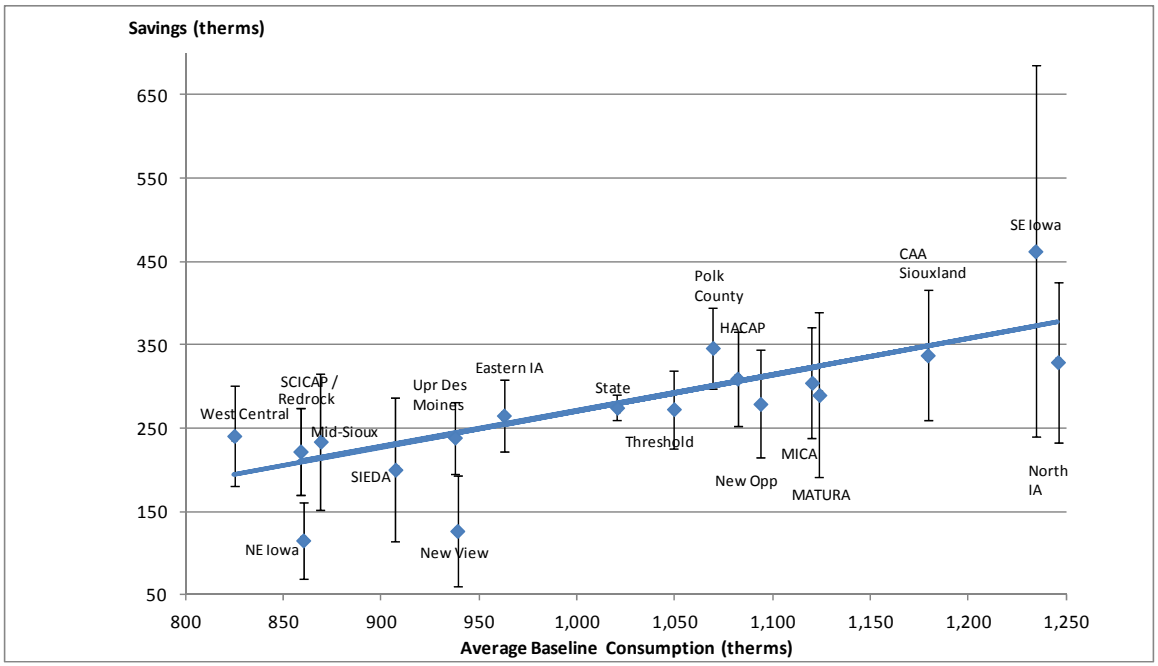


Figure 2.2 Savings in relation to the pre-weatherization normalized annual consumption (single family site-built dwellings).

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.

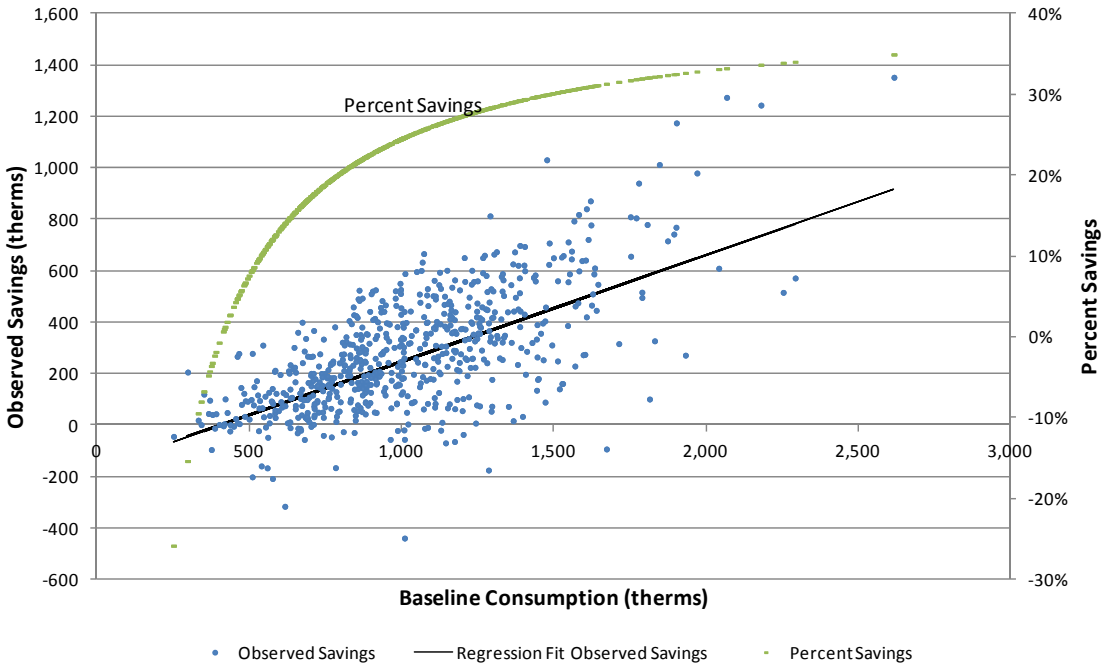


Figure 2.3. Relationship between baseline consumption, savings, and percentage savings

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 27% since then, to 1,020 in CY 2015. Generally speaking, net savings has declined through 2010 and has been increasing slightly since then. Overall percentage savings has increased through the period, from around 23% to nearly 26.9% in the 2015 program.

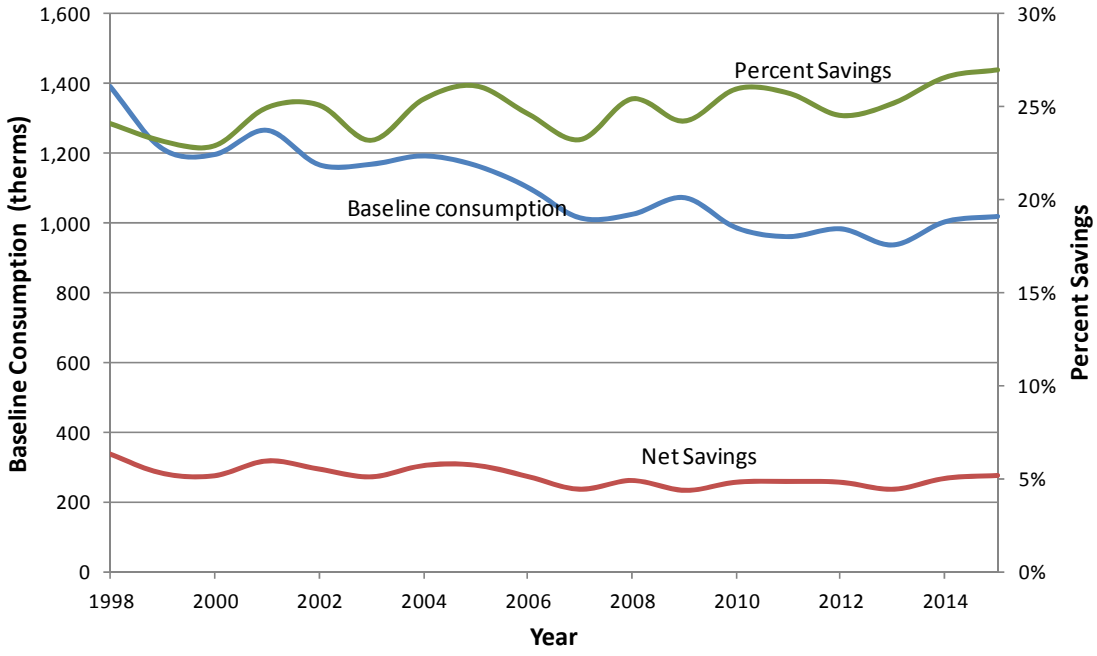


Figure 2.4 Annual Baseline Consumption, Savings, and Percentage Savings

ATTRITION ANALYSIS – ELECTRICITY

We requested data for 1,251 weatherization client dwellings and 65,465 LIHEAP client dwellings for our comparison group.

Approximately 1% of the useable histories dropped due to failure of one or more of the model diagnostic criteria. Model reliability screens accounted dropping 25% to 37% percentage points for the treatment and comparison groups, respectively. Our final analytic dataset included 749 weatherization client dwellings and 32,354 comparison dwellings, resulting in useable data for 60% and 49% of requested 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	1,251	65,465	658	30,580	593	34,885
Useable Histories	Pre Count	1,137	53,448	630	23,264	507	30,184
	Pre Percentage	90.9%	81.6%	95.7%	76.1%	85.5%	86.5%
	Post Count	1,065	58,646	558	28,285	507	30,361
	Post Percentage	85.1%	89.6%	84.8%	92.5%	85.5%	87.0%
	Both Pre and Pst Cnt	1,064	52,997	557	22,814	507	30,183
	Both Pre and Pst Pct	85.1%	81.0%	84.7%	74.6%	85.5%	86.5%
Passed Model Diagnostics	Pre Count	1,134	52,991	628	22,833	506	30,158
	Pre Percentage	90.6%	80.9%	95.4%	74.7%	85.3%	86.4%
	Post Count	1,059	58,187	552	27,829	507	30,358
	Post Percentage	84.7%	88.9%	83.9%	91.0%	85.5%	87.0%
	Both Pre and Pst Cnt	1,055	52,259	549	22,103	506	30,156
	Both Pre and Pst Pct	84.3%	79.8%	83.4%	72.3%	85.3%	86.4%
Passed Reliability Screens	Pre Count	1,005	43,628	558	19,331	447	24,297
	Pre Percentage	80.3%	66.6%	84.8%	63.2%	75.4%	69.6%
	Post Count	838	42,361	476	22,603	362	19,758
	Post Percentage	67.0%	64.7%	72.3%	73.9%	61.0%	56.6%
	Both Pre and Pst Cnt	482	32,354	316	16,180	166	16,174
	Both Pre and Pst Pct	38.5%	49.4%	48.0%	52.9%	28.0%	46.4%

Table 2.6 provides a the attrition analysis broken out by housing type. Overall, 62% of single family site-built dwellings were useable in the treatment group, and 55% of mobile homes. Essentially no data was returned for the few multi-family dwellings weatherized by the program.

Table 2.6 Electricity Attrition by Housing Type

		State		IPL		MAE	
		Trt	Cmpr	Trt	Cmpr	Trt	Cmpr
Single Family Detached Framed Dwellings							
Requested		1,100	46,815	576	22,225	524	24,590
Passed Model	Both Pre and Pst Cnt	953	38,325	499	16,722	454	21,603
Diagnostics	Both Pre and Pst Pct	86.6%	81.9%	86.6%	75.2%	86.6%	87.9%
Passed Reliability	Both Pre and Pst Cnt	434	15,558	283	8,976	152	6,308
Screens	Both Pre and Pst Pct	39.5%	33.2%	49.1%	40.4%	29.0%	25.7%
Mobile Homes							
Requested		109	2,494	49	1,158	60	1,336
Passed Model	Both Pre and Pst Cnt	88	1,940	38	809	50	1,131
Diagnostics	Both Pre and Pst Pct	80.7%	77.8%	77.6%	69.9%	83.3%	84.7%
Passed Reliability	Both Pre and Pst Cnt	41	821	27	505	14	302
Screens	Both Pre and Pst Pct	37.6%	32.9%	55.1%	43.6%	23.3%	22.6%
Multi-Family							
Requested		42	16,156	33	7,197	9	8,959
Passed Model	Both Pre and Pst Cnt	14	11,994	12	4,572	2	7,422
Diagnostics	Both Pre and Pst Pct	1.3%	25.6%	36.4%	63.5%	22.2%	82.8%
Passed Reliability	Both Pre and Pst Cnt	6	4,517	5	2,226	1	1,830
Screens	Both Pre and Pst Pct	0.5%	9.6%	15.2%	30.9%	11.1%	20.4%

OUTLIERS

The outlier screen dropped approximately 6% 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										
n	Baseline Cons. (kWh)	90% CI	Savings (kWh)	90% CI	n	Baseline Cons. (kWh)	90% CI	Savings (kWh)	90% CI	Net Savings (kWh)	90% CI	Percent Savings (%)	90% CI	Estimated Savings (kWh)	90% CI	Realization Rate (%)
Electric Savings for Dwellings with Non-Electric Space Heat																
482	10,594	428	830	187	1,920	10,077	215	200	72	631	201	5.0%	1.6%	671	51	94.0%
Electric Savings for Dwellings with Electric Space Heat																
20	23,188	2,610	2,267	1,657	95	20,967	1,274	1,013	476	1,254	1,724	3.5%	7.0%	3,213	634	39.0%

Dwellings with non-electric space heat averaged 631 kWh savings from lighting, refrigerators and freezers, water heating, and cooling measures. The average savings for dwellings with electric heat averaged 1,254 kWh per dwelling.

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.

Combined State and Utility

Billing Adjusted Costs and Impacts for All Measures Installed During Calendar Year 2015

Total Reported Labor, Materials and Utility Admin Expenditures: $18,871,240

Utility Administration Expenditures: $255,322

Total Labor and Material Expenditures: $18,615,919

Measure	Number of Dwellings with Impacts: Total	Electric	Gas	Propane	Fuel Oil	Other	Number of Dwellings with kWh Impacts: Season Cooling	Heating	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu
Total Efficiency Measures	**1,514**	**1,513**	**1,311**	**122**	**1**	**0**	**1,505**	**1,512**	**10,275,680**	**335.0**		**254.5**		**1,157,298**	**3,720**	**357,813**	**34,272**	**8**	**0**	**6,787**	**0.223**		**0.168**		**765**	**2.84**	**273**	**281**	**8**	**-**
Total Shell & Htg. Sys. Repl	1,513	1,513	1,310	122	1	0	1,417	1,506	8,383,726	274.1	321,101	161.5	246,125	567,225	3,493	317,809	32,376	8	0	5,541	0.193	227	0.107	163	375	2.67	243	265	8	-
Total Shell Measures	1,512	1,512	1,310	122	1	0	1,417	1,505	5,264,697	274.1	321,101	160.6	244,699	565,799	2,234	203,426	18,802	8	0	3,482	0.193	227	0.107	163	374	1.71	155	154	8	-
Wall Insul.	929	847	831	63	0	0	847	35	1,674,795	99.8	120,390	9.0	13,636	134,026	809	73,667	6,402	0	0	1,803	0.118	142	0.258	390	158	0.97	89	102	-	-
Open Blown Ceiling Insul	1,239	1,134	1,082	90	0	0	1,133	67	981,393	99.3	119,737	16.2	24,973	144,709	622	56,507	4,895	0	0	792	0.088	106	0.242	373	128	0.57	52	54	-	-
Cavity Fill Insul	409	334	373	23	0	0	334	13	304,004	14.4	17,388	2.4	3,618	21,005	197	18,173	1,622	0	0	743	0.043	52	0.183	278	63	0.53	49	71	-	-
Sloped Attic Insul	441	387	390	32	0	0	387	19	192,150	18.3	22,085	3.3	5,045	27,130	176	16,004	1,458	0	0	436	0.047	57	0.173	266	70	0.45	41	46	-	-
Kneewall Insul	363	314	324	22	0	0	313	17	150,381	7.0	8,465	1.2	1,912	10,377	70	6,439	736	0	0	414	0.022	27	0.073	112	33	0.22	20	33	-	-
Infil. Reduction	1,488	1,363	1,290	120	1	0	1,361	77	1,005,719	22.2	26,732	3.5	5,304	32,037	247	22,482	2,323	2	0	676	0.016	20	0.045	69	24	0.19	17	19	2	-
Found./Crawl. Insul	642	220	547	66	1	0	209	28	434,573	14.4	17,386	1.7	2,665	20,052	104	9,521	1,120	6	0	677	0.069	83	0.062	95	91	0.19	17	17	6	-
Bandjoist Insul.	684	31	571	81	1	0	-	31	152,759	0.0	0	0.8	1,237	1,237	43	3,891	661	2	0	223	0.000	0	0.027	40	40	0.07	7	8	2	-
Furnace Blower Fan[1]	1,432	1,420	1,309	122	1	0	-	1,420	0	0.0	0	131.1	199,764	199,764	(10)	(868)	(70)	(0)	0	0	0.000	0	0.092	141	141	(0.01)	(1)	(1)	(0)	-
Exhaust Ventilation[2]	487	487	405	58	1	0	487	487	368,924	-1.4	(11,082)	(8.7)	(13,456)	(24,538)	(26)	(2,392)	(345)	(3)	0	758	-0.003	(23)	(0.018)	(28)	(50)	(0.06)	(6)	(6)	(3)	-
Total Heating System Repl	1,042	34	923	85	0	0	-	34	3,119,029	0.0	0	0.9	1,426	1,426	1,259	114,383	13,574	0	0	2,993	0.000	0	0.028	42	42	1.36	124	160	-	-
Condensing Htg Sys Rep	949	0	870	79	0	0	-	-	2,847,991	0.0	0	0.0	0	0	1,219	110,668	13,387	0	0	3,001	-	-	-	-	-	1.40	127	169	-	-
Non-Cond Htg Sys Repl	59	0	53	6	0	0	-	-	129,174	0.0	0	0.0	0	0	41	3,714	188	0	0	2,189	-	-	-	-	-	0.77	70	31	-	-
Electric Htg Sys Repl	16	16	0	0	0	0	-	16	34,303	0.0	0	0.4	637	637	0	0	0	0	0	2,144	0.000	0	0.027	40	40	-	-	-	-	-
Heat Pump Repl	19	19	0	0	0	0	-	19	104,726	0.0	0	0.5	789	789	0	0	0	0	0	5,512	0.000	0	0.027	42	42	-	-	-	-	-
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		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	1,454	334	1,072	48	0	0	3,415	653	2,667	95	0	0	1,586,840	0.0	0.7	41,056	226.5	40,004	1,896	0	0	1,091	0.000	0.002	123	0.211	37	40	-	-
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	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-
Pipe Insul.	1,307	301	966	40	0	0	1,307	301	966	40	0	0	18,213	0.0	0.0	12,843	9.5	3,302	138	0	0	14	0.000	0.000	43	0.01	3	3	-	-
LF Showerhead	296	71	221	4	0	0	312	77	231	4	0	0	2,766	0.0	0.2	8,829	5.8	1,785	56	0	0	9	0.000	0.003	124	0.03	8	14	-	-
Faucet Aerator	499	100	390	9	0	0	798	157	627	14	0	0	2,960	0.0	0.1	4,296	3.2	975	27	0	0	6	0.000	0.001	43	0.01	3	3	-	-
Std-Eff Wtr Htr Repl.	22	0	21	1	0	0	22	0	21	1	0	0	31,363	0.0	0.0	0	1.9	313	6	0	0	1,426	-	-	-	0.09	15	6	-	-
Hi-Eff or Electric Wtr Htr Repl.	976	118	822	36	0	0	976	118	822	36	0	0	1,531,538	0.0	0.4	15,089	206.1	33,629	1,669	0	0	1,569	0.000	0.003	128	0.25	41	46	-	-
Lighting	1,235	1,235					11,816	11,816					73,469	38.7	71.5	368,622	-	-	-	-	-	59	0.031	0.058	298	-	-	-	-	-
Refrigerator/Freezer[3]	299	299					327	327					231,646	22.2	20.7	180,394	-	-	-	-	-	775	0.074	0.069	603	-	-	-	-	-
Refrigerator Removal	2	2					2	2					55	0.1	0.1	594	-	-	-	-	-	28	0.037	0.034	297	-	-	-	-	-
Refrigerator Exchange	251	251					256	256					196,233	18.1	16.9	147,355	-	-	-	-	-	782	0.072	0.068	587	-	-	-	-	-
Freezer Removal	2	2					2	2					50	0.0	0.0	306	-	-	-	-	-	25	0.019	0.018	153	-	-	-	-	-
Freezer Exchange	67	67					67	67					35,308	4.0	3.7	32,140	-	-	-	-	-	527	0.059	0.055	480	-	-	-	-	-

Total Non-Efficiency Measures	1,514												**8,340,238**									**5,509**								
Misc Ins,Attic Access/Vent	1,332												389,464									292								
Duct Sealing	455												79,675									175								
Duct Insulation	680												63,020									93								
Damming Material	744												39,303									53								
Htg. Sys. Tune & Clean	417												77,542									186								
Htg. Sys./WH Other	350												175,027									500								
Air Conditioning Work	23												2,610									113								
Water Heater Repair	82												10,024									122								
Refrigerator Coil Clean	0												0									0								
Waterbed Mattress Pad	0												0									0								
Programmable Tstat	44												4,467									102								
Unspecified Utility Meas	0												0									0								
CO Detector	1,290												79,616									62								
Smoke Detector	926												54,709									59								
Fuses	14												1,150									82								
Htg Sys Safety Check	230												33,419									145								
Htg Sys Ventilation	657												154,888									236								
Water Heater Ventilation	477												89,809									188								
Bathroom Ventilation	1,050												671,350									639								
Dryer Ventilation	929												94,183									101								
Other Exhaust Ventilation	450												20,752									46								
Health/Safety Repairs	996												408,787									410								
Health/Safety Other	235												44,435									189								
Consumables	392												16,075									41								
General Repairs	1,334												785,187									589								
Meter Refrig (no action)	1,108												0									0								
Meter Freezer (no action)	438												0									0								
Support	1,378												4,756,716									3,452								
Transportation Allowance	297												33,867									114								
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	924												247,993									268								
Unspecifed/Other	361												6,171									17								

[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.

Iowa Division of Community Action Agencies

Billing Adjusted Costs and Impacts for DCAA-Funded Measures Installed During Calendar Year 2015

Total Reported Labor, Materials and Utility Admin Expenditures: $12,816,085

Utility Administration Expenditures: -

Total Labor and Material Expenditures: $12,816,085

Measure	Number of Dwellings with Impacts: Total	Electric	Gas	Propane	Fuel Oil	Other	Number of Dwellings with kWh Impacts: Season Cooling	Heating	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu
Total Efficiency Measures	**1,495**	**1,486**	**1,288**	**122**	**1**	**0**	**1,364**	**1,485**	**5,299,827**	**139.9**		**133.3**		**510,113**	**1,489**	**144,114**	**34,272**	**8**	**0**	**3,545**	**0.103**		**0.090**		**343**	**1.16**	**112**	**281**	**8**	**-**
Total Shell & Htg. Sys. Repl	1,484	1,484	1,277	122	1	0	1,328	1,477	4,359,985	116.3	130,879	97.8	149,248	280,127	1,386	126,192	32,376	8	0	2,938	0.088	99	0.066	101	189	1.09	99	265	8	-
Total Shell Measures	1,483	1,483	1,277	122	1	0	1,328	1,476	2,740,735	116.3	130,879	97.1	148,041	278,921	873	79,510	18,802	8	0	1,848	0.088	99	0.066	100	188	0.68	62	154	8	-
Wall Insul.	510	398	364	63	0	0	395	18	643,926	38.0	45,875	3.9	5,772	51,647	267	24,339	6,402	0	0	1,263	0.096	116	0.214	321	130	0.73	67	102	-	-
Open Blown Ceiling Insul	683	540	471	90	0	0	536	37	401,838	40.4	48,762	7.4	11,252	60,014	237	21,516	4,895	0	0	588	0.075	91	0.199	304	111	0.50	46	54	-	-
Cavity Fill Insul	219	170	161	23	0	0	170	6	131,477	6.6	7,954	1.4	2,145	10,099	71	6,536	1,622	0	0	600	0.039	47	0.237	357	59	0.44	41	71	-	-
Sloped Attic Insul	221	166	149	32	0	0	164	11	84,428	6.9	8,264	1.7	2,546	10,810	59	5,423	1,458	0	0	382	0.042	50	0.152	231	65	0.40	36	46	-	-
Kneewall Insul	183	139	126	22	0	0	138	7	59,113	3.1	3,690	0.3	521	4,211	25	2,258	736	0	0	323	0.022	27	0.049	74	30	0.20	18	33	-	-
Infil. Reduction	1,411	1,172	1,179	120	1	0	1,169	70	800,881	16.6	20,048	2.6	3,920	23,967	193	17,559	2,323	2	0	568	0.014	17	0.037	56	20	0.16	15	19	2	-
Found./Crawl. Insul	327	107	225	66	1	0	99	17	184,533	6.1	7,368	0.6	967	8,335	39	3,506	1,120	6	0	564	0.062	74	0.037	57	78	0.17	16	17	6	-
Bandjoist Insul.	313	9	222	81	1	0	-	9	65,615	0.0	0	0.3	475	475	14	1,254	661	2	0	210	0.000	0	0.035	53	53	0.06	6	8	2	-
Furnace Blower Fan[1]	1,378	1,378	1,255	122	1	0	-	1,378	0	0.0	0	87.6	133,901	133,901	(5)	(490)	(70)	(0)	0	0	0.000	0	0.064	97	97	(0.00)	(0)	(1)	(0)	-
Exhaust Ventilation[2]	487	487	405	58	1	0	487	487	368,924	-1.4	(11,082)	(8.7)	(13,456)	(24,538)	(26)	(2,392)	(345)	(3)	0	758	-0.003	(23)	(0.018)	(28)	(50)	(0.06)	(6)	(6)	(3)	-
Total Heating System Repl	584	31	468	85	0	0	-	31	1,619,249	0.0	0	0.8	1,206	1,206	513	46,681	13,574	0	0	2,773	0.000	0	0.026	39	39	1.10	100	160	-	-
Condensing Htg Sys Rep	494	0	415	79	0	0	-	-	1,368,312	0.0	0	0.0	0	0	473	42,967	13,387	0	0	2,770	-	-	-	-	-	1.14	104	169	-	-
Non-Cond Htg Sys Repl	59	0	53	6	0	0	-	-	129,174	0.0	0	0.0	0	0	41	3,714	188	0	0	2,189	-	-	-	-	-	0.77	70	31	-	-
Electric Htg Sys Repl	13	13	0	0	0	0	-	13	21,203	0.0	0	0.3	465	465	0	0	0	0	0	1,631	0.000	0	0.024	36	36	-	-	-	-	-
Heat Pump Repl	19	19	0	0	0	0	-	19	97,726	0.0	0	0.5	742	742	0	0	0	0	0	5,143	0.000	0	0.025	39	39	-	-	-	-	-
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	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu
Water Heating	948	163	737	48	0	0	811,167	0.0	0.3	18,398	103.0	17,922	1,896	0	0	856	0.000	0.002	113	0.140	24	40	-	-
Temp. Reduct.	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	-	-	-	-	-	-	-	-
Pipe Insul.	559	120	399	40	0	0	8,405	0.0	0.0	5,548	4.0	1,378	138	0	0	15	0.000	0.000	46	0.01	3	3	-	-
LF Showerhead	93	23	66	4	0	0	906	0.0	0.1	3,502	1.7	526	56	0	0	10	0.000	0.003	152	0.03	8	14	-	-
Faucet Aerator	160	27	124	9	0	0	1,119	0.0	0.0	1,039	1.0	306	27	0	0	7	0.000	0.001	38	0.01	2	3	-	-
Std-Eff Wtr Htr Repl.	22	0	21	1	0	0	31,363	0.0	0.0	0	1.9	313	6	0	0	1,426	-	-	-	0.09	15	6	-	-
Hi-Eff or Electric Wtr Htr Repl.	708	82	590	36	0	0	769,375	0.0	0.2	8,309	94.4	15,399	1,669	0	0	1,087	0.000	0.003	101	0.16	26	46	-	-
Lighting	431	431					28,009	14.4	26.6	137,244	-	-	-	-	-	65	0.033	0.062	318	-	-	-	-	-
Refrigerator/Freezer[3]	159	159					100,666	9.1	8.5	74,345	-	-	-	-	-	633	0.058	0.054	468	-	-	-	-	-
Refrigerator Removal	2	2					55	0.1	0.1	594	-	-	-	-	-	28	0.037	0.034	297	-	-	-	-	-
Refrigerator Exchange	133	133					82,634	7.1	6.6	57,497	-	-	-	-	-	621	0.053	0.050	432	-	-	-	-	-
Freezer Removal	2	2					50	0.0	0.0	306	-	-	-	-	-	25	0.019	0.018	153	-	-	-	-	-
Freezer Exchange	35	35					17,927	2.0	1.8	15,949	-	-	-	-	-	512	0.056	0.052	456	-	-	-	-	-

Total Non-Efficiency Measures	1,514	**7,516,258**	**4,965**
Misc Ins,Attic Access/Vent	1,290	355,465	276
Duct Sealing	439	76,361	174
Duct Insulation	665	61,966	93
Damming Material	744	39,303	53
Htg. Sys. Tune & Clean	330	60,606	184
Htg. Sys./WH Other	350	175,027	500
Air Conditioning Work	23	2,610	113
Water Heater Repair	82	10,024	122
Refrigerator Coil Clean	0	0	0
Waterbed Mattress Pad	0	0	0
Programmable Tstat	5	490	98
Unspecified Utility Meas	0	0	0
CO Detector	1,290	79,616	62
Smoke Detector	926	54,709	59
Fuses	14	1,150	82
Htg Sys Safety Check	230	33,419	145
Htg Sys Ventilation	407	86,496	213
Water Heater Ventilation	263	46,434	177
Bathroom Ventilation	1,050	671,350	639
Dryer Ventilation	929	94,183	101
Other Exhaust Ventilation	450	20,752	46
Health/Safety Repairs	921	401,045	435
Health/Safety Other	234	44,288	189
Consumables	392	16,075	41
General Repairs	1,111	663,649	597
Meter Refrig (no action)	838	0	0
Meter Freezer (no action)	347	0	0
Support	1,363	4,233,268	3,106
Transportation Allowance	297	33,867	114
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	924	247,993	268
Unspecifed/Other	357	6,114	17

[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.

Alliant - Interstate Power and Light

Billing Adjusted Costs and Impacts for Utility-Funded Measures Installed During Calendar Year 2015

Total Reported Labor, Materials and Utility Admin Expenditures: $2,919,968

Utility Administration Expenditures: $130,801

Total Labor and Material Expenditures: $2,789,167

Measure	Number of Dwellings with Impacts: Total	Electric	Gas	Number of Dwellings with Electricity Impacts: Season: Cooling	Heating	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Electricity: Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas: Pk-Day therms	Annual therms	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Electricity: Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas: Pk-Day therms	Annual therms
Total Efficiency Measures	**715**	**642**	**381**	**635**	**642**	**2,375,096**	**113.7**		**62.3**		**355,532**	**1,013**	**96,413**	**3,322**	**0.179**		**0.097**		**554**	**2.66**	**253**
Total Shell & Htg. Sys. Repl	672	599	379	550	598	1,935,759	93.8	113,141	32.2	49,126	162,267	963	87,444	2,881	0.171	206	0.054	82	271	2.54	231
Total Shell Measures	672	599	378	550	597	1,275,170	93.8	113,141	32.1	48,954	162,094	640	58,334	1,898	0.171	206	0.054	82	271	1.69	154
Wall Insul.	413	342	265	342	18	515,029	35.2	42,440	3.9	5,954	48,394	270	24,506	1,247	0.103	124	0.216	331	142	1.02	92
Open Blown Ceiling Insul.	525	444	329	443	26	309,358	35.4	42,658	4.6	7,166	49,824	177	16,156	589	0.080	96	0.178	276	112	0.54	49
Cavity Fill Insul.	129	97	89	97	6	67,970	3.7	4,423	0.5	847	5,270	47	4,359	527	0.038	46	0.091	141	54	0.53	49
Sloped Attic Insul.	184	156	122	156	7	54,355	7.2	8,628	1.2	1,885	10,513	56	5,093	295	0.046	55	0.173	269	67	0.46	42
Kneewall Insul.	134	107	86	106	7	46,144	2.1	2,548	0.5	767	3,315	18	1,601	344	0.020	24	0.071	110	31	0.20	19
Infil. Reduction	413	346	270	344	27	128,643	4.1	4,890	0.8	1,203	6,093	32	2,915	311	0.012	14	0.029	45	18	0.12	11
Found./Crawl. Insul.	218	101	166	96	12	104,421	6.3	7,554	0.8	1,281	8,835	26	2,396	479	0.065	79	0.069	107	87	0.16	14
Bandjoist Insul.	216	19	197	-	19	49,249	0.0	0	0.4	591	591	17	1,488	228	0.000	0	0.021	31	31	0.08	8
Furnace Blower Fan[1]	637	564	378	-	564	0	0.0	0	19.3	29,259	29,259	(2)	(180)	0	0.000	0	0.034	52	52	(0.01)	(0)
Exhaust Ventilation[2]	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Total Heating System Repl	244	5	239	-	5	660,589	0.0	0	0.1	173	173	322	29,110	2,707	0.000	0	0.023	35	35	1.35	122
Condensing Htg Sys Repl	239	0	239	-	-	647,489	0.0	0	0.0	0	0	322	29,110	2,709	-	-	-	-	-	1.35	122
Non-Cond Htg Sys Repl	0	0	0	-	-	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Electric Htg Sys Repl	5	5	0	-	5	13,100	0.0	0	0.1	173	173	0	0	2,620	0.000	0	0.023	35	35	-	-
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		Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms		Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms
Water Heating	422	146	276	853	264	589	336,176	0.0	0.2	14,571	50.7	8,968	797	0.000	0.002	100	0.184	32
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.	331	125	206	331	125	206	3,460	0.0	0.0	5,341	2.1	721	10	0.000	0.000	43	0.01	3
LF Showerhead	74	21	53	75	22	53	546	0.0	0.1	2,486	1.4	441	7	0.000	0.003	118	0.03	8
Faucet Aerator	145	49	96	225	78	147	597	0.0	0.1	2,238	0.8	237	4	0.000	0.001	46	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.	253	43	210	222	39	183	331,572	0.0	0.1	4,506	46.4	7,570	1,311	0.000	0.003	105	0.22	36
Lighting	476	476		4,259	4,259		22,958	12.3	22.7	116,877	-	-	48	0.026	0.048	246	-	-
Refrigerator/Freezer[3]	113	113		115	115		80,203	7.6	7.1	61,818	-	-	710	0.067	0.063	547	-	-
Refrigerator Removal	0	0		0	0		0	0.0	0.0	0	-	-	0	-	-	-	-	-
Refrigerator Exchange	94	94		91	91		69,145	6.2	5.8	50,428	-	-	736	0.066	0.062	536	-	-
Freezer Removal	0	0		0	0		0	0.0	0.0	0	-	-	0	-	-	-	-	-
Freezer Exchange	24	24		23	23		11,058	1.4	1.3	11,391	-	-	461	0.058	0.055	475	-	-

Total Non-Efficiency Measures	704	**414,070**	**588**
Misc Ins,Attic Access/Vent	135	18,602	138
Duct Sealing	13	2,774	213
Duct Insulation	5	606	121
Damming Material	0	0	0
Htg. Sys. Tune & Clean	78	8,543	110
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	24	2,317	97
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	155	27,905	180
Water Heater Ventilation	122	19,347	159
Bathroom Ventilation	0	0	0
Dryer Ventilation	0	0	0
Other Exhaust Ventilation	0	0	0
Health/Safety Repairs	68	4,620	68
Health/Safety Other	1	147	147
Consumables	0	0	0
General Repairs	300	73,764	246
Meter Refrig (no action)	145	0	0
Meter Freezer (no action)	39	0	0
Support	642	255,424	398
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
Unspecifed/Other	1	19	19

[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.

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		Billing Adjusted First-Year Savings							Average Billing Adjusted Savings per Dwelling Receiving Measures						
				Season		Electricity					Gas		Electricity					Gas	
						Summer		Winter		Annual	Pk-Day	Annual	Summer		Winter		Annual	Pk-Day	Annual
	Total	Electric	Gas	Cooling	Heating	kW	kWh	kW	kWh	kWh	therms	therms	kW	kWh	kW	kWh	kWh	therms	therms
Total Efficiency Measures	**736**	**657**	**391**	**652**	**655**	**257.8**		**187.1**		**855,860**	**2,312**	**221,201**	**0.395**		**0.286**		**1,303**	**5.91**	**566**
Total Shell & Htg. Sys. Repl	735	657	390	612	655	215.3	251,354	123.9	188,391	439,745	2,181	198,203	0.352	411	0.189	288	669	5.59	508
Total Shell Measures	735	657	390	612	655	215.3	251,354	123.3	187,539	438,893	1,416	129,089	0.352	411	0.188	286	668	3.63	331
Wall Insul.	429	355	271	355	18	76.3	92,040	9.1	13,845	105,884	569	51,780	0.215	259	0.505	769	298	2.10	191
Open Blown Ceiling Insul.	568	479	341	478	29	81.8	98,705	10.9	16,858	115,562	372	33,979	0.171	206	0.376	581	241	1.09	100
Cavity Fill Insul.	134	101	92	101	7	7.5	9,062	2.0	3,079	12,141	100	9,290	0.074	90	0.283	440	120	1.08	101
Sloped Attic Insul.	192	161	127	161	7	15.0	18,133	2.6	4,026	22,160	116	10,630	0.093	113	0.370	575	138	0.92	84
Kneewall Insul.	141	113	88	112	7	4.8	5,775	1.0	1,534	7,309	36	3,335	0.043	52	0.141	219	65	0.41	38
Infil. Reduction	692	587	385	585	35	16.9	20,342	3.8	5,823	26,165	154	13,912	0.029	35	0.109	166	45	0.40	36
Found./Crawl. Insul.	240	113	180	107	14	14.2	17,117	1.8	2,789	19,906	57	5,204	0.133	160	0.129	199	176	0.32	29
Bandjoist Insul.	227	20	207	-	20	0.0	0	0.9	1,369	1,369	35	3,118	0.000	0	0.045	68	68	0.17	15
Furnace Blower Fan[1]	697	619	390	-	619	0.0	0	98.9	150,106	150,106	(6)	(542)	0.000	0	0.160	242	242	(0.02)	(1)
Exhaust Ventilation[2]	261	230	131	230	230	-1.2	(9,821)	(7.7)	(11,890)	(21,710)	(17)	(1,616)	-0.005	(43)	(0.033)	(52)	(94)	(0.13)	(12)
Total Heating System Repl	269	11	258	-	11	0.0	0	0.6	852	852	765	69,115	0.000	0	0.051	77	77	2.97	268
Condensing Htg Sys Repl	251	0	251	-	-	0.0	0	0.0	0	0	751	67,762	-	-	-	-	-	2.99	270
Non-Cond Htg Sys Repl	7	0	7	-	-	0.0	0	0.0	0	0	15	1,352	-	-	-	-	-	2.10	193
Electric Htg Sys Repl	9	9	0	-	9	0.0	0	0.5	677	677	0	0	0.000	0	0.050	75	75	-	-
Heat Pump Repl	2	2	0	-	2	0.0	0	0.1	174	174	0	0	0.000	0	0.056	87	87	-	-
Other Htg Sys Repl	0	0	0	-	0	0.0	0	0.0	0	0	0	0	-	-	-	-	-	-	-

				Number of Measures by Fuel Type			Summer	Winter	Annual	Pk-Day	Annual	Summer	Winter	Annual	Pk-Day	Annual
	Total	Electric	Gas	Total	Electric	Gas	kW	kW	kWh	therms	therms	kW	kW	kWh	therms	therms
Water Heating	454	163	291	0	0	0	0.0	0.6	35,879	131.1	22,998	0.000	0.004	220	0.450	79
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.	393	143	250	0	0	0	0.0	0.0	12,684	5.2	1,815	0.000	0.000	89	0.02	7
LF Showerhead	78	23	55	0	0	0	0.0	0.1	5,416	2.9	904	0.000	0.005	235	0.05	16
Faucet Aerator	149	51	98	0	0	0	0.0	0.1	4,686	1.6	483	0.000	0.002	92	0.02	5
Std-Eff Wtr Htr Repl.	0	0	0	0	0	0	0.0	0.0	0	0.0	0	-	-	-	-	-
Hi-Eff or Electric Wtr Htr Repl.	287	49	238	0	0	0	0.0	0.3	13,093	121.3	19,796	0.000	0.007	267	0.51	83
Lighting	483	483		0	0		25.1	46.5	239,502	-	-	0.052	0.096	496	-	-
Refrigerator/Freezer[3]	118	118		0	0		17.3	16.2	140,734	-	-	0.147	0.137	1,193	-	-
Refrigerator Removal	1	1		0	0		0.0	0.0	231	-	-	0.028	0.027	231	-	-
Refrigerator Exchange	95	95		0	0		13.6	12.8	110,966	-	-	0.144	0.134	1,168	-	-
Freezer Removal	0	0		0	0		0.0	0.0	0	-	-	-	-	-	-	-
Freezer Exchange	31	31		0	0		3.6	3.4	29,537	-	-	0.117	0.110	953	-	-

Black Hills Energy

Billing Adjusted Costs and Impacts for Utility-Funded Measures Installed During Calendar Year 2015

Total Reported Labor, Materials and Utility Admin Expenditures: $620,018

Utility Administration Expenditures: $30,042

Total Labor and Material Expenditures: $589,976

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							
							Electricity					Gas			Electricity					Gas	
							Summer		Winter		Annual	Pk-Day	Annual		Summer		Winter		Annual	Pk-Day	Annual
	Total	Electric	Gas	Cooling	Heating		kW	kWh	kW	kWh	kWh	therms	therms		kW	kWh	kW	kWh	kWh	therms	therms
Total Efficiency Measures	**129**	**1**	**128**	**1**	**1**	**496,449**	**0.0**		**0.0**		**73**	**212**	**20,549**	**3,848**	**0.000**		**0.000**		**73**	**1.66**	**161**
Total Shell & Htg. Sys. Repl	126	0	126	0	0	410,077	0.0	0	0.0	0	0	200	18,350	3,255	-	-	-	-	-	1.59	146
Total Shell Measures	126	0	126	0	0	211,567	0.0	0	0.0	0	0	115	10,514	1,679	-	-	-	-	-	0.91	83
Wall Insul.	60	0	60	0	0	79,364	0.0	0	0.0	0	0	45	4,155	1,323	-	-	-	-	-	0.76	69
Open Blown Ceiling Insul.	96	0	96	0	0	44,394	0.0	0	0.0	0	0	22	2,001	462	-	-	-	-	-	0.23	21
Cavity Fill Insul.	25	0	25	0	0	18,023	0.0	0	0.0	0	0	12	1,085	721	-	-	-	-	-	0.46	43
Sloped Attic Insul.	37	0	37	0	0	12,388	0.0	0	0.0	0	0	15	1,352	335	-	-	-	-	-	0.40	37
Kneewall Insul.	28	0	28	0	0	7,047	0.0	0	0.0	0	0	4	404	252	-	-	-	-	-	0.16	14
Infil. Reduction	53	0	53	0	0	15,915	0.0	0	0.0	0	0	5	460	300	-	-	-	-	-	0.09	9
Found./Crawl. Insul.	54	0	54	0	0	26,052	0.0	0	0.0	0	0	8	786	482	-	-	-	-	-	0.16	15
Bandjoist Insul.	53	0	53	-	0	8,386	0.0	0	0.0	0	0	3	299	158	-	-	-	-	-	0.06	6
Furnace Blower Fan[1]	126	0	126	-	0	0	0.0	0	0.0	0	0	(0)	(27)	0	-	-	-	-	-	(0.00)	(0)
Exhaust Ventilation[2]	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Total Heating System Repl	76	0	76	-	0	198,510	0.0	0	0.0	0	0	85	7,836	2,612	-	-	-	-	-	1.12	103
Condensing Htg Sys Repl	76	0	76	-	-	198,510	0.0	0	0.0	0	0	85	7,836	2,612	-	-	-	-	-	1.12	103
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	-	-	-	-	-	-	-

	Number of Measures by Fuel Type																			
							Summer		Winter		Annual	Pk-Day	Annual		Summer		Winter		Annual	Pk-Day	Annual
	Total	Electric	Gas	Total	Electric	Gas	kW		kW		kWh	therms	therms		kW		kW		kWh	therms	therms
Water Heating	93	1	92	183	2	181	86,372	0.0		0.0	73	12.3	2,199	929	0.000		0.000		73	0.134	24
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.	79	1	78	79	1	78	1,147	0.0		0.0	14	0.6	218	15	0.000		0.000		14	0.01	3
LF Showerhead	12	1	11	15	1	14	136	0.0		0.0	59	0.3	91	11	0.000		0.000		59	0.03	8
Faucet Aerator	23	0	23	34	0	34	141	0.0		0.0	0	0.2	56	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.	61	0	61	55	0	55	84,948	0.0		0.0	0	11.2	1,833	1,393	-		-		-	0.18	30
Lighting	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	-		-		-	-	-
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	-		-		-	-	-

Total Non-Efficiency Measures	129	**93,527**	**725**
Misc Ins,Attic Access/Vent	35	4,172	119
Duct Sealing	0	0	0
Duct Insulation	5	146	29
Damming Material	0	0	0
Htg. Sys. Tune & Clean	18	1,943	108
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	1	100	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	51	11,127	218
Water Heater Ventilation	42	8,174	195
Bathroom Ventilation	0	0	0
Dryer Ventilation	0	0	0
Other Exhaust Ventilation	0	0	0
Health/Safety Repairs	11	648	59
Health/Safety Other	0	0	0
Consumables	0	0	0
General Repairs	38	9,439	248
Meter Refrig (no action)	0	0	0
Meter Freezer (no action)	0	0	0
Support	127	57,761	455
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
Unspecifed/Other	1	16	16

[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.

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		Billing Adjusted First-Year Savings							Average Billing Adjusted Savings per Dwelling Receiving Measures						
				Season		Electricity					Gas		Electricity					Gas	
						Summer		Winter		Annual	Pk-Day	Annual	Summer		Winter		Annual	Pk-Day	Annual
	Total	Electric	Gas	Cooling	Heating	kW	kWh	kW	kWh	kWh	therms	therms	kW	kWh	kW	kWh	kWh	therms	therms
Total Efficiency Measures	**218**	**1**	**216**	**1**	**1**	**0.0**		**0.0**		**146**	**780**	**77,209**	**0.000**		**0.000**		**146**	**3.61**	**357**
Total Shell & Htg. Sys. Repl	217	0	216	0	0	0.0	0	0.0	0	0	726	67,708	-	-	-	-	-	3.36	313
Total Shell Measures	217	0	216	0	0	0.0	0	0.0	0	0	436	40,759	-	-	-	-	-	2.02	189
Wall Insul.	101	0	101	0	0	0.0	0	0.0	0	0	158	14,751	-	-	-	-	-	1.56	146
Open Blown Ceiling Insul.	172	0	171	0	0	0.0	0	0.0	0	0	81	7,589	-	-	-	-	-	0.47	44
Cavity Fill Insul.	39	0	39	0	0	0.0	0	0.0	0	0	40	3,777	-	-	-	-	-	1.02	97
Sloped Attic Insul.	54	0	54	0	0	0.0	0	0.0	0	0	44	4,090	-	-	-	-	-	0.82	76
Kneewall Insul.	45	0	45	0	0	0.0	0	0.0	0	0	13	1,228	-	-	-	-	-	0.29	27
Infil. Reduction	210	0	209	0	0	0.0	0	0.0	0	0	70	6,487	-	-	-	-	-	0.33	31
Found./Crawl. Insul.	90	0	90	0	0	0.0	0	0.0	0	0	30	2,794	-	-	-	-	-	0.33	31
Bandjoist Insul.	114	0	113	-	0	0.0	0	0.0	0	0	13	1,243	-	-	-	-	-	0.12	11
Furnace Blower Fan[1]	216	0	215	-	0	0.0	0	0.0	0	0	(2)	(204)	-	-	-	-	-	(0.01)	(1)
Exhaust Ventilation[2]	104	0	104	0	0	0.0	0	0.0	0	0	(11)	(998)	-	-	-	-	-	(0.10)	(10)
Total Heating System Repl	141	0	141	-	0	0.0	0	0.0	0	0	290	26,950	-	-	-	-	-	2.06	191
Condensing Htg Sys Repl	132	0	132	-	-	0.0	0	0.0	0	0	275	25,591	-	-	-	-	-	2.09	194
Non-Cond Htg Sys Repl	9	0	9	-	-	0.0	0	0.0	0	0	15	1,359	-	-	-	-	-	1.63	151
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														
	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	177	1	176	0	0	0	0.0	0.0	146	54.1	9,501	0.000	0.000	146	0.308	54
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.	162	1	161	0	0	0	0.0	0.0	29	2.6	915	0.000	0.000	29	0.02	6
LF Showerhead	16	1	15	0	0	0	0.0	0.0	117	0.8	243	0.000	0.000	117	0.05	16
Faucet Aerator	30	0	30	0	0	0	0.0	0.0	0	0.5	148	-	-	-	0.02	5
Std-Eff Wtr Htr Repl.	3	0	3	0	0	0	0.0	0.0	0	0.2	36	-	-	-	0.07	12
Hi-Eff or Electric Wtr Htr Repl.	121	0	121	0	0	0	0.0	0.0	0	50.0	8,158	-	-	-	0.41	67
Lighting	0	0		0	0		0.0	0.0	0	-	-	-	-	-	-	-
Refrigerator/Freezer[3]	0	0		0	0		0.0	0.0	0	-	-	-	-	-	-	-
Refrigerator Removal	0	0		0	0		0.0	0.0	0	-	-	-	-	-	-	-
Refrigerator Exchange	0	0		0	0		0.0	0.0	0	-	-	-	-	-	-	-
Freezer Removal	0	0		0	0		0.0	0.0	0	-	-	-	-	-	-	-
Freezer Exchange	0	0		0	0		0.0	0.0	0	-	-	-	-	-	-	-

MidAmerican Energy

Billing Adjusted Costs and Impacts for Utility-Funded Measures Installed During Calendar Year 2015

Total Reported Labor, Materials and Utility Admin Expenditures: $2,515,169

Utility Administration Expenditures: $94,479

Total Labor and Material Expenditures: $2,420,691

Measure	Number of Dwellings with Impacts: Total	Electric	Gas	Number of Dwellings with Electricity Impacts: Season Cooling	Heating	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Gas Annual therms	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Gas Annual therms
Total Efficiency Measures	**458**	**362**	**385**	**360**	**362**	**2,104,308**	**81.4**		**58.9**		**291,580**	**1,005**	**96,737**	**4,595**	**0.226**		**0.163**		**805**	**2.61**	**251**
Total Shell & Htg. Sys. Repl	445	354	376	301	351	1,677,905	63.9	77,081	31.4	47,751	124,831	945	85,822	3,771	0.212	256	0.090	136	353	2.51	228
Total Shell Measures	445	354	376	301	351	1,037,224	63.9	77,081	31.4	47,704	124,784	606	55,067	2,331	0.212	256	0.089	136	352	1.61	146
Wall Insul.	291	217	250	217	4	436,477	26.6	32,075	1.3	1,911	33,985	228	20,668	1,500	0.123	148	0.319	478	157	0.91	83
Open Blown Ceiling Insul.	351	265	294	265	11	225,803	23.5	28,317	4.2	6,554	34,871	186	16,834	643	0.089	107	0.384	596	132	0.63	57
Cavity Fill Insul.	125	88	119	88	2	86,534	4.2	5,010	0.4	626	5,636	68	6,192	692	0.047	57	0.205	313	64	0.57	52
Sloped Attic Insul.	123	89	103	89	2	40,979	4.3	5,193	0.4	614	5,807	46	4,136	333	0.048	58	0.207	307	65	0.44	40
Kneewall Insul.	116	83	99	83	3	38,077	1.8	2,227	0.4	624	2,851	24	2,176	328	0.022	27	0.133	208	34	0.24	22
Infil. Reduction	174	146	154	146	6	60,280	1.5	1,794	0.1	181	1,976	17	1,548	346	0.010	12	0.021	30	14	0.11	10
Found./Crawl. Insul.	162	35	146	34	4	119,567	2.0	2,464	0.3	418	2,882	31	2,834	738	0.060	72	0.068	104	82	0.21	19
Bandjoist Insul.	128	5	123	-	5	29,509	0.0	0	0.1	172	172	9	850	231	0.000	0	0.023	34	34	0.08	7
Furnace Blower Fan[1]	428	337	376	-	337	0	0.0	0	24.2	36,604	36,604	(2)	(171)	0	0.000	0	0.072	109	109	(0.01)	(0)
Exhaust Ventilation[2]	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Total Heating System Repl	255	2	253	-	2	640,681	0.0	0	0.0	47	47	339	30,755	2,512	0.000	0	0.015	23	23	1.34	122
Condensing Htg Sys Repl	253	0	253	-	-	633,681	0.0	0	0.0	0	0	339	30,755	2,505	-	-	-	-	-	1.34	122
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	2	2	0	-	2	7,000	0.0	0	0.0	47	47	0	0	3,500	0.000	0	0.015	23	23	-	-
Other Htg Sys Repl	0	0	0	-	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-

Measure	Number of Measures by Fuel Type: Total	Electric	Gas				Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms		Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms
Water Heating	385	62	323	973	147	825	353,125	0.0	0.1	8,015	60.5	10,915	917	0.000	0.002	129	0.187	34
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.	338	55	283	338	55	283	5,200	0.0	0.0	1,940	2.8	984	15	0.000	0.000	35	0.01	3
LF Showerhead	117	26	91	125	30	95	1,179	0.0	0.1	2,782	2.4	727	10	0.000	0.002	107	0.03	8
Faucet Aerator	172	25	147	284	40	244	1,103	0.0	0.0	1,018	1.2	377	6	0.000	0.001	41	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.	250	25	225	226	22	203	345,643	0.0	0.1	2,274	54.1	8,827	1,383	0.000	0.002	91	0.24	39
Lighting	328	328		3,311	3,311		22,501	12.0	22.2	114,502	-	-	69	0.037	0.068	349	-	-
Refrigerator/Freezer[3]	76	76		76	76		50,776	5.4	5.1	44,231	-	-	668	0.072	0.067	582	-	-
Refrigerator Removal	0	0		0	0		0	0.0	0.0	0	-	-	0	-	-	-	-	-
Refrigerator Exchange	66	66		63	63		44,454	4.8	4.5	39,431	-	-	674	0.073	0.069	597	-	-
Freezer Removal	0	0		0	0		0	0.0	0.0	0	-	-	0	-	-	-	-	-
Freezer Exchange	13	13		13	13		6,322	0.6	0.6	4,801	-	-	486	0.045	0.042	369	-	-

Measure	Total	Spending on Materials & Labor ($)
Total Non-Efficiency Measures	456	**316,383**	**694**
Misc Ins,Attic Access/Vent	75	11,225	150
Duct Sealing	5	540	108
Duct Insulation	5	302	60
Damming Material	0	0	0
Htg. Sys. Tune & Clean	60	6,449	107
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	16	1,560	98
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	154	29,361	191
Water Heater Ventilation	103	15,853	154
Bathroom Ventilation	0	0	0
Dryer Ventilation	0	0	0
Other Exhaust Ventilation	0	0	0
Health/Safety Repairs	52	2,474	48
Health/Safety Other	0	0	0
Consumables	0	0	0
General Repairs	154	38,334	249
Meter Refrig (no action)	126	0	0
Meter Freezer (no action)	52	0	0
Support	380	210,263	553
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
Unspecifed/Other	2	22	11

[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.

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		Billing Adjusted First-Year Savings							Average Billing Adjusted Savings per Dwelling Receiving Measures						
				Season		Electricity					Gas		Electricity					Gas	
						Summer		Winter		Annual	Pk-Day	Annual	Summer		Winter		Annual	Pk-Day	Annual
	Total	Electric	Gas	Cooling	Heating	kW	kWh	kW	kWh	kWh	therms	therms	kW	kWh	kW	kWh	kWh	therms	therms
Total Efficiency Measures	**765**	**592**	**662**	**590**	**589**	**297.7**		**242.8**		**1,070,610**	**4,054**	**390,266**	**0.505**		**0.412**		**1,808**	**6.12**	**590**
Total Shell & Htg. Sys. Repl	765	592	662	548	588	238.8	283,301	151.5	230,365	513,666	3,797	344,687	0.436	517	0.258	392	868	5.74	521
Total Shell Measures	765	592	662	548	588	238.8	283,301	150.8	229,294	512,596	2,453	222,567	0.436	517	0.256	390	866	3.70	336
Wall Insul.	489	361	433	361	10	92.4	111,449	5.0	7,453	118,903	827	75,081	0.256	309	0.497	745	329	1.91	173
Open Blown Ceiling Insul.	616	459	532	459	21	80.9	97,578	13.5	20,606	118,184	750	67,878	0.176	213	0.640	981	257	1.41	128
Cavity Fill Insul.	241	181	230	181	4	16.1	19,363	1.7	2,517	21,880	240	21,904	0.089	107	0.421	629	121	1.04	95
Sloped Attic Insul.	222	164	193	164	6	15.6	18,814	2.0	2,990	21,805	178	16,094	0.095	115	0.331	498	133	0.92	83
Kneewall Insul.	205	151	184	151	6	6.2	7,474	1.2	1,798	9,272	90	8,183	0.041	49	0.194	300	61	0.49	44
Infil. Reduction	750	535	654	535	23	19.4	23,362	1.3	1,979	25,341	251	22,849	0.036	44	0.057	86	47	0.38	35
Found./Crawl. Insul.	275	64	257	63	5	9.0	10,826	0.8	1,165	11,991	113	10,285	0.142	172	0.151	233	187	0.44	40
Bandjoist Insul.	235	5	230	-	5	0.0	0	0.2	343	343	35	3,181	0.000	0	0.046	69	69	0.15	14
Furnace Blower Fan[1]	736	563	662	-	563	0.0	0	129.8	197,451	197,451	(10)	(940)	0.000	0	0.230	351	351	(0.02)	(1)
Exhaust Ventilation[2]	196	135	153	135	135	-0.7	(5,565)	(4.6)	(7,008)	(12,573)	(21)	(1,949)	-0.005	(41)	(0.034)	(52)	(93)	(0.14)	(13)
Total Heating System Repl	501	12	489	-	12	0.0	0	0.7	1,071	1,071	1,344	122,120	0.000	0	0.059	89	89	2.75	250
Condensing Htg Sys Repl	454	0	454	-	-	0.0	0	0.0	0	0	1,295	117,660	-	-	-	-	-	2.85	259
Non-Cond Htg Sys Repl	35	0	35	-	-	0.0	0	0.0	0	0	49	4,460	-	-	-	-	-	1.40	127
Electric Htg Sys Repl	2	2	0	-	2	0.0	0	0.1	158	158	0	0	0.000	0	0.052	79	79	-	-
Heat Pump Repl	11	11	0	-	11	0.0	0	0.6	913	913	0	0	0.000	0	0.055	83	83	-	-
Other Htg Sys Repl	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	661	84	577	0	0	0	0.0	0.4	23,241	256.8	45,579	0.000	0.005	277	0.445	79
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.	609	76	533	0	0	0	0.0	0.0	5,665	10.7	3,705	0.000	0.000	75	0.02	7
LF Showerhead	179	31	148	0	0	0	0.0	0.2	6,775	7.7	2,368	0.000	0.005	219	0.05	16
Faucet Aerator	286	31	255	0	0	0	0.0	0.1	2,323	4.2	1,285	0.000	0.002	75	0.02	5
Std-Eff Wtr Htr Repl.	17	0	17	0	0	0	0.0	0.0	0	3.4	557	-	-	-	0.20	33
Hi-Eff or Electric Wtr Htr Repl.	481	37	444	0	0	0	0.0	0.2	8,478	230.9	37,664	0.000	0.006	229	0.52	85
Lighting	537	537		0	0		39.3	72.6	374,041	-	-	0.073	0.135	697	-	-
Refrigerator/Freezer[3]	124	124		0	0		19.6	18.4	159,661	-	-	0.158	0.148	1,288	-	-
Refrigerator Removal	1	1		0	0		0.1	0.1	956	-	-	0.118	0.110	956	-	-
Refrigerator Exchange	108	108		0	0		16.3	15.2	132,480	-	-	0.151	0.141	1,227	-	-
Freezer Removal	0	0		0	0		0.0	0.0	0	-	-	-	-	-	-	-
Freezer Exchange	25	25		0	0		3.2	3.0	26,226	-	-	0.129	0.121	1,049	-	-

This page intentionally left blank

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 2015

Total Reported Labor, Materials and Utility Admin Expenditures: $666,357

Utility Administration Expenditures: -

Total Labor and Material Expenditures: $666,357

Measure	Number of Dwellings with Impacts: Total	Electric	Gas	Propane	Fuel Oil	Other	Number of Dwellings with kWh Impacts: Season Cooling	Heating	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu
Total Efficiency Measures	**49**	**49**	**42**	**5**	**0**	**0**	**49**	**49**	**318,598**	**11.6**		**6.2**		**31,097**	**121**	**11,609**	**2,044**	**0**	**0**	**6,502**	**0.236**		**0.127**		**635**	**2.88**	**276**	**409**	**-**	**-**
Total Shell & Htg. Sys. Repl	49	49	42	5	0	0	48	49	254,915	10.3	12,415	4.1	6,263	18,678	113	10,304	1,852	0	0	5,202	0.215	259	0.084	128	381	2.69	245	370	-	-
Total Shell Measures	49	49	42	5	0	0	48	49	130,709	10.3	12,415	4.0	6,157	18,572	62	5,687	1,245	0	0	2,668	0.215	259	0.082	126	379	1.48	135	249	-	-
Wall Insul.	30	29	25	4	0	0	29	1	37,593	3.8	4,639	0.3	465	5,104	20	1,798	324	0	0	1,253	0.133	160	0.304	465	176	0.79	72	81	-	-
Open Blown Ceiling Insul	41	40	35	5	0	0	40	1	20,318	1.9	2,299	0.0	73	2,372	4	398	77	0	0	496	0.048	57	0.048	73	59	0.12	11	15	-	-
Cavity Fill Insul	21	18	18	3	0	0	18	0	9,763	0.9	1,139	0.0	0	1,139	7	622	144	0	0	465	0.052	63	0.000	0	63	0.38	35	48	-	-
Sloped Attic Insul	25	22	20	4	0	0	22	1	10,109	1.7	2,021	0.2	315	2,336	9	802	283	0	0	404	0.076	92	0.206	315	106	0.44	40	71	-	-
Kneewall Insul	23	21	19	4	0	0	21	0	4,987	0.8	905	0.0	0	905	4	378	177	0	0	217	0.036	43	0.000	0	43	0.22	20	44	-	-
Infil. Reduction	49	48	42	5	0	0	48	2	33,503	0.7	862	0.1	108	970	8	739	79	0	0	684	0.015	18	0.035	54	20	0.19	18	16	-	-
Found./Crawl. Insul	28	9	24	3	0	0	9	1	8,663	0.5	594	0.1	176	770	5	425	65	0	0	309	0.055	66	0.115	176	86	0.19	18	22	-	-
Bandjoist Insul.	21	1	16	4	0	0	-	1	1,605	0.0	0	0.0	32	32	6	561	100	0	0	76	0.000	0	0.021	32	32	0.38	35	25	-	-
Furnace Blower Fan[1]	47	47	42	5	0	0	-	47	0	0.0	0	3.3	5,028	5,028	(0)	(23)	(4)	0	0	0	0.000	0	0.070	107	107	(0.01)	(1)	(1)	-	-
Exhaust Ventilation[2]	2	2	2	0	0	0	2	2	4,168	0.0	(42)	(0.0)	(42)	(85)	(0)	(14)	0	0	0	2,084	-0.003	(21)	(0.014)	(21)	(42)	(0.08)	(7)	-	-	-
Total Heating System Repl	37	2	32	3	0	0	-	2	124,206	0.0	0	0.1	106	106	51	4,617	606	0	0	3,357	0.000	0	0.035	53	53	1.58	144	202	-	-
Condensing Htg Sys Rep	34	0	31	3	0	0	-	-	102,717	0.0	0	0.0	0	0	50	4,532	606	0	0	3,021	-	-	-	-	-	1.60	146	202	-	-
Non-Cond Htg Sys Repl	1	0	1	0	0	0	-	-	2,607	0.0	0	0.0	0	0	1	85	0	0	0	2,607	-	-	-	-	-	0.93	85	-	-	-
Electric Htg Sys Repl	1	1	0	0	0	0	-	1	2,673	0.0	0	0.0	54	54	0	0	0	0	0	2,673	0.000	0	0.036	54	54	-	-	-	-	-
Heat Pump Repl	1	1	0	0	0	0	-	1	14,334	0.0	0	0.0	52	52	0	0	0	0	0	14,334	0.000	0	0.034	52	52	-	-	-	-	-
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	Billing Adjusted First-Year Savings: Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu
Water Heating	48	13	32	3	0	0	49	13	33	3	0	0	59,506	0.0	0.0	709	7.9	1,305	192	0	0	1,240	0.000	0.001	55	0.248	41	64	-	-
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	-	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-	-
Pipe Insul.	15	10	5	0	0	0	15	10	5	0	0	0	180	0.0	0.0	348	0.1	20	0	0	0	12	0.000	0.000	35	0.01	4	-	-	-
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	3	28	3	0	0	34	3	28	3	0	0	59,326	0.0	0.0	360	7.9	1,285	192	0	0	1,745	0.000	0.003	120	0.28	46	64	-	-
Lighting	48	48					251	251					1,085	1.0	1.9	9,798	-	-	-	-	-	23	0.021	0.040	204	-	-	-	-	-
Refrigerator/Freezer[3]	4	4					4	4					3,092	0.2	0.2	1,912	-	-	-	-	-	773	0.059	0.055	478	-	-	-	-	-
Refrigerator Removal	0	0					0	0					0	0.0	0.0	0	-	-	-	-	-	0	-	-	-	-	-	-	-	-
Refrigerator Exchange	4	4					4	4					3,092	0.2	0.2	1,912	-	-	-	-	-	773	0.059	0.055	478	-	-	-	-	-
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	49																					
	347,759																					
	7,097																					
Misc Ins,Attic Access/Vent	48																					
	16,331																					
	340																					
Duct Sealing	2																					
	40																					
	20																					
Duct Insulation	17																					
	1,158																					
	68																					
Damming Material	29																					
	460																					
	16																					
Htg. Sys. Tune & Clean	10																					
	1,650																					
	165																					
Htg. Sys./WH Other	15																					
	7,337																					
	489																					
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	47																					
	2,502																					
	53																					
Smoke Detector	49																					
	860																					
	18																					
Fuses	0																					
	0																					
	0																					
Htg Sys Safety Check	0																					
	0																					
	0																					
Htg Sys Ventilation	34																					
	8,157																					
	240																					
Water Heater Ventilation	31																					
	5,720																					
	185																					
Bathroom Ventilation	37																					
	67,892																					
	1,835																					
Dryer Ventilation	31																					
	2,352																					
	76																					
Other Exhaust Ventilation	26																					
	637																					
	25																					
Health/Safety Repairs	43																					
	35,059																					
	815																					
Health/Safety Other	21																					
	921																					
	44																					
Consumables	0																					
	0																					
	0																					
General Repairs	49																					
	17,452																					
	356																					
Meter Refrig (no action)	47																					
	0																					
	0																					
Meter Freezer (no action)	28																					
	0																					
	0																					
Support	49																					
	177,172																					
	3,616																					
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	19																					
	1,744																					
	92																					
Unspecifed/Other	22																					
	314																					
	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.

Hawkeye Area Community Action Program

Billing Adjusted Costs and Impacts for All Measures Installed During Calendar Year 2015

Total Reported Labor, Materials and Utility Admin Expenditures: $2,070,404

Utility Administration Expenditures: -

Total Labor and Material Expenditures: $2,070,404

Measure	Number of Dwellings with Impacts: Total	Electric	Gas	Propane	Fuel Oil	Other	Number of Dwellings with kWh Impacts: Season Cooling	Heating	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu
Total Efficiency Measures	**145**	**145**	**125**	**18**	**0**	**0**	**144**	**145**	**1,019,049**	**14.2**		**16.3**		**75,063**	**376**	**36,936**	**6,971**	**0**	**0**	**7,028**	**0.099**		**0.112**		**518**	**3.01**	**295**	**387**	**-**	**-**
Total Shell & Htg. Sys. Repl	145	145	125	18	0	0	125	145	820,078	8.2	8,677	8.1	12,407	21,084	346	31,800	6,478	0	0	5,656	0.066	69	0.056	86	145	2.77	254	360	-	-
Total Shell Measures	145	145	125	18	0	0	125	145	531,215	8.2	8,677	8.0	12,351	21,028	210	19,328	4,176	0	0	3,664	0.066	69	0.055	85	145	1.68	155	232	-	-
Wall Insul.	76	60	64	12	0	0	60	0	171,904	2.9	3,438	0.0	0	3,438	64	5,928	1,447	0	0	2,262	0.048	57	0.000	0	57	1.01	93	121	-	-
Open Blown Ceiling Insul	93	74	78	13	0	0	74	2	89,224	2.6	3,181	1.0	1,534	4,715	75	6,880	1,381	0	0	959	0.036	43	0.498	767	64	0.96	88	106	-	-
Cavity Fill Insul	24	13	20	4	0	0	13	0	23,759	0.2	231	0.0	0	231	12	1,149	429	0	0	990	0.015	18	0.000	0	18	0.62	57	107	-	-
Sloped Attic Insul	23	16	19	4	0	0	16	0	12,714	0.3	333	0.0	0	333	10	882	189	0	0	553	0.017	21	0.000	0	21	0.51	46	47	-	-
Kneewall Insul	23	17	18	5	0	0	17	0	15,944	0.2	209	0.0	0	209	4	391	234	0	0	693	0.010	12	0.000	0	12	0.24	22	47	-	-
Infil. Reduction	145	121	125	18	0	0	121	2	108,247	1.6	1,920	0.1	134	2,054	32	2,941	308	0	0	747	0.013	16	0.044	67	17	0.26	24	17	-	-
Found./Crawl. Insul	50	12	40	9	0	0	11	1	41,913	0.6	777	0.1	93	870	16	1,473	130	0	0	838	0.059	71	0.060	93	73	0.40	37	14	-	-
Bandjoist Insul.	52	2	36	14	0	0	-	2	8,687	0.0	0	0.0	13	13	2	187	127	0	0	167	0.000	0	0.004	6	6	0.06	5	9	-	-
Furnace Blower Fan[1]	143	143	125	18	0	0	-	143	0	0.0	0	7.9	12,093	12,093	(1)	(95)	(13)	0	0	0	0.000	0	0.055	85	85	(0.01)	(1)	(1)	-	-
Exhaust Ventilation[2]	62	62	54	7	0	0	62	62	58,824	-0.2	(1,413)	(1.0)	(1,516)	(2,929)	(4)	(407)	(55)	0	0	949	-0.003	(23)	(0.016)	(24)	(47)	(0.08)	(8)	(8)	-	-
Total Heating System Repl	100	1	87	12	0	0	-	1	288,863	0.0	0	0.0	56	56	136	12,472	2,302	0	0	2,889	0.000	0	0.036	56	56	1.56	143	192	-	-
Condensing Htg Sys Rep	93	0	81	12	0	0	-	-	275,163	0.0	0	0.0	0	0	128	11,781	2,302	0	0	2,959	-	-	-	-	-	1.58	145	192	-	-
Non-Cond Htg Sys Repl	6	0	6	0	0	0	-	-	11,300	0.0	0	0.0	0	0	8	692	0	0	0	1,883	-	-	-	-	-	1.25	115	-	-	-
Electric Htg Sys Repl	1	1	0	0	0	0	-	1	2,400	0.0	0	0.0	56	56	0	0	0	0	0	2,400	0.000	0	0.036	56	56	-	-	-	-	-
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	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu
Water Heating	133	15	107	11	0	0	166,304	0.0	0.0	889	30.2	5,136	494	0	0	1,250	0.000	0.000	59	0.282	48	45	-	-
Temp. Reduct.	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	-	-	-	-	-	-	-	-
Pipe Insul.	115	13	92	10	0	0	2,164	0.0	0.0	698	1.1	386	44	0	0	19	0.000	0.000	54	0.01	4	4	-	-
LF Showerhead	2	0	2	0	0	0	21	0.0	0.0	0	0.1	18	0	0	0	11	-	-	-	0.03	9	-	-	-
Faucet Aerator	0	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-	-
Std-Eff Wtr Htr Repl.	1	0	1	0	0	0	1,100	0.0	0.0	0	0.2	33	0	0	0	1,100	-	-	-	0.20	33	-	-	-
Hi-Eff or Electric Wtr Htr Repl.	109	4	95	10	0	0	163,019	0.0	0.0	192	28.8	4,699	450	0	0	1,496	0.000	0.001	48	0.30	49	45	-	-
Lighting	128	128					8,967	2.8	5.2	26,605	-	-	-	-	-	70	0.022	0.040	208	-	-	-	-	-
Refrigerator/Freezer[3]	36	36					23,699	3.3	3.0	26,485	-	-	-	-	-	658	0.090	0.085	736	-	-	-	-	-
Refrigerator Removal	0	0					0	0.0	0.0	0	-	-	-	-	-	0	-	-	-	-	-	-	-	-
Refrigerator Exchange	29	29					20,677	2.8	2.7	23,098	-	-	-	-	-	713	0.098	0.092	796	-	-	-	-	-
Freezer Removal	0	0					0	0.0	0.0	0	-	-	-	-	-	0	-	-	-	-	-	-	-	-
Freezer Exchange	9	9					3,022	0.4	0.4	3,387	-	-	-	-	-	336	0.046	0.043	376	-	-	-	-	-

Total Non-Efficiency Measures	145						**1,051,355**									**7,251**								
Misc Ins,Attic Access/Vent	120						66,235									552								
Duct Sealing	72						19,775									275								
Duct Insulation	81						12,606									156								
Damming Material	67						3,749									56								
Htg. Sys. Tune & Clean	41						3,507									86								
Htg. Sys./WH Other	36						10,471									291								
Air Conditioning Work	2						209									105								
Water Heater Repair	8						862									108								
Refrigerator Coil Clean	0						0									0								
Waterbed Mattress Pad	0						0									0								
Programmable Tstat	1						100									100								
Unspecified Utility Meas	0						0									0								
CO Detector	136						10,225									75								
Smoke Detector	95						10,273									108								
Fuses	3						147									49								
Htg Sys Safety Check	0						0									0								
Htg Sys Ventilation	41						8,271									202								
Water Heater Ventilation	43						8,153									190								
Bathroom Ventilation	111						100,158									902								
Dryer Ventilation	82						7,619									93								
Other Exhaust Ventilation	7						2,209									316								
Health/Safety Repairs	99						31,738									321								
Health/Safety Other	24						12,696									529								
Consumables	108						7,627									71								
General Repairs	125						103,797									830								
Meter Refrig (no action)	86						0									0								
Meter Freezer (no action)	37						0									0								
Support	145						573,443									3,955								
Transportation Allowance	92						12,056									131								
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	114						45,430									399								
Unspecifed/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 All Measures Installed During Calendar Year 2015

Total Reported Labor, Materials and Utility Admin Expenditures: $1,677,736

Utility Administration Expenditures: -

Total Labor and Material Expenditures: $1,677,736

Measure	Number of Dwellings with Impacts: Total	Electric	Gas	Propane	Fuel Oil	Other	Number of Dwellings with kWh Impacts: Season Cooling	Heating	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu
Total Efficiency Measures	**144**	**144**	**136**	**6**	**0**	**0**	**144**	**143**	**913,043**	**36.3**		**29.0**		**139,135**	**374**	**36,682**	**2,313**	**0**	**0**	**6,341**	**0.252**		**0.203**		**966**	**2.75**	**270**	**386**	**-**	**-**
Total Shell & Htg. Sys. Repl	144	144	136	6	0	0	141	142	716,463	27.7	33,373	15.4	23,770	57,143	348	31,950	2,313	0	0	4,975	0.196	237	0.109	167	397	2.56	235	386	-	-
Total Shell Measures	144	144	136	6	0	0	141	142	447,644	27.7	33,373	15.4	23,770	57,143	215	19,796	1,437	0	0	3,109	0.196	237	0.109	167	397	1.58	146	240	-	-
Wall Insul.	99	96	94	4	0	0	96	1	130,157	11.0	13,254	0.3	480	13,733	78	7,212	675	0	0	1,315	0.114	138	0.311	480	143	0.83	77	169	-	-
Open Blown Ceiling Insul	113	110	106	5	0	0	110	2	66,539	8.5	10,308	0.7	1,093	11,401	47	4,365	465	0	0	589	0.078	94	0.355	546	104	0.45	41	93	-	-
Cavity Fill Insul	32	28	30	1	0	0	28	1	20,796	1.8	2,184	0.3	444	2,629	21	1,888	16	0	0	650	0.065	78	0.289	444	94	0.68	63	16	-	-
Sloped Attic Insul	36	35	36	0	0	0	35	0	10,848	1.8	2,166	0.0	0	2,166	15	1,398	0	0	0	301	0.051	62	0.000	0	62	0.42	39	-	-	-
Kneewall Insul	20	16	20	0	0	0	16	0	14,538	0.5	561	0.0	0	561	6	544	0	0	0	727	0.029	35	0.000	0	35	0.30	27	-	-	-
Infil. Reduction	144	141	136	6	0	0	141	2	107,576	2.3	2,723	0.1	92	2,815	32	2,929	175	0	0	747	0.016	19	0.030	46	20	0.23	22	29	-	-
Found./Crawl. Insul	69	25	62	5	0	0	24	2	51,279	1.8	2,222	0.0	33	2,254	11	969	92	0	0	743	0.077	93	0.011	16	90	0.17	16	18	-	-
Bandjoist Insul.	111	2	105	4	0	0	-	2	45,012	0.0	0	0.1	97	97	6	593	19	0	0	406	0.000	0	0.031	48	48	0.06	6	5	-	-
Furnace Blower Fan[1]	142	140	136	6	0	0	-	140	0	0.0	0	14.0	21,576	21,576	(1)	(87)	(4)	0	0	0	0.000	0	0.100	154	154	(0.01)	(1)	(1)	-	-
Exhaust Ventilation[2]	2	2	2	0	0	0	2	2	898	0.0	(44)	(0.0)	(44)	(89)	(0)	(13)	0	0	0	449	-0.003	(22)	(0.014)	(22)	(44)	(0.07)	(7)	-	-	-
Total Heating System Repl	106	0	101	5	0	0	-	0	268,819	0.0	0	0.0	0	0	132	12,154	876	0	0	2,536	-	-	-	-	-	1.31	120	175	-	-
Condensing Htg Sys Rep	102	0	97	5	0	0	-	-	259,694	0.0	0	0.0	0	0	128	11,800	876	0	0	2,546	-	-	-	-	-	1.32	122	175	-	-
Non-Cond Htg Sys Repl	4	0	4	0	0	0	-	-	9,125	0.0	0	0.0	0	0	4	354	0	0	0	2,281	-	-	-	-	-	0.96	89	-	-	-
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	-	-	-	-	-	-	-	-	-	-

	Number of Measures Installed by Fuel Type: Total	Electric	Gas	Propane	Fuel Oil	Other	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu
Water Heating	139	20	119	0	0	0	374	48	326	0	0	0	165,517	0.0	0.1	3,828	26.6	4,732	0	0	0	1,191	0.000	0.004	191	0.224	40	-	-	-
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.	127	17	110	0	0	0	127	17	110	0	0	0	2,400	0.0	0.0	753	1.2	406	0	0	0	19	0.000	0.000	44	0.01	4	-	-	-
LF Showerhead	29	8	21	0	0	0	29	8	21	0	0	0	290	0.0	0.0	1,764	0.6	189	0	0	0	10	0.000	0.005	220	0.03	9	-	-	-
Faucet Aerator	83	10	73	0	0	0	119	16	103	0	0	0	605	0.0	0.0	514	0.6	179	0	0	0	7	0.000	0.001	51	0.01	2	-	-	-
Std-Eff Wtr Htr Repl.	1	0	1	0	0	0	1	0	1	0	0	0	1,590	0.0	0.0	0	0.2	25	0	0	0	1,590	-	-	-	0.15	25	-	-	-
Hi-Eff or Electric Wtr Htr Repl.	98	7	91	0	0	0	98	7	91	0	0	0	160,632	0.0	0.0	797	24.1	3,933	0	0	0	1,639	0.000	0.003	114	0.26	43	-	-	-
Lighting	131	131					1,349	1,349					9,443	6.0	11.1	57,460	-	-	-	-	-	72	0.046	0.085	439	-	-	-	-	-
Refrigerator/Freezer[3]	32	32					32	32					21,620	2.5	2.4	20,703	-	-	-	-	-	676	0.080	0.074	647	-	-	-	-	-
Refrigerator Removal	0	0					0	0					0	0.0	0.0	0	-	-	-	-	-	0	-	-	-	-	-	-	-	-
Refrigerator Exchange	28	28					28	28					19,251	2.3	2.1	18,572	-	-	-	-	-	688	0.082	0.076	663	-	-	-	-	-
Freezer Removal	0	0					0	0					0	0.0	0.0	0	-	-	-	-	-	0	-	-	-	-	-	-	-	-
Freezer Exchange	4	4					4	4					2,369	0.3	0.2	2,131	-	-	-	-	-	592	0.066	0.061	533	-	-	-	-	-

Total Non-Efficiency Measures	144												**764,693**									**5,310**								
Misc Ins,Attic Access/Vent	133												22,656									170								
Duct Sealing	117												16,027									137								
Duct Insulation	97												6,840									71								
Damming Material	67												2,934									44								
Htg. Sys. Tune & Clean	75												17,632									235								
Htg. Sys./WH Other	31												11,520									372								
Air Conditioning Work	0												0									0								
Water Heater Repair	3												298									99								
Refrigerator Coil Clean	0												0									0								
Waterbed Mattress Pad	0												0									0								
Programmable Tstat	43												4,367									102								
Unspecified Utility Meas	0												0									0								
CO Detector	139												9,803									71								
Smoke Detector	122												6,326									52								
Fuses	0												0									0								
Htg Sys Safety Check	56												7,210									129								
Htg Sys Ventilation	99												12,861									130								
Water Heater Ventilation	70												7,445									106								
Bathroom Ventilation	93												66,410									714								
Dryer Ventilation	114												11,070									97								
Other Exhaust Ventilation	2												573									286								
Health/Safety Repairs	86												18,722									218								
Health/Safety Other	6												1,548									258								
Consumables	92												2,368									26								
General Repairs	138												59,863									434								
Meter Refrig (no action)	112												0									0								
Meter Freezer (no action)	33												0									0								
Support	127												441,295									3,475								
Transportation Allowance	81												9,944									123								
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	91												25,976									285								
Unspecifed/Other	53												1,002									19								

[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 All Measures Installed During Calendar Year 2015

Total Reported Labor, Materials and Utility Admin Expenditures: $485,424

Utility Administration Expenditures: -

Total Labor and Material Expenditures: $485,424

Measure	Number of Dwellings with Impacts: Total	Electric	Gas	Propane	Fuel Oil	Other	Number of Dwellings with kWh Impacts: Season Cooling	Heating	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu
Total Efficiency Measures	**31**	**31**	**28**	**3**	**0**	**0**	**31**	**31**	**270,311**	**10.7**		**3.5**		**24,605**	**93**	**8,323**	**1,539**	**0**	**0**	**8,720**	**0.344**		**0.111**		**794**	**3.32**	**297**	**513**	**-**	**-**
Total Shell & Htg. Sys. Repl	31	31	28	3	0	0	31	31	230,892	9.6	11,377	2.0	2,897	14,274	90	7,768	1,484	0	0	7,448	0.310	367	0.065	93	460	3.22	277	495	-	-
Total Shell Measures	31	31	28	3	0	0	31	31	130,624	9.6	11,377	2.0	2,897	14,274	51	4,401	900	0	0	4,214	0.310	367	0.065	93	460	1.82	157	300	-	-
Wall Insul.	20	20	17	3	0	0	20	0	33,874	3.3	4,012	0.0	0	4,012	13	1,161	270	0	0	1,694	0.166	201	0.000	0	201	0.79	68	90	-	-
Open Blown Ceiling Insul	29	28	26	3	0	0	28	0	23,917	2.7	3,255	0.0	0	3,255	12	1,072	266	0	0	825	0.096	116	0.000	0	116	0.48	41	89	-	-
Cavity Fill Insul	10	10	8	2	0	0	10	0	4,166	0.9	1,106	0.0	0	1,106	8	661	43	0	0	417	0.092	111	0.000	0	111	0.96	83	21	-	-
Sloped Attic Insul	10	10	7	3	0	0	10	0	5,298	0.7	831	0.0	0	831	5	444	123	0	0	530	0.069	83	0.000	0	83	0.74	63	41	-	-
Kneewall Insul	8	8	7	1	0	0	8	0	3,776	0.3	390	0.0	0	390	3	230	65	0	0	472	0.040	49	0.000	0	49	0.38	33	65	-	-
Infil. Reduction	31	30	28	3	0	0	30	0	37,353	0.5	614	0.0	0	614	7	615	76	0	0	1,205	0.017	20	0.000	0	20	0.25	22	25	-	-
Found./Crawl. Insul	26	16	23	3	0	0	16	0	8,532	1.2	1,424	0.0	0	1,424	3	236	53	0	0	328	0.074	89	0.000	0	89	0.12	10	18	-	-
Bandjoist Insul.	18	0	16	2	0	0	-	0	1,940	0.0	0	0.0	0	0	1	79	15	0	0	108	-	-	-	-	-	0.06	5	7	-	-
Furnace Blower Fan[1]	31	31	28	3	0	0	-	31	0	0.0	0	2.2	3,151	3,151	(0)	(16)	(3)	0	0	0	0.000	0	0.070	102	102	(0.01)	(1)	(1)	-	-
Exhaust Ventilation[2]	12	12	11	1	0	0	12	12	11,769	0.0	(254)	(0.2)	(254)	(508)	(1)	(82)	(8)	0	0	981	-0.003	(21)	(0.015)	(21)	(42)	(0.09)	(7)	(8)	-	-
Total Heating System Repl	24	0	22	2	0	0	-	0	100,268	0.0	0	0.0	0	0	39	3,367	584	0	0	4,178	-	-	-	-	-	1.78	153	292	-	-
Condensing Htg Sys Rep	23	0	21	2	0	0	-	-	96,118	0.0	0	0.0	0	0	38	3,293	584	0	0	4,179	-	-	-	-	-	1.82	157	292	-	-
Non-Cond Htg Sys Repl	1	0	1	0	0	0	-	-	4,150	0.0	0	0.0	0	0	1	74	0	0	0	4,150	-	-	-	-	-	0.86	74	-	-	-
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	-	-	-	-	-	-	-	-	-	-

	Number of Measures Installed by Fuel Type: Total	Electric	Gas	Propane	Fuel Oil	Other	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu
Water Heating	30	6	23	1	0	0	67	14	50	3	0	0	28,838	0.0	0.0	1,019	2.8	556	55	0	0	961	0.000	0.003	170	0.122	24	55	-	-
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	-	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-	-
Pipe Insul.	30	6	23	1	0	0	30	6	23	1	0	0	600	0.0	0.0	240	0.3	97	5	0	0	20	0.000	0.000	40	0.01	4	5	-	-
LF Showerhead	9	2	7	0	0	0	9	2	7	0	0	0	90	0.0	0.0	327	0.2	72	0	0	0	10	0.000	0.004	163	0.03	10	-	-	-
Faucet Aerator	12	2	9	1	0	0	16	3	12	1	0	0	48	0.0	0.0	92	0.1	24	2	0	0	4	0.000	0.001	46	0.01	3	2	-	-
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.	12	3	8	1	0	0	12	3	8	1	0	0	28,100	0.0	0.0	360	2.2	363	48	0	0	2,342	0.000	0.003	120	0.28	45	48	-	-
Lighting	22	22					165	165					1,155	0.5	0.9	4,501	-	-	-	-	-	53	0.021	0.040	205	-	-	-	-	-
Refrigerator/Freezer[3]	8	8					10	10					9,426	0.6	0.6	4,811	-	-	-	-	-	1,178	0.074	0.069	601	-	-	-	-	-
Refrigerator Removal	1	1					1	1					20	0.1	0.1	478	-	-	-	-	-	20	0.059	0.055	478	-	-	-	-	-
Refrigerator Exchange	8	8					8	8					8,462	0.5	0.4	3,824	-	-	-	-	-	1,058	0.059	0.055	478	-	-	-	-	-
Freezer Removal	0	0					0	0					0	0.0	0.0	0	-	-	-	-	-	0	-	-	-	-	-	-	-	-
Freezer Exchange	1	1					1	1					944	0.1	0.1	509	-	-	-	-	-	944	0.063	0.059	509	-	-	-	-	-

Total Non-Efficiency Measures	31												**215,113**									**6,939**		
Misc Ins,Attic Access/Vent	29												5,719									197		
Duct Sealing	0												0									0		
Duct Insulation	0												0									0		
Damming Material	22												948									43		
Htg. Sys. Tune & Clean	3												1,050									350		
Htg. Sys./WH Other	6												2,274									379		
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	31												1,336									43		
Smoke Detector	25												934									37		
Fuses	0												0									0		
Htg Sys Safety Check	0												0									0		
Htg Sys Ventilation	25												5,540									222		
Water Heater Ventilation	12												3,650									304		
Bathroom Ventilation	11												7,057									642		
Dryer Ventilation	15												2,944									196		
Other Exhaust Ventilation	0												0									0		
Health/Safety Repairs	22												11,616									528		
Health/Safety Other	1												15									15		
Consumables	0												0									0		
General Repairs	30												27,912									930		
Meter Refrig (no action)	22												0									0		
Meter Freezer (no action)	11												0									0		
Support	31												134,326									4,333		
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	24												9,792									408		
Unspecifed/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-Iowa Community Action

Billing Adjusted Costs and Impacts for All Measures Installed During Calendar Year 2015

Total Reported Labor, Materials and Utility Admin Expenditures: $1,192,320
Utility Administration Expenditures: -
Total Labor and Material Expenditures: $1,192,320

Measure	Number of Dwellings with Impacts: Total	Electric	Gas	Propane	Fuel Oil	Other	Number of Dwellings with kWh Impacts: Season Cooling	Heating	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu
Total Efficiency Measures	**82**	**82**	**62**	**15**	**0**	**0**	**82**	**82**	**604,412**	**13.4**		**10.2**		**43,477**	**214**	**20,870**	**5,156**	**0**	**0**	**7,371**	**0.163**		**0.125**		**530**	**3.46**	**337**	**344**	**-**	**-**
Total Shell & Htg. Sys. Repl	82	82	62	15	0	0	80	82	531,512	11.9	13,592	7.8	12,139	25,730	203	18,921	4,811	0	0	6,482	0.148	170	0.095	148	314	3.27	305	321	-	-
Total Shell Measures	82	82	62	15	0	0	80	82	412,397	11.9	13,592	7.7	12,052	25,643	129	11,991	2,786	0	0	5,029	0.148	170	0.094	147	313	2.08	193	186	-	-
Wall Insul.	52	48	41	8	0	0	48	3	137,040	4.3	5,159	0.7	1,106	6,265	61	5,722	1,100	0	0	2,635	0.089	107	0.236	369	131	1.50	140	137	-	-
Open Blown Ceiling Insul	68	64	52	11	0	0	64	5	55,257	3.3	3,924	0.6	968	4,892	13	1,221	437	0	0	813	0.051	61	0.124	194	76	0.25	23	40	-	-
Cavity Fill Insul	22	19	16	5	0	0	19	1	20,094	0.9	1,123	0.1	154	1,277	14	1,339	400	0	0	913	0.049	59	0.099	154	67	0.90	84	80	-	-
Sloped Attic Insul	28	28	23	4	0	0	28	1	13,538	1.4	1,658	0.4	637	2,295	12	1,163	185	0	0	483	0.049	59	0.408	637	82	0.54	51	46	-	-
Kneewall Insul	23	22	17	4	0	0	22	2	15,251	0.3	361	0.3	427	788	2	214	48	0	0	663	0.014	16	0.137	213	36	0.14	13	12	-	-
Infil. Reduction	82	77	62	15	0	0	77	5	106,703	1.0	1,251	0.3	455	1,706	20	1,862	468	0	0	1,301	0.013	16	0.058	91	22	0.32	30	31	-	-
Found./Crawl. Insul	33	12	24	7	0	0	11	2	32,255	0.8	963	0.3	484	1,447	8	712	168	0	0	977	0.073	88	0.155	242	121	0.32	30	24	-	-
Bandjoist Insul.	19	2	7	10	0	0	-	2	2,729	0.0	0	0.1	116	116	0	36	68	0	0	144	0.000	0	0.037	58	58	0.05	5	7	-	-
Furnace Blower Fan[1]	77	77	62	15	0	0	-	77	0	0.0	0	5.7	8,862	8,862	(1)	(53)	(10)	0	0	0	0.000	0	0.074	115	115	(0.01)	(1)	(1)	-	-
Exhaust Ventilation[2]	40	40	27	10	0	0	40	40	29,532	-0.1	(848)	(0.7)	(1,157)	(2,005)	(2)	(225)	(77)	0	0	738	-0.003	(21)	(0.019)	(29)	(50)	(0.09)	(8)	(8)	-	-
Total Heating System Repl	54	2	41	11	0	0	-	2	119,115	0.0	0	0.1	87	87	74	6,929	2,025	0	0	2,206	0.000	0	0.028	44	44	1.81	169	184	-	-
Condensing Htg Sys Rep	47	0	36	11	0	0	-	-	102,161	0.0	0	0.0	0	0	64	5,978	2,025	0	0	2,174	-	-	-	-	-	1.78	166	184	-	-
Non-Cond Htg Sys Repl	5	0	5	0	0	0	-	-	7,846	0.0	0	0.0	0	0	10	951	0	0	0	1,569	-	-	-	-	-	2.04	190	-	-	-
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	2	2	0	0	0	0	-	2	9,109	0.0	0	0.1	87	87	0	0	0	0	0	4,554	0.000	0	0.028	44	44	-	-	-	-	-
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	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu
Water Heating	78	34	38	6	0	0	157	63	80	14	0	0	65,310	0.0	0.1	3,839	11.3	1,949	345	0	0	837	0.000	0.002	113	0.298	51	58	-	-
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.	68	32	32	4	0	0	68	32	32	4	0	0	411	0.0	0.0	1,160	0.4	147	17	0	0	6	0.000	0.000	36	0.01	5	4	-	-
LF Showerhead	8	4	3	1	0	0	8	4	3	1	0	0	50	0.0	0.0	530	0.1	29	28	0	0	6	0.000	0.003	133	0.03	10	28	-	-
Faucet Aerator	27	13	11	3	0	0	34	15	15	4	0	0	91	0.0	0.0	346	0.1	28	8	0	0	3	0.000	0.001	27	0.01	3	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	-	-	-	-	-	-	-	-
Hi-Eff or Electric Wtr Htr Repl.	47	12	30	5	0	0	47	12	30	5	0	0	64,758	0.0	0.0	1,804	10.7	1,745	292	0	0	1,378	0.000	0.004	150	0.36	58	58	-	-
Lighting	63	63					435	435					1,120	1.0	1.9	9,956	-	-	-	-	-	18	0.017	0.031	158	-	-	-	-	-
Refrigerator/Freezer[3]	9	9					10	10					6,469	0.5	0.5	3,951	-	-	-	-	-	719	0.054	0.050	439	-	-	-	-	-
Refrigerator Removal	0	0					0	0					0	0.0	0.0	0	-	-	-	-	-	0	-	-	-	-	-	-	-	-
Refrigerator Exchange	7	7					7	7					4,600	0.3	0.3	2,713	-	-	-	-	-	657	0.048	0.045	388	-	-	-	-	-
Freezer Removal	0	0					0	0					0	0.0	0.0	0	-	-	-	-	-	0	-	-	-	-	-	-	-	-
Freezer Exchange	3	3					3	3					1,869	0.2	0.1	1,238	-	-	-	-	-	623	0.051	0.047	413	-	-	-	-	-

Total Non-Efficiency Measures	82	**587,908**		**7,170**
Misc Ins,Attic Access/Vent	78	41,611		533
Duct Sealing	33	10,812		328
Duct Insulation	45	11,431		254
Damming Material	59	4,227		72
Htg. Sys. Tune & Clean	31	3,580		115
Htg. Sys./WH Other	13	2,217		171
Air Conditioning Work	0	0		0
Water Heater Repair	14	692		49
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	64	2,180		34
Smoke Detector	23	603		26
Fuses	1	10		10
Htg Sys Safety Check	82	19,625		239
Htg Sys Ventilation	55	10,967		199
Water Heater Ventilation	35	4,884		140
Bathroom Ventilation	40	26,848		671
Dryer Ventilation	40	4,777		119
Other Exhaust Ventilation	0	0		0
Health/Safety Repairs	69	27,897		404
Health/Safety Other	5	301		60
Consumables	0	0		0
General Repairs	77	61,566		800
Meter Refrig (no action)	69	0		0
Meter Freezer (no action)	21	0		0
Support	82	334,616		4,081
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	56	19,065		340
Unspecifed/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 All Measures Installed During Calendar Year 2015

Total Reported Labor, Materials and Utility Admin Expenditures: $501,451

Utility Administration Expenditures: -

Total Labor and Material Expenditures: $501,451

Measure	Number of Dwellings with Impacts: Total	Electric	Gas	Propane	Fuel Oil	Other	Number of Dwellings with kWh Impacts: Season Cooling	Heating	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu
Total Efficiency Measures	**51**	**51**	**42**	**5**	**0**	**0**	**51**	**51**	**318,000**	**12.0**		**8.5**		**41,961**	**106**	**10,185**	**863**	**0**	**0**	**6,235**	**0.236**		**0.167**		**823**	**2.52**	**242**	**173**	**-**	**-**
Total Shell & Htg. Sys. Repl	51	51	42	5	0	0	51	51	260,687	9.9	11,348	4.8	7,357	18,705	99	9,065	797	0	0	5,112	0.194	223	0.094	144	367	2.37	216	159	-	-
Total Shell Measures	51	51	42	5	0	0	51	51	153,182	9.9	11,348	4.8	7,288	18,636	53	4,827	493	0	0	3,004	0.194	223	0.093	143	365	1.26	115	99	-	-
Wall Insul.	24	22	20	2	0	0	22	2	39,726	2.9	3,452	0.6	954	4,406	17	1,563	186	0	0	1,655	0.130	157	0.312	477	200	0.86	78	93	-	-
Open Blown Ceiling Insul	45	43	38	3	0	0	43	4	39,561	4.3	5,132	0.5	834	5,966	14	1,268	212	0	0	879	0.099	119	0.136	209	139	0.37	33	71	-	-
Cavity Fill Insul	8	6	8	0	0	0	6	0	11,587	0.4	426	0.0	0	426	7	642	0	0	0	1,448	0.059	71	0.000	0	71	0.88	80	-	-	-
Sloped Attic Insul	24	21	20	2	0	0	21	2	9,981	1.4	1,713	0.3	471	2,184	10	955	72	0	0	416	0.068	82	0.154	236	104	0.52	48	36	-	-
Kneewall Insul	9	7	8	0	0	0	7	1	2,864	0.2	189	0.1	90	279	2	156	0	0	0	318	0.022	27	0.059	90	40	0.21	19	-	-	-
Infil. Reduction	51	49	42	5	0	0	49	4	18,422	0.9	1,076	0.1	223	1,300	4	409	50	0	0	361	0.018	22	0.037	56	27	0.11	10	10	-	-
Found./Crawl. Insul	1	1	1	0	0	0	1	0	1,572	0.1	71	0.0	0	71	0	26	0	0	0	1,572	0.059	71	0.000	0	71	0.29	26	-	-	-
Bandjoist Insul.	0	0	0	0	0	0	-	0	0	0.0	0	0.0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-
Furnace Blower Fan[1]	47	47	42	5	0	0	-	47	0	0.0	0	3.8	5,736	5,736	(0)	(22)	(3)	0	0	0	0.000	0	0.080	122	122	(0.01)	(1)	(1)	-	-
Exhaust Ventilation[2]	32	32	25	4	0	0	32	32	29,470	-0.1	(711)	(0.7)	(1,020)	(1,731)	(2)	(171)	(24)	0	0	921	-0.003	(22)	(0.021)	(32)	(54)	(0.07)	(7)	(6)	-	-
Total Heating System Repl	37	2	31	4	0	0	-	2	107,505	0.0	0	0.0	69	69	46	4,239	304	0	0	2,906	0.000	0	0.023	35	35	1.50	137	76	-	-
Condensing Htg Sys Rep	35	0	31	4	0	0	-	-	97,015	0.0	0	0.0	0	0	46	4,239	304	0	0	2,772	-	-	-	-	-	1.50	137	76	-	-
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	2	2	0	0	0	0	-	2	10,490	0.0	0	0.0	69	69	0	0	0	0	0	5,245	0.000	0	0.023	35	35	-	-	-	-	-
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	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu
Water Heating	49	22	26	1	0	0	104	42	59	3	0	0	48,740	0.0	0.1	3,492	6.4	1,120	66	0	0	995	0.000	0.003	159	0.245	43	66	-	-
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.	49	22	26	1	0	0	49	22	26	1	0	0	970	0.0	0.0	1,073	0.3	100	4	0	0	20	0.000	0.000	49	0.01	4	4	-	-
LF Showerhead	8	1	6	1	0	0	9	1	7	1	0	0	90	0.0	0.0	59	0.2	56	10	0	0	11	0.000	0.001	59	0.03	9	10	-	-
Faucet Aerator	8	5	3	0	0	0	10	6	4	0	0	0	50	0.0	0.0	145	0.0	7	0	0	0	6	0.000	0.001	29	0.01	2	-	-	-
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	-	-	-	-	-	-	-	-
Hi-Eff or Electric Wtr Htr Repl.	36	13	22	1	0	0	36	13	22	1	0	0	47,630	0.0	0.1	2,216	5.9	957	52	0	0	1,323	0.000	0.004	170	0.27	43	52	-	-
Lighting	44	44					634	634					4,438	1.8	3.4	17,343	-	-	-	-	-	101	0.041	0.076	394	-	-	-	-	-
Refrigerator/Freezer[3]	4	4					5	5					4,135	0.3	0.3	2,421	-	-	-	-	-	1,034	0.074	0.070	605	-	-	-	-	-
Refrigerator Removal	0	0					0	0					0	0.0	0.0	0	-	-	-	-	-	0	-	-	-	-	-	-	-	-
Refrigerator Exchange	4	4					4	4					3,456	0.2	0.2	1,912	-	-	-	-	-	864	0.059	0.055	478	-	-	-	-	-
Freezer Removal	0	0					0	0					0	0.0	0.0	0	-	-	-	-	-	0	-	-	-	-	-	-	-	-
Freezer Exchange	1	1					1	1					679	0.1	0.1	509	-	-	-	-	-	679	0.063	0.059	509	-	-	-	-	-

Total Non-Efficiency Measures	51	**183,451**	**3,597**
Misc Ins,Attic Access/Vent	50	15,447	309
Duct Sealing	15	1,745	116
Duct Insulation	34	3,091	91
Damming Material	16	383	24
Htg. Sys. Tune & Clean	8	1,975	247
Htg. Sys./WH Other	7	2,500	357
Air Conditioning Work	0	0	0
Water Heater Repair	13	655	50
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	49	3,913	80
Smoke Detector	39	2,461	63
Fuses	0	0	0
Htg Sys Safety Check	1	120	120
Htg Sys Ventilation	35	5,135	147
Water Heater Ventilation	22	3,225	147
Bathroom Ventilation	13	4,490	345
Dryer Ventilation	32	3,110	97
Other Exhaust Ventilation	33	1,749	53
Health/Safety Repairs	18	4,812	267
Health/Safety Other	1	40	40
Consumables	0	0	0
General Repairs	48	10,015	209
Meter Refrig (no action)	45	0	0
Meter Freezer (no action)	24	0	0
Support	41	117,370	2,863
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	15	998	67
Unspecifed/Other	18	217	12

[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 All Measures Installed During Calendar Year 2015

Total Reported Labor, Materials and Utility Admin Expenditures: $1,159,846

Utility Administration Expenditures: -

Total Labor and Material Expenditures: $1,159,846

Measure	Number of Dwellings with Impacts: Total	Electric	Gas	Propane	Fuel Oil	Other	Number of Dwellings with kWh Impacts: Season Cooling	Heating	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu
Total Efficiency Measures	**84**	**84**	**80**	**0**	**0**	**0**	**84**	**84**	**640,883**	**4.0**		**7.6**		**23,068**	**251**	**26,045**	**0**	**0**	**0**	**7,630**	**0.047**		**0.090**		**275**	**3.13**	**326**	**-**	**-**	**-**
Total Shell & Htg. Sys. Repl	84	84	80	0	0	0	80	84	508,904	2.9	3,200	6.1	10,162	13,363	234	23,120	0	0	0	6,058	0.037	40	0.073	121	159	2.93	289	-	-	-
Total Shell Measures	84	84	80	0	0	0	80	84	369,329	2.9	3,200	6.1	10,128	13,328	184	18,099	0	0	0	4,397	0.037	40	0.073	121	159	2.29	226	-	-	-
Wall Insul.	72	55	70	0	0	0	55	2	183,039	1.3	1,546	0.6	1,027	2,573	70	6,887	0	0	0	2,542	0.023	28	0.311	513	47	1.00	98	-	-	-
Open Blown Ceiling Insul	80	61	76	0	0	0	61	4	31,831	1.0	1,196	2.2	3,575	4,772	67	6,571	0	0	0	398	0.016	20	0.541	894	78	0.88	86	-	-	-
Cavity Fill Insul	45	30	44	0	0	0	30	1	26,979	0.2	214	0.1	189	403	17	1,671	0	0	0	600	0.006	7	0.115	189	13	0.39	38	-	-	-
Sloped Attic Insul	40	29	37	0	0	0	29	3	20,890	0.2	223	0.6	1,014	1,237	12	1,230	0	0	0	522	0.006	8	0.205	338	43	0.34	33	-	-	-
Kneewall Insul	35	24	32	0	0	0	24	3	14,263	0.1	94	0.3	547	640	6	605	0	0	0	408	0.003	4	0.110	182	27	0.19	19	-	-	-
Infil. Reduction	84	64	80	0	0	0	64	4	37,273	0.2	208	0.2	388	596	9	880	0	0	0	444	0.003	3	0.059	97	9	0.11	11	-	-	-
Found./Crawl. Insul	41	13	37	0	0	0	10	4	13,047	0.1	124	0.2	296	420	4	425	0	0	0	318	0.010	12	0.045	74	32	0.12	11	-	-	-
Bandjoist Insul.	34	0	34	0	0	0	-	0	4,122	0.0	0	0.0	0	0	2	219	0	0	0	121	-	-	-	-	-	0.07	6	-	-	-
Furnace Blower Fan[1]	80	80	80	0	0	0	-	80	0	0.0	0	2.4	3,908	3,908	(1)	(74)	0	0	0	0	0.000	0	0.030	49	49	(0.01)	(1)	-	-	-
Exhaust Ventilation[2]	65	65	61	0	0	0	65	65	37,885	0.0	(405)	(0.5)	(817)	(1,222)	(3)	(316)	0	0	0	583	-0.001	(6)	(0.008)	(13)	(19)	(0.05)	(5)	-	-	-
Total Heating System Repl	43	1	42	0	0	0	-	1	139,575	0.0	0	0.0	34	34	51	5,021	0	0	0	3,246	0.000	0	0.021	34	34	1.21	120	-	-	-
Condensing Htg Sys Rep	42	0	42	0	0	0	-	-	136,425	0.0	0	0.0	0	0	51	5,021	0	0	0	3,248	-	-	-	-	-	1.21	120	-	-	-
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	1	1	0	0	0	0	-	1	3,150	0.0	0	0.0	34	34	0	0	0	0	0	3,150	0.000	0	0.021	34	34	-	-	-	-	-
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	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu
Water Heating	84	12	72	0	0	0	101,576	0.0	0.0	606	16.3	2,925	0	0	0	1,209	0.000	0.001	51	0.226	41	-	-	-
Temp. Reduct.	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	-	-	-	-	-	-	-	-
Pipe Insul.	82	11	71	0	0	0	223	0.0	0.0	125	0.6	208	0	0	0	3	0.000	0.000	11	0.01	3	-	-	-
LF Showerhead	35	5	30	0	0	0	99	0.0	0.0	236	0.7	214	0	0	0	3	0.000	0.001	47	0.02	7	-	-	-
Faucet Aerator	69	11	58	0	0	0	58	0.0	0.0	159	0.4	130	0	0	0	1	0.000	0.000	14	0.01	2	-	-	-
Std-Eff Wtr Htr Repl.	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.	73	2	71	0	0	0	101,196	0.0	0.0	86	14.6	2,374	0	0	0	1,386	0.000	0.001	43	0.20	33	-	-	-
Lighting	80	80					4,185	0.5	0.9	4,615	-	-	-	-	-	52	0.006	0.011	58	-	-	-	-	-
Refrigerator/Freezer[3]	30	30					26,218	0.6	0.5	4,483	-	-	-	-	-	874	0.018	0.017	149	-	-	-	-	-
Refrigerator Removal	1	1					35	0.0	0.0	116	-	-	-	-	-	35	0.014	0.013	116	-	-	-	-	-
Refrigerator Exchange	24	24					22,077	0.3	0.3	2,833	-	-	-	-	-	920	0.015	0.014	118	-	-	-	-	-
Freezer Removal	2	2					50	0.0	0.0	306	-	-	-	-	-	25	0.019	0.018	153	-	-	-	-	-
Freezer Exchange	9	9					4,056	0.2	0.1	1,228	-	-	-	-	-	451	0.017	0.016	136	-	-	-	-	-

Total Non-Efficiency Measures	84						**518,963**									**6,178**								
Misc Ins,Attic Access/Vent	84						13,237									158								
Duct Sealing	0						0									0								
Duct Insulation	0						0									0								
Damming Material	68						4,885									72								
Htg. Sys. Tune & Clean	39						2,255									58								
Htg. Sys./WH Other	53						19,486									368								
Air Conditioning Work	0						0									0								
Water Heater Repair	4						411									103								
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	84						7,373									88								
Smoke Detector	84						6,988									83								
Fuses	0						0									0								
Htg Sys Safety Check	84						4,989									59								
Htg Sys Ventilation	6						1,400									233								
Water Heater Ventilation	19						4,909									258								
Bathroom Ventilation	67						25,802									385								
Dryer Ventilation	43						4,726									110								
Other Exhaust Ventilation	7						1,344									192								
Health/Safety Repairs	53						10,114									191								
Health/Safety Other	0						0									0								
Consumables	84						3,462									41								
General Repairs	83						40,431									487								
Meter Refrig (no action)	46						0									0								
Meter Freezer (no action)	24						0									0								
Support	84						332,246									3,955								
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	82						34,885									425								
Unspecifed/Other	39						18									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.

Northeast Iowa Community Action Corporation

Billing Adjusted Costs and Impacts for All Measures Installed During Calendar Year 2015

Total Reported Labor, Materials and Utility Admin Expenditures: $894,011

Utility Administration Expenditures: -

Total Labor and Material Expenditures: $894,011

Measure	Number of Dwellings with Impacts: Total	Electric	Gas	Propane	Fuel Oil	Other	Number of Dwellings with kWh Impacts: Season Cooling	Heating	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu
Total Efficiency Measures	**143**	**143**	**111**	**26**	**0**	**0**	**138**	**143**	**565,719**	**31.4**		**16.9**		**91,796**	**118**	**11,680**	**4,451**	**0**	**0**	**3,956**	**0.227**		**0.118**		**642**	**1.06**	**105**	**171**	**-**	**-**
Total Shell & Htg. Sys. Repl	143	143	111	26	0	0	130	142	452,683	26.9	30,092	11.1	17,321	47,413	110	10,245	4,331	0	0	3,166	0.207	231	0.078	122	332	0.99	92	167	-	-
Total Shell Measures	143	143	111	26	0	0	130	142	230,620	26.9	30,092	11.1	17,321	47,413	54	5,063	1,449	0	0	1,613	0.207	231	0.078	122	332	0.49	46	56	-	-
Wall Insul.	40	36	33	5	0	0	36	2	22,389	6.7	8,033	0.5	744	8,777	22	2,005	427	0	0	560	0.185	223	0.238	372	244	0.65	61	85	-	-
Open Blown Ceiling Insul	101	91	79	17	0	0	90	5	51,113	15.5	18,673	0.2	335	19,008	8	745	175	0	0	506	0.172	207	0.043	67	209	0.10	9	10	-	-
Cavity Fill Insul	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-
Sloped Attic Insul	2	1	2	0	0	0	1	0	695	0.2	187	0.0	0	187	1	75	0	0	0	348	0.155	187	0.000	0	187	0.40	38	-	-	-
Kneewall Insul	17	13	13	2	0	0	12	2	6,954	1.0	1,191	0.0	70	1,261	1	135	68	0	0	409	0.082	99	0.022	35	97	0.11	10	34	-	-
Infil. Reduction	131	115	100	25	0	0	113	6	46,005	2.5	2,989	0.6	930	3,919	17	1,577	581	0	0	351	0.022	26	0.099	155	34	0.17	16	23	-	-
Found./Crawl. Insul	46	19	34	9	0	0	17	3	29,703	1.5	1,808	0.1	206	2,013	4	334	118	0	0	646	0.088	106	0.044	69	106	0.11	10	13	-	-
Bandjoist Insul.	103	5	78	20	0	0	-	5	37,349	0.0	0	0.1	230	230	5	511	164	0	0	363	0.000	0	0.029	46	46	0.07	7	8	-	-
Furnace Blower Fan[1]	136	133	110	26	0	0	-	133	0	0.0	0	11.3	17,698	17,698	(0)	(30)	(7)	0	0	0	0.000	0	0.085	133	133	(0.00)	(0)	(0)	-	-
Exhaust Ventilation[2]	77	77	61	15	0	0	77	77	36,412	-0.3	(2,788)	(1.9)	(2,891)	(5,679)	(3)	(289)	(77)	0	0	473	-0.004	(36)	(0.024)	(38)	(74)	(0.05)	(5)	(5)	-	-
Total Heating System Repl	79	0	60	19	0	0	-	0	222,063	0.0	0	0.0	0	0	56	5,182	2,882	0	0	2,811	-	-	-	-	-	0.93	86	152	-	-
Condensing Htg Sys Rep	78	0	59	19	0	0	-	-	219,794	0.0	0	0.0	0	0	55	5,165	2,882	0	0	2,818	-	-	-	-	-	0.94	88	152	-	-
Non-Cond Htg Sys Repl	1	0	1	0	0	0	-	-	2,269	0.0	0	0.0	0	0	0	17	0	0	0	2,269	-	-	-	-	-	0.18	17	-	-	-
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	-	-	-	-	-	-	-	-	-	-

	Number of Measures Installed by Fuel Type: Total	Electric	Gas	Propane	Fuel Oil	Other		Billing Adjusted First-Year Savings: Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures	Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu
Water Heating	131	51	74	6	0	0	186	64	113	9	0	0	90,021	0.0	0.1	5,975	8.2	1,435	120	0	0	687	0.000	0.001	117	0.111	19	20	-	-
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.	124	49	69	6	0	0	124	49	69	6	0	0	921	0.0	0.0	3,140	0.5	182	17	0	0	7	0.000	0.000	64	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	-	-	-	-	-	-	-	-	-
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.	2	0	2	0	0	0	2	0	2	0	0	0	3,040	0.0	0.0	0	0.1	11	0	0	0	1,520	-	-	-	0.03	6	-	-	-
Hi-Eff or Electric Wtr Htr Repl.	60	15	42	3	0	0	60	15	42	3	0	0	86,060	0.0	0.1	2,835	7.6	1,242	102	0	0	1,434	0.000	0.005	189	0.18	30	34	-	-
Lighting	55	55					304	304					684	1.7	3.2	16,343	-	-	-	-	-	12	0.031	0.058	297	-	-	-	-	-
Refrigerator/Freezer[3]	25	25					27	27					22,331	2.7	2.5	22,064	-	-	-	-	-	893	0.109	0.101	883	-	-	-	-	-
Refrigerator Removal	0	0					0	0					0	0.0	0.0	0	-	-	-	-	-	0	-	-	-	-	-	-	-	-
Refrigerator Exchange	22	22					24	24					20,038	2.4	2.2	19,415	-	-	-	-	-	911	0.109	0.101	882	-	-	-	-	-
Freezer Removal	0	0					0	0					0	0.0	0.0	0	-	-	-	-	-	0	-	-	-	-	-	-	-	-
Freezer Exchange	3	3					3	3					2,293	0.3	0.3	2,650	-	-	-	-	-	764	0.109	0.102	883	-	-	-	-	-

Total Non-Efficiency Measures	143												**328,292**									**2,296**								
Misc Ins,Attic Access/Vent	66												6,964									106								
Duct Sealing	1												593									593								
Duct Insulation	0												0									0								
Damming Material	0												0									0								
Htg. Sys. Tune & Clean	4												605									151								
Htg. Sys./WH Other	14												5,294									378								
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	101												4,107									41								
Smoke Detector	68												773									11								
Fuses	0												0									0								
Htg Sys Safety Check	0												0									0								
Htg Sys Ventilation	2												207									104								
Water Heater Ventilation	7												1,010									144								
Bathroom Ventilation	102												19,033									187								
Dryer Ventilation	76												7,122									94								
Other Exhaust Ventilation	60												1,138									19								
Health/Safety Repairs	55												4,265									78								
Health/Safety Other	0												0									0								
Consumables	33												391									12								
General Repairs	97												14,937									154								
Meter Refrig (no action)	121												0									0								
Meter Freezer (no action)	32												0									0								
Support	143												250,448									1,751								
Transportation Allowance	82												6,446									79								
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	102												4,958									49								
Unspecifed/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 All Measures Installed During Calendar Year 2015

Total Reported Labor, Materials and Utility Admin Expenditures: $547,298

Utility Administration Expenditures: -

Total Labor and Material Expenditures: $547,298

Measure	Number of Dwellings with Impacts: Total	Electric	Gas	Propane	Fuel Oil	Other	Number of Dwellings with kWh Impacts: Season Cooling	Heating	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu
Total Efficiency Measures	**55**	**55**	**40**	**11**	**1**	**0**	**55**	**55**	**301,310**	**14.1**		**11.8**		**61,548**	**51**	**4,926**	**1,194**	**8**	**0**	**5,478**	**0.256**		**0.214**		**1,119**	**1.27**	**123**	**109**	**8**	**-**
Total Shell & Htg. Sys. Repl	55	55	40	11	1	0	53	55	241,242	9.2	10,137	3.6	5,488	15,625	48	4,396	1,100	8	0	4,386	0.174	191	0.065	100	284	1.20	110	100	8	-
Total Shell Measures	55	55	40	11	1	0	53	55	130,071	9.2	10,137	3.6	5,488	15,625	27	2,470	525	8	0	2,365	0.174	191	0.065	100	284	0.67	62	48	8	-
Wall Insul.	20	20	17	3	0	0	20	0	35,167	2.2	2,632	0.0	0	2,632	10	883	79	0	0	1,758	0.109	132	0.000	0	132	0.57	52	26	-	-
Open Blown Ceiling Insul	34	33	26	7	0	0	33	1	20,219	3.8	4,593	0.1	126	4,720	4	408	77	0	0	595	0.115	139	0.082	126	143	0.17	16	11	-	-
Cavity Fill Insul	14	10	12	1	0	0	10	1	15,732	0.6	739	0.3	401	1,140	5	455	76	0	0	1,124	0.061	74	0.260	401	114	0.41	38	76	-	-
Sloped Attic Insul	12	9	10	2	0	0	9	0	4,265	0.5	620	0.0	0	620	3	289	116	0	0	355	0.057	69	0.000	0	69	0.31	29	58	-	-
Kneewall Insul	3	3	3	0	0	0	3	0	1,142	0.1	61	0.0	0	61	0	41	0	0	0	381	0.017	20	0.000	0	20	0.15	14	-	-	-
Infil. Reduction	54	53	40	10	1	0	53	3	15,844	0.9	1,036	0.0	28	1,064	3	320	64	2	0	293	0.016	20	0.006	9	20	0.09	8	6	2	-
Found./Crawl. Insul	28	15	17	8	1	0	15	2	24,187	1.4	1,632	0.2	352	1,984	1	137	137	6	0	864	0.090	109	0.114	176	132	0.09	8	17	6	-
Bandjoist Insul.	20	0	15	4	1	0	-	0	1,650	0.0	0	0.0	0	0	0	20	7	2	0	82	-	-	-	-	-	0.01	1	2	2	-
Furnace Blower Fan[1]	52	52	40	11	1	0	-	52	0	0.0	0	3.9	5,968	5,968	(0)	(12)	(3)	(0)	0	0	0.000	0	0.075	115	115	(0.00)	(0)	(0)	(0)	-
Exhaust Ventilation[2]	34	34	22	9	1	0	34	34	11,866	-0.1	(1,176)	(0.9)	(1,386)	(2,563)	(1)	(70)	(27)	(3)	0	349	-0.004	(35)	(0.026)	(41)	(75)	(0.03)	(3)	(3)	(3)	-
Total Heating System Repl	33	0	26	7	0	0	-	0	111,171	0.0	0	0.0	0	0	21	1,926	575	0	0	3,369	-	-	-	-	-	0.81	74	82	-	-
Condensing Htg Sys Rep	26	0	23	3	0	0	-	-	98,843	0.0	0	0.0	0	0	20	1,867	469	0	0	3,802	-	-	-	-	-	0.88	81	156	-	-
Non-Cond Htg Sys Repl	7	0	3	4	0	0	-	-	12,328	0.0	0	0.0	0	0	1	59	106	0	0	1,761	-	-	-	-	-	0.22	20	26	-	-
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	-	-	-	-	-	-	-	-	-	-

	Number of Measures Installed by Fuel Type: Total	Electric	Gas	Propane	Fuel Oil	Other	Billing Adjusted First-Year Savings: Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu
Water Heating	55	9	38	8	0	0	79	11	56	12	0	0	43,271	0.0	0.0	1,016	3.0	530	93	0	0	787	0.000	0.002	113	0.079	14	12	-	-
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	-	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-	-
Pipe Insul.	53	9	36	8	0	0	53	9	36	8	0	0	986	0.0	0.0	481	0.2	72	14	0	0	19	0.000	0.000	53	0.01	2	2	-	-
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	-	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-	-
Std-Eff Wtr Htr Repl.	2	0	1	1	0	0	2	0	1	1	0	0	2,842	0.0	0.0	0	0.0	7	6	0	0	1,421	-	-	-	0.04	7	6	-	-
Hi-Eff or Electric Wtr Htr Repl.	24	2	19	3	0	0	24	2	19	3	0	0	39,443	0.0	0.0	535	2.8	451	73	0	0	1,643	0.000	0.007	268	0.15	24	24	-	-
Lighting	53	53					934	934					6,419	4.0	7.5	38,507	-	-	-	-	-	121	0.076	0.141	727	-	-	-	-	-
Refrigerator/Freezer[3]	11	11					12	12					10,378	0.8	0.7	6,400	-	-	-	-	-	943	0.072	0.067	582	-	-	-	-	-
Refrigerator Removal	0	0					0	0					0	0.0	0.0	0	-	-	-	-	-	0	-	-	-	-	-	-	-	-
Refrigerator Exchange	9	9					9	9					8,191	0.6	0.6	4,873	-	-	-	-	-	910	0.067	0.062	541	-	-	-	-	-
Freezer Removal	0	0					0	0					0	0.0	0.0	0	-	-	-	-	-	0	-	-	-	-	-	-	-	-
Freezer Exchange	3	3					3	3					2,187	0.2	0.2	1,527	-	-	-	-	-	729	0.063	0.059	509	-	-	-	-	-

Total Non-Efficiency Measures	55	**245,988**	**4,473**
Misc Ins,Attic Access/Vent	42	5,414	129
Duct Sealing	20	839	42
Duct Insulation	35	2,240	64
Damming Material	18	817	45
Htg. Sys. Tune & Clean	18	3,508	195
Htg. Sys./WH Other	10	10,647	1,065
Air Conditioning Work	0	0	0
Water Heater Repair	10	2,232	223
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	51	6,980	137
Smoke Detector	38	3,460	91
Fuses	0	0	0
Htg Sys Safety Check	0	0	0
Htg Sys Ventilation	32	9,847	308
Water Heater Ventilation	25	7,638	306
Bathroom Ventilation	37	4,354	118
Dryer Ventilation	48	2,804	58
Other Exhaust Ventilation	46	782	17
Health/Safety Repairs	38	12,850	338
Health/Safety Other	4	2,031	508
Consumables	0	0	0
General Repairs	44	15,154	344
Meter Refrig (no action)	35	0	0
Meter Freezer (no action)	14	0	0
Support	55	151,599	2,756
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	20	2,585	129
Unspecifed/Other	11	207	19

[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 All Measures Installed During Calendar Year 2015

Total Reported Labor, Materials and Utility Admin Expenditures: $1,040,722

Utility Administration Expenditures: -

Total Labor and Material Expenditures: $1,040,722

Measure	Number of Dwellings with Impacts: Total	Electric	Gas	Propane	Fuel Oil	Other	Number of Dwellings with kWh Impacts: Season Cooling	Heating	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu
Total Efficiency Measures	**86**	**86**	**79**	**3**	**0**	**0**	**86**	**86**	**552,883**	**14.5**		**11.6**		**48,139**	**217**	**21,493**	**954**	**0**	**0**
Total Shell & Htg. Sys. Repl	86	86	79	3	0	0	82	86	436,916	12.4	14,569	8.5	13,196	27,765	202	18,781	954	0	0
Total Shell Measures	86	86	79	3	0	0	82	86	300,666	12.4	14,569	8.4	13,149	27,718	135	12,585	652	0	0
Wall Insul.	54	51	51	2	0	0	51	1	111,537	4.7	5,656	0.1	138	5,794	51	4,769	240	0	0
Open Blown Ceiling Insul	80	76	73	3	0	0	76	4	53,124	4.5	5,460	2.0	3,142	8,602	35	3,258	231	0	0
Cavity Fill Insul	34	27	32	1	0	0	27	1	38,222	1.3	1,535	0.4	612	2,147	21	1,971	111	0	0
Sloped Attic Insul	27	24	26	0	0	0	24	1	11,529	0.7	818	0.2	254	1,072	9	885	0	0	0
Kneewall Insul	20	19	20	0	0	0	19	0	6,164	0.3	346	0.0	0	346	5	422	0	0	0
Infil. Reduction	86	82	79	3	0	0	82	4	45,506	0.9	1,110	0.1	105	1,215	11	1,043	36	0	0
Found./Crawl. Insul	16	3	14	2	0	0	3	0	8,887	0.1	140	0.0	0	140	2	200	26	0	0
Bandjoist Insul.	47	0	44	3	0	0	-	0	5,070	0.0	0	0.0	0	0	3	246	16	0	0
Furnace Blower Fan[1]	82	82	79	3	0	0	-	82	0	0.0	0	6.1	9,599	9,599	(1)	(54)	(2)	0	0
Exhaust Ventilation[2]	29	29	26	1	0	0	29	29	20,627	-0.1	(495)	(0.4)	(701)	(1,196)	(2)	(155)	(6)	0	0
Total Heating System Repl	57	1	54	2	0	0	-	1	136,250	0.0	0	0.0	47	47	67	6,196	302	0	0
Condensing Htg Sys Rep	55	0	53	2	0	0	-	-	127,745	0.0	0	0.0	0	0	66	6,142	302	0	0
Non-Cond Htg Sys Repl	1	0	1	0	0	0	-	-	2,600	0.0	0	0.0	0	0	1	55	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
Heat Pump Repl	1	1	0	0	0	0	-	1	5,905	0.0	0	0.0	47	47	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

	Number of Measures Installed by Fuel Type: Total	Electric	Gas	Propane	Fuel Oil	Other	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu
Water Heating	237	39	198	0	0	0	102,800	0.0	0.0	1,969	15.0	2,712	0	0	0
Temp. Reduct.	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
Pipe Insul.	81	15	66	0	0	0	1,520	0.0	0.0	415	0.6	221	0	0	0
LF Showerhead	39	8	31	0	0	0	390	0.0	0.0	841	0.8	252	0	0	0
Faucet Aerator	36	6	30	0	0	0	280	0.0	0.0	236	0.2	73	0	0	0
Std-Eff Wtr Htr Repl.	1	0	1	0	0	0	1,300	0.0	0.0	0	0.1	17	0	0	0
Hi-Eff or Electric Wtr Htr Repl.	60	6	54	0	0	0	99,310	0.0	0.0	477	13.2	2,149	0	0	0
Lighting	541	541					3,787	1.3	2.5	12,834	-	-	-	-	-
Refrigerator/Freezer[3]	14	14					9,380	0.7	0.6	5,571	-	-	-	-	-
Refrigerator Removal	0	0					0	0.0	0.0	0	-	-	-	-	-
Refrigerator Exchange	9	9					7,274	0.4	0.4	3,500	-	-	-	-	-
Freezer Removal	0	0					0	0.0	0.0	0	-	-	-	-	-
Freezer Exchange	5	5					2,106	0.3	0.2	2,071	-	-	-	-	-

	Total	Spending on Materials & Labor ($)
Total Non-Efficiency Measures	86	**487,839**
Misc Ins,Attic Access/Vent	84	17,964
Duct Sealing	76	5,893
Duct Insulation	29	1,264
Damming Material	43	1,153
Htg. Sys. Tune & Clean	31	2,559
Htg. Sys./WH Other	29	16,009
Air Conditioning Work	18	379
Water Heater Repair	5	347
Refrigerator Coil Clean	0	0
Waterbed Mattress Pad	0	0
Programmable Tstat	0	0
Unspecified Utility Meas	0	0
CO Detector	83	4,479
Smoke Detector	16	663
Fuses	5	750
Htg Sys Safety Check	0	0
Htg Sys Ventilation	5	2,004
Water Heater Ventilation	0	0
Bathroom Ventilation	58	48,304
Dryer Ventilation	53	4,217
Other Exhaust Ventilation	49	1,317
Health/Safety Repairs	65	42,196
Health/Safety Other	29	11,260
Consumables	42	1,574
General Repairs	79	19,931
Meter Refrig (no action)	65	0
Meter Freezer (no action)	33	0
Support	86	284,398
Transportation Allowance	42	5,421
Landlord Contr Misc	0	0
Landlord Contr Furnace	0	0
Landlord Contr DHW	0	0
Client Contr (Any)	0	0
Lead Safe Work	52	14,400
Unspecifed/Other	55	1,358

Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures

Measure	Spending on Materials & Labor ($)	Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu
Total Efficiency Measures	**6,429**	**0.168**		**0.135**		**560**	**2.74**	**272**	**318**	**-**	**-**
Total Shell & Htg. Sys. Repl	5,080	0.152	178	0.098	153	323	2.55	238	318	-	-
Total Shell Measures	3,496	0.152	178	0.098	153	322	1.71	159	217	-	-
Wall Insul.	2,066	0.092	111	0.088	138	114	1.00	94	120	-	-
Open Blown Ceiling Insul	664	0.060	72	0.503	786	113	0.48	45	77	-	-
Cavity Fill Insul	1,124	0.047	57	0.392	612	80	0.66	62	111	-	-
Sloped Attic Insul	427	0.028	34	0.163	254	45	0.37	34	-	-	-
Kneewall Insul	308	0.015	18	0.000	0	18	0.23	21	-	-	-
Infil. Reduction	529	0.011	14	0.017	26	15	0.14	13	12	-	-
Found./Crawl. Insul	555	0.039	47	0.000	0	47	0.15	14	13	-	-
Bandjoist Insul.	108	-	-	-	-	-	0.06	6	5	-	-
Furnace Blower Fan[1]	0	0.000	0	0.075	117	117	(0.01)	(1)	(1)	-	-
Exhaust Ventilation[2]	711	-0.002	(17)	(0.015)	(24)	(41)	(0.06)	(6)	(6)	-	-
Total Heating System Repl	2,390	0.000	0	0.030	47	47	1.23	115	151	-	-
Condensing Htg Sys Rep	2,323	-	-	-	-	-	1.24	116	151	-	-
Non-Cond Htg Sys Repl	2,600	-	-	-	-	-	0.59	55	-	-	-
Electric Htg Sys Repl	0	-	-	-	-	-	-	-	-	-	-
Heat Pump Repl	5,905	0.000	0	0.030	47	47	-	-	-	-	-
Other Htg Sys Repl	0	-	-	-	-	-	-	-	-	-	-

	Spending on Materials & Labor ($)	Electricity Summer kW	Winter kW	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu
Water Heating	1,224	0.000	0.002	131	0.217	39	-	-	-
Temp. Reduct.	0	-	-	-	-	-	-	-	-
WH Wrap	0	-	-	-	-	-	-	-	-
Pipe Insul.	19	0.000	0.000	28	0.01	3	-	-	-
LF Showerhead	10	0.000	0.002	105	0.03	8	-	-	-
Faucet Aerator	8	0.000	0.001	39	0.01	2	-	-	-
Std-Eff Wtr Htr Repl.	1,300	-	-	-	0.10	17	-	-	-
Hi-Eff or Electric Wtr Htr Repl.	1,655	0.000	0.002	79	0.24	40	-	-	-
Lighting	49	0.017	0.032	165	-	-	-	-	-
Refrigerator/Freezer[3]	722	0.053	0.049	429	-	-	-	-	-
Refrigerator Removal	0	-	-	-	-	-	-	-	-
Refrigerator Exchange	808	0.048	0.045	389	-	-	-	-	-
Freezer Removal	0	-	-	-	-	-	-	-	-
Freezer Exchange	421	0.051	0.048	414	-	-	-	-	-

	Spending on Materials & Labor ($)
Total Non-Efficiency Measures	**5,673**
Misc Ins,Attic Access/Vent	214
Duct Sealing	78
Duct Insulation	44
Damming Material	27
Htg. Sys. Tune & Clean	83
Htg. Sys./WH Other	552
Air Conditioning Work	21
Water Heater Repair	69
Refrigerator Coil Clean	0
Waterbed Mattress Pad	0
Programmable Tstat	0
Unspecified Utility Meas	0
CO Detector	54
Smoke Detector	41
Fuses	150
Htg Sys Safety Check	0
Htg Sys Ventilation	401
Water Heater Ventilation	0
Bathroom Ventilation	833
Dryer Ventilation	80
Other Exhaust Ventilation	27
Health/Safety Repairs	649
Health/Safety Other	388
Consumables	37
General Repairs	252
Meter Refrig (no action)	0
Meter Freezer (no action)	0
Support	3,307
Transportation Allowance	129
Landlord Contr Misc	0
Landlord Contr Furnace	0
Landlord Contr DHW	0
Client Contr (Any)	0
Lead Safe Work	277
Unspecifed/Other	25

[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 All Measures Installed During Calendar Year 2015

Total Reported Labor, Materials and Utility Admin Expenditures: $519,069

Utility Administration Expenditures: -

Total Labor and Material Expenditures: $519,069

Measure	Number of Dwellings with Impacts: Total	Electric	Gas	Propane	Fuel Oil	Other	Number of Dwellings with kWh Impacts: Season Cooling	Heating	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu
Total Efficiency Measures	**30**	**30**	**30**	**0**	**0**	**0**	**30**	**30**	**252,013**	**6.5**		**3.9**		**18,312**	**68**	**6,617**	**0**	**0**	**0**	**8,400**	**0.218**		**0.130**		**610**	**2.26**	**221**	**-**	**-**	**-**
Total Shell & Htg. Sys. Repl	30	30	30	0	0	0	29	30	215,882	5.8	6,525	2.6	4,047	10,572	64	5,990	0	0	0	7,196	0.198	225	0.086	135	352	2.14	200	-	-	-
Total Shell Measures	30	30	30	0	0	0	29	30	127,845	5.8	6,525	2.6	4,047	10,572	40	3,682	0	0	0	4,262	0.198	225	0.086	135	352	1.32	123	-	-	-
Wall Insul.	16	16	16	0	0	0	16	0	32,675	1.8	2,173	0.0	0	2,173	14	1,335	0	0	0	2,042	0.113	136	0.000	0	136	0.90	83	-	-	-
Open Blown Ceiling Insul	27	26	27	0	0	0	26	0	17,868	2.4	2,900	0.0	0	2,900	7	688	0	0	0	662	0.093	112	0.000	0	112	0.27	25	-	-	-
Cavity Fill Insul	4	3	4	0	0	0	3	0	5,615	0.2	241	0.0	0	241	4	358	0	0	0	1,404	0.066	80	0.000	0	80	0.96	90	-	-	-
Sloped Attic Insul	7	7	7	0	0	0	7	0	3,406	0.4	444	0.0	0	444	3	310	0	0	0	487	0.053	63	0.000	0	63	0.47	44	-	-	-
Kneewall Insul	6	6	6	0	0	0	6	0	2,538	0.2	231	0.0	0	231	2	216	0	0	0	423	0.032	38	0.000	0	38	0.39	36	-	-	-
Infil. Reduction	30	29	30	0	0	0	29	0	35,180	0.5	584	0.0	0	584	5	493	0	0	0	1,173	0.017	20	0.000	0	20	0.18	16	-	-	-
Found./Crawl. Insul	15	5	15	0	0	0	5	0	13,211	0.4	437	0.0	0	437	4	336	0	0	0	881	0.073	87	0.000	0	87	0.24	22	-	-	-
Bandjoist Insul.	13	0	13	0	0	0	-	0	1,922	0.0	0	0.0	0	0	1	75	0	0	0	148	-	-	-	-	-	0.06	6	-	-	-
Furnace Blower Fan[1]	30	30	30	0	0	0	-	30	0	0.0	0	2.9	4,532	4,532	(0)	(18)	0	0	0	0	0.000	0	0.097	151	151	(0.01)	(1)	-	-	-
Exhaust Ventilation[2]	18	18	18	0	0	0	18	18	15,430	-0.1	(485)	(0.3)	(485)	(970)	(1)	(110)	0	0	0	857	-0.003	(27)	(0.017)	(27)	(54)	(0.07)	(6)	-	-	-
Total Heating System Repl	22	0	22	0	0	0	-	0	88,037	0.0	0	0.0	0	0	25	2,308	0	0	0	4,002	-	-	-	-	-	1.13	105	-	-	-
Condensing Htg Sys Rep	21	0	21	0	0	0	-	-	83,287	0.0	0	0.0	0	0	25	2,290	0	0	0	3,966	-	-	-	-	-	1.17	109	-	-	-
Non-Cond Htg Sys Repl	1	0	1	0	0	0	-	-	4,750	0.0	0	0.0	0	0	0	18	0	0	0	4,750	-	-	-	-	-	0.19	18	-	-	-
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	-	-	-	-	-	-	-	-	-	-

	Number of Measures Installed by Fuel Type: Total	Electric	Gas	Propane	Fuel Oil	Other	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Summer kW	Winter kW	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Summer kW	Winter kW	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu
Water Heating	29	5	24	0	0	0	49	6	43	0	0	0	32,724	0.0	0.0	419	3.5	627	0	0	0	1,128	0.000	0.001	84	0.144	26	-	-	-
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.	28	5	23	0	0	0	28	5	23	0	0	0	365	0.0	0.0	299	0.2	83	0	0	0	13	0.000	0.000	60	0.01	4	-	-	-
LF Showerhead	5	0	5	0	0	0	5	0	5	0	0	0	50	0.0	0.0	0	0.1	39	0	0	0	10	-	-	-	0.03	8	-	-	-
Faucet Aerator	1	0	1	0	0	0	1	0	1	0	0	0	10	0.0	0.0	0	0.0	2	0	0	0	10	-	-	-	0.01	2	-	-	-
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	-	-	-	-	-	-	-	-
Hi-Eff or Electric Wtr Htr Repl.	15	1	14	0	0	0	15	1	14	0	0	0	32,299	0.0	0.0	120	3.1	503	0	0	0	2,153	0.000	0.003	120	0.22	36	-	-	-
Lighting	23	23					170	170					1,190	0.6	1.1	5,887	-	-	-	-	-	52	0.027	0.050	256	-	-	-	-	-
Refrigerator/Freezer[3]	3	3					3	3					2,217	0.2	0.2	1,434	-	-	-	-	-	739	0.059	0.055	478	-	-	-	-	-
Refrigerator Removal	0	0					0	0					0	0.0	0.0	0	-	-	-	-	-	0	-	-	-	-	-	-	-	-
Refrigerator Exchange	3	3					3	3					2,217	0.2	0.2	1,434	-	-	-	-	-	739	0.059	0.055	478	-	-	-	-	-
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	30	**267,056**		**8,902**
Misc Ins,Attic Access/Vent	30	14,535		484
Duct Sealing	4	1,012		253
Duct Insulation	21	1,468		70
Damming Material	19	1,462		77
Htg. Sys. Tune & Clean	8	3,425		428
Htg. Sys./WH Other	9	10,033		1,115
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	30	588		20
Smoke Detector	21	610		29
Fuses	0	0		0
Htg Sys Safety Check	0	0		0
Htg Sys Ventilation	22	9,477		431
Water Heater Ventilation	17	6,238		367
Bathroom Ventilation	26	13,028		501
Dryer Ventilation	18	2,360		131
Other Exhaust Ventilation	0	0		0
Health/Safety Repairs	26	41,587		1,600
Health/Safety Other	16	1,059		66
Consumables	0	0		0
General Repairs	27	19,943		739
Meter Refrig (no action)	21	0		0
Meter Freezer (no action)	8	0		0
Support	30	139,010		4,634
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	6	1,200		200
Unspecifed/Other	1	22		22

[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 All Measures Installed During Calendar Year 2015

Total Reported Labor, Materials and Utility Admin Expenditures: $396,383

Utility Administration Expenditures: -

Total Labor and Material Expenditures: $396,383

Measure	Number of Dwellings with Impacts: Total	Electric	Gas	Propane	Fuel Oil	Other	Number of Dwellings with kWh Impacts: Season Cooling	Heating	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu
Total Efficiency Measures	**30**	**30**	**22**	**3**	**0**	**0**	**30**	**30**	**222,495**	**6.2**		**4.8**		**21,886**	**64**	**5,978**	**867**	**0**	**0**	**7,417**	**0.206**		**0.159**		**730**	**2.93**	**272**	**289**	**-**	**-**
Total Shell & Htg. Sys. Repl	30	30	22	3	0	0	28	30	167,985	5.2	6,278	3.5	5,093	11,371	61	5,361	867	0	0	5,600	0.186	224	0.115	170	379	2.77	244	289	-	-
Total Shell Measures	30	30	22	3	0	0	28	30	65,570	5.2	6,278	3.4	5,045	11,324	36	3,139	478	0	0	2,186	0.186	224	0.114	168	377	1.62	143	159	-	-
Wall Insul.	15	15	10	2	0	0	15	3	12,698	1.8	2,161	0.0	56	2,218	9	753	84	0	0	847	0.119	144	0.013	19	148	0.86	75	42	-	-
Open Blown Ceiling Insul	20	20	15	2	0	0	20	3	17,426	1.7	2,040	0.7	989	3,029	14	1,220	98	0	0	871	0.085	102	0.224	330	151	0.92	81	49	-	-
Cavity Fill Insul	10	10	7	1	0	0	10	2	3,927	0.2	301	0.1	105	405	1	84	26	0	0	393	0.025	30	0.035	52	41	0.14	12	26	-	-
Sloped Attic Insul	8	8	6	2	0	0	8	0	4,665	0.5	612	0.0	0	612	4	333	175	0	0	583	0.063	76	0.000	0	76	0.63	55	88	-	-
Kneewall Insul	3	2	3	0	0	0	2	0	1,899	0.0	3	0.0	0	3	0	4	0	0	0	633	0.001	1	0.000	0	1	0.02	1	-	-	-
Infil. Reduction	29	28	21	3	0	0	28	5	15,018	0.4	531	0.1	86	617	5	481	52	0	0	518	0.016	19	0.012	17	22	0.26	23	17	-	-
Found./Crawl. Insul	11	6	9	2	0	0	6	0	8,064	0.5	630	0.0	0	630	3	234	40	0	0	733	0.087	105	0.000	0	105	0.30	26	20	-	-
Bandjoist Insul.	15	1	12	2	0	0	-	1	1,873	0.0	0	0.0	17	17	1	45	5	0	0	125	0.000	0	0.011	17	17	0.04	4	3	-	-
Furnace Blower Fan[1]	25	25	22	3	0	0	-	25	0	0.0	0	2.6	3,793	3,793	(0)	(15)	(2)	0	0	0	0.000	0	0.103	152	152	(0.01)	(1)	(1)	-	-
Exhaust Ventilation[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	20	2	16	2	0	0	-	2	102,415	0.0	0	0.0	47	47	25	2,222	389	0	0	5,121	0.000	0	0.016	24	24	1.58	139	194	-	-
Condensing Htg Sys Rep	17	0	15	2	0	0	-	-	96,700	0.0	0	0.0	0	0	24	2,142	389	0	0	5,688	-	-	-	-	-	1.62	143	194	-	-
Non-Cond Htg Sys Repl	1	0	1	0	0	0	-	-	3,800	0.0	0	0.0	0	0	1	80	0	0	0	3,800	-	-	-	-	-	0.91	80	-	-	-
Electric Htg Sys Repl	2	2	0	0	0	0	-	2	1,915	0.0	0	0.0	47	47	0	0	0	0	0	958	0.000	0	0.016	24	24	-	-	-	-	-
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	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu
Water Heating	27	12	15	0	0	0	48,081	0.0	0.0	2,021	3.5	617	0	0	0	1,781	0.000	0.004	168	0.235	41	-	-	-
Temp. Reduct.	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	-	-	-	-	-	-	-	-
Pipe Insul.	6	4	2	0	0	0	21	0.0	0.0	94	0.0	7	0	0	0	3	0.000	0.000	23	0.01	4	-	-	-
LF Showerhead	13	6	7	0	0	0	140	0.0	0.0	607	0.2	64	0	0	0	11	0.000	0.002	101	0.03	9	-	-	-
Faucet Aerator	15	8	7	0	0	0	50	0.0	0.0	459	0.1	16	0	0	0	3	0.000	0.001	57	0.01	2	-	-	-
Std-Eff Wtr Htr Repl.	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.	21	7	14	0	0	0	47,870	0.0	0.0	861	3.2	530	0	0	0	2,280	0.000	0.003	123	0.23	38	-	-	-
Lighting	20	20					399	0.4	0.7	3,828	-	-	-	-	-	20	0.020	0.037	191	-	-	-	-	-
Refrigerator/Freezer[3]	7	7					6,030	0.6	0.5	4,667	-	-	-	-	-	861	0.082	0.077	667	-	-	-	-	-
Refrigerator Removal	0	0					0	0.0	0.0	0	-	-	-	-	-	0	-	-	-	-	-	-	-	-
Refrigerator Exchange	5	5					4,645	0.4	0.4	3,648	-	-	-	-	-	929	0.090	0.084	730	-	-	-	-	-
Freezer Removal	0	0					0	0.0	0.0	0	-	-	-	-	-	0	-	-	-	-	-	-	-	-
Freezer Exchange	2	2					1,385	0.1	0.1	1,018	-	-	-	-	-	693	0.063	0.059	509	-	-	-	-	-

Total Non-Efficiency Measures	30	**173,888**	**5,796**
Misc Ins,Attic Access/Vent	23	3,349	146
Duct Sealing	10	2,346	235
Duct Insulation	2	49	24
Damming Material	16	328	21
Htg. Sys. Tune & Clean	11	2,850	259
Htg. Sys./WH Other	6	7,657	1,276
Air Conditioning Work	0	0	0
Water Heater Repair	1	400	400
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	24	501	21
Smoke Detector	15	408	27
Fuses	0	0	0
Htg Sys Safety Check	0	0	0
Htg Sys Ventilation	15	5,900	393
Water Heater Ventilation	0	0	0
Bathroom Ventilation	19	22,345	1,176
Dryer Ventilation	17	1,321	78
Other Exhaust Ventilation	6	296	49
Health/Safety Repairs	17	5,433	320
Health/Safety Other	8	231	29
Consumables	0	0	0
General Repairs	27	12,938	479
Meter Refrig (no action)	22	0	0
Meter Freezer (no action)	13	0	0
Support	30	102,749	3,425
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	18	4,767	265
Unspecifed/Other	2	19	10

[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 All Measures Installed During Calendar Year 2015

Total Reported Labor, Materials and Utility Admin Expenditures: $1,161,175
Utility Administration Expenditures: -
Total Labor and Material Expenditures: $1,161,175

Measure	Number of Dwellings with Impacts: Total	Electric	Gas	Propane	Fuel Oil	Other	Number of Dwellings with kWh Impacts: Season Cooling	Heating	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu
Total Efficiency Measures	**78**	**77**	**78**	**0**	**0**	**0**	**76**	**77**	**673,543**	**25.9**		**11.4**		**53,800**	**391**	**34,602**	**0**	**0**	**0**	**8,635**	**0.340**		**0.148**		**699**	**5.01**	**444**	**-**	**-**	**-**
Total Shell & Htg. Sys. Repl	77	77	77	0	0	0	71	77	589,217	24.8	29,891	9.9	13,921	43,812	371	31,270	0	0	0	7,652	0.349	421	0.128	181	569	4.82	406	-	-	-
Total Shell Measures	77	77	77	0	0	0	71	77	400,050	24.8	29,891	9.9	13,921	43,812	240	20,247	0	0	0	5,195	0.349	421	0.128	181	569	3.12	263	-	-	-
Wall Insul.	63	58	63	0	0	0	58	0	166,539	9.8	11,792	0.0	0	11,792	106	8,899	0	0	0	2,643	0.169	203	0.000	0	203	1.68	141	-	-	-
Open Blown Ceiling Insul	75	69	75	0	0	0	69	0	137,424	10.1	12,229	0.0	0	12,229	79	6,634	0	0	0	1,832	0.147	177	0.000	0	177	1.05	88	-	-	-
Cavity Fill Insul	1	1	1	0	0	0	1	0	826	0.1	96	0.0	0	96	1	70	0	0	0	826	0.080	96	0.000	0	96	0.84	70	-	-	-
Sloped Attic Insul	28	26	28	0	0	0	26	0	11,003	1.6	1,937	0.0	0	1,937	15	1,287	0	0	0	393	0.062	74	0.000	0	74	0.55	46	-	-	-
Kneewall Insul	20	20	20	0	0	0	20	0	8,723	0.5	660	0.0	0	660	4	337	0	0	0	436	0.027	33	0.000	0	33	0.20	17	-	-	-
Infil. Reduction	77	71	77	0	0	0	71	0	37,589	1.4	1,632	0.0	0	1,632	23	1,917	0	0	0	488	0.019	23	0.000	0	23	0.30	25	-	-	-
Found./Crawl. Insul	38	15	38	0	0	0	15	0	27,277	1.3	1,546	0.0	0	1,546	8	679	0	0	0	718	0.085	103	0.000	0	103	0.21	18	-	-	-
Bandjoist Insul.	62	0	62	0	0	0	-	0	10,669	0.0	0	0.0	0	0	6	494	0	0	0	172	-	-	-	-	-	0.09	8	-	-	-
Furnace Blower Fan[1]	77	77	77	0	0	0	-	77	0	0.0	0	9.9	13,921	13,921	(1)	(69)	0	0	0	0	0.000	0	0.128	181	181	(0.01)	(1)	-	-	-
Exhaust Ventilation[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	60	0	60	0	0	0	-	0	189,167	0.0	0	0.0	0	0	131	11,022	0	0	0	3,153	-	-	-	-	-	2.18	184	-	-	-
Condensing Htg Sys Rep	60	0	60	0	0	0	-	-	189,167	0.0	0	0.0	0	0	131	11,022	0	0	0	3,153	-	-	-	-	-	2.18	184	-	-	-
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	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	Billing Adjusted First-Year Savings: Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu
Water Heating	70	4	66	0	0	0	0.0	0.0	359	19.6	3,333	0	0	0	0.000	0.000	90	0.297	50	-	-	-
Temp. Reduct.	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	-	-	-	-	-	-	-	-
Pipe Insul.	60	4	56	0	0	0	0.0	0.0	359	0.7	249	0	0	0	0.000	0.000	90	0.01	4	-	-	-
LF Showerhead	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	-	-	-	-	-	-	-	-
Std-Eff Wtr Htr Repl.	0	0	0	0	0	0	0.0	0.0	0	0.0	0	0	0	0	-	-	-	-	-	-	-	-
Hi-Eff or Electric Wtr Htr Repl.	58	0	58	0	0	0	0.0	0.0	0	18.9	3,084	0	0	0	-	-	-	0.33	53	-	-	-
Lighting	31	31					0.6	1.0	5,274	-	-	-	-	-	0.018	0.033	170	-	-	-	-	-
Refrigerator/Freezer[3]	8	8					0.5	0.5	4,355	-	-	-	-	-	0.067	0.063	544	-	-	-	-	-
Refrigerator Removal	0	0					0.0	0.0	0	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigerator Exchange	7	7					0.5	0.4	3,846	-	-	-	-	-	0.068	0.063	549	-	-	-	-	-
Freezer Removal	0	0					0.0	0.0	0	-	-	-	-	-	-	-	-	-	-	-	-	-
Freezer Exchange	1	1					0.1	0.1	509	-	-	-	-	-	0.063	0.059	509	-	-	-	-	-

Total Non-Efficiency Measures	78	**487,632**	**6,252**
Misc Ins,Attic Access/Vent	70	14,115	202
Duct Sealing	0	0	0
Duct Insulation	18	1,395	78
Damming Material	45	1,340	30
Htg. Sys. Tune & Clean	21	4,301	205
Htg. Sys./WH Other	23	13,805	600
Air Conditioning Work	0	0	0
Water Heater Repair	5	1,844	369
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	35	1,186	34
Smoke Detector	15	467	31
Fuses	0	0	0
Htg Sys Safety Check	0	0	0
Htg Sys Ventilation	40	9,328	233
Water Heater Ventilation	13	3,149	242
Bathroom Ventilation	32	2,763	86
Dryer Ventilation	43	1,974	46
Other Exhaust Ventilation	49	1,019	21
Health/Safety Repairs	54	23,360	433
Health/Safety Other	0	0	0
Consumables	31	433	14
General Repairs	72	56,516	785
Meter Refrig (no action)	37	0	0
Meter Freezer (no action)	21	0	0
Support	78	336,184	4,310
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	56	14,452	258
Unspecifed/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 All Measures Installed During Calendar Year 2015

Total Reported Labor, Materials and Utility Admin Expenditures: $885,623

Utility Administration Expenditures: -

Total Labor and Material Expenditures: $885,623

Measure	Number of Dwellings with Impacts: Total	Electric	Gas	Propane	Fuel Oil	Other	Number of Dwellings with kWh Impacts: Season Cooling	Heating	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu
Total Efficiency Measures	**78**	**78**	**46**	**12**	**0**	**0**	**78**	**78**	**476,940**	**20.3**		**19.2**		**77,036**	**116**	**10,660**	**2,788**	**0**	**0**
Total Shell & Htg. Sys. Repl	78	78	46	12	0	0	77	78	390,084	16.6	19,670	13.2	19,457	39,127	111	9,743	2,382	0	0
Total Shell Measures	78	78	46	12	0	0	77	78	241,809	16.6	19,670	12.9	19,068	38,738	75	6,563	1,603	0	0
Wall Insul.	52	52	32	9	0	0	52	11	73,864	6.7	8,124	3.5	5,193	13,317	36	3,141	676	0	0
Open Blown Ceiling Insul	64	63	40	8	0	0	63	16	54,065	5.7	6,846	1.9	2,752	9,598	15	1,329	474	0	0
Cavity Fill Insul	13	11	11	0	0	0	11	2	7,250	1.0	1,196	0.3	454	1,650	4	383	0	0	0
Sloped Attic Insul	21	19	12	3	0	0	19	6	6,465	0.8	958	0.8	1,107	2,065	5	424	91	0	0
Kneewall Insul	13	13	7	1	0	0	13	5	3,583	0.3	346	0.3	433	779	2	173	16	0	0
Infil. Reduction	78	77	46	12	0	0	77	20	50,111	1.1	1,379	1.2	1,833	3,212	7	628	156	0	0
Found./Crawl. Insul	38	22	22	8	0	0	20	8	9,497	1.0	1,203	0.3	499	1,703	2	206	133	0	0
Bandjoist Insul.	64	17	37	10	0	0	-	17	8,817	0.0	0	0.5	693	693	4	350	95	0	0
Furnace Blower Fan[1]	58	58	46	12	0	0	-	58	0	0.0	0	4.7	7,001	7,001	(0)	(28)	(7)	0	0
Exhaust Ventilation[2]	17	17	7	5	0	0	17	17	28,157	0.0	(382)	(0.6)	(897)	(1,279)	(0)	(44)	(29)	0	0
Total Heating System Repl	41	10	24	7	0	0	-	10	148,275	0.0	0	0.3	389	389	36	3,179	778	0	0
Condensing Htg Sys Rep	28	0	22	6	0	0	-	-	120,280	0.0	0	0.0	0	0	36	3,135	747	0	0
Non-Cond Htg Sys Repl	3	0	2	1	0	0	-	-	6,950	0.0	0	0.0	0	0	1	45	31	0	0
Electric Htg Sys Repl	10	10	0	0	0	0	-	10	21,045	0.0	0	0.3	389	389	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
Other Htg Sys Repl	0	0	0	0	0	0	-	0	0	0.0	0	0.0	0	0	0	0	0	0	0

Measure	Number of Measures Installed by Fuel Type: Total	Electric	Gas	Propane	Fuel Oil	Other	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu
Water Heating	76	41	27	8	0	0	73,875	0.0	0.1	3,949	5.1	918	406	0	0
Temp. Reduct.	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
Pipe Insul.	66	36	24	6	0	0	374	0.0	0.0	1,326	0.2	84	23	0	0
LF Showerhead	9	4	4	1	0	0	90	0.0	0.0	340	0.1	34	9	0	0
Faucet Aerator	35	19	12	4	0	0	207	0.0	0.0	1,163	0.1	37	15	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
Hi-Eff or Electric Wtr Htr Repl.	36	12	17	7	0	0	73,204	0.0	0.0	1,120	4.7	763	359	0	0
Lighting	66	66					2,291	2.7	5.1	26,032	-	-	-	-	-
Refrigerator/Freezer[3]	14	14					10,690	1.0	0.9	7,928	-	-	-	-	-
Refrigerator Removal	0	0					0	0.0	0.0	0	-	-	-	-	-
Refrigerator Exchange	9	9					7,636	0.5	0.5	3,947	-	-	-	-	-
Freezer Removal	0	0					0	0.0	0.0	0	-	-	-	-	-
Freezer Exchange	6	6					3,054	0.5	0.5	3,981	-	-	-	-	-

Measure	Total	Spending on Materials & Labor ($)
Total Non-Efficiency Measures	78	**408,683**
Misc Ins,Attic Access/Vent	72	28,125
Duct Sealing	4	310
Duct Insulation	44	4,144
Damming Material	57	3,345
Htg. Sys. Tune & Clean	22	7,021
Htg. Sys./WH Other	23	14,805
Air Conditioning Work	1	600
Water Heater Repair	1	140
Refrigerator Coil Clean	0	0
Waterbed Mattress Pad	0	0
Programmable Tstat	0	0
Unspecified Utility Meas	0	0
CO Detector	43	1,901
Smoke Detector	17	311
Fuses	0	0
Htg Sys Safety Check	7	1,475
Htg Sys Ventilation	38	10,402
Water Heater Ventilation	34	5,737
Bathroom Ventilation	39	18,603
Dryer Ventilation	50	4,396
Other Exhaust Ventilation	56	4,255
Health/Safety Repairs	46	35,822
Health/Safety Other	17	1,275
Consumables	0	0
General Repairs	72	67,780
Meter Refrig (no action)	69	0
Meter Freezer (no action)	27	0
Support	59	184,834
Transportation Allowance	0	0
Landlord Contr Misc	0	0
Landlord Contr Furnace	0	0
Landlord Contr DHW	0	0
Client Contr (Any)	0	0
Lead Safe Work	71	12,290
Unspecifed/Other	58	1,112

Measure	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu
Total Efficiency Measures	**6,115**	**0.260**		**0.246**		**988**	**2.52**	**232**	**232**	**-**	**-**
Total Shell & Htg. Sys. Repl	5,001	0.215	255	0.169	249	502	2.41	212	198	-	-
Total Shell Measures	3,100	0.215	255	0.166	244	497	1.62	143	134	-	-
Wall Insul.	1,420	0.130	156	0.320	472	256	1.12	98	75	-	-
Open Blown Ceiling Insul	845	0.090	109	0.117	172	152	0.38	33	59	-	-
Cavity Fill Insul	558	0.090	109	0.154	227	150	0.40	35	-	-	-
Sloped Attic Insul	308	0.042	50	0.125	185	109	0.40	35	30	-	-
Kneewall Insul	276	0.022	27	0.059	87	60	0.28	25	16	-	-
Infil. Reduction	642	0.015	18	0.062	92	42	0.16	14	13	-	-
Found./Crawl. Insul	250	0.050	60	0.042	62	77	0.11	9	17	-	-
Bandjoist Insul.	138	0.000	0	0.028	41	41	0.11	9	10	-	-
Furnace Blower Fan[1]	0	0.000	0	0.082	121	121	(0.01)	(1)	(1)	-	-
Exhaust Ventilation[2]	1,656	-0.003	(22)	(0.036)	(53)	(75)	(0.07)	(6)	(6)	-	-
Total Heating System Repl	3,616	0.000	0	0.026	39	39	1.51	132	111	-	-
Condensing Htg Sys Rep	4,296	-	-	-	-	-	1.62	142	124	-	-
Non-Cond Htg Sys Repl	2,317	-	-	-	-	-	0.25	22	31	-	-
Electric Htg Sys Repl	2,105	0.000	0	0.026	39	39	-	-	-	-	-
Heat Pump Repl	0	-	-	-	-	-	-	-	-	-	-
Other Htg Sys Repl	0	-	-	-	-	-	-	-	-	-	-

Measure	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Electricity Summer kW	Winter kW	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu
Water Heating	972	0.000	0.002	96	0.191	34	51	-	-
Temp. Reduct.	0	-	-	-	-	-	-	-	-
WH Wrap	0	-	-	-	-	-	-	-	-
Pipe Insul.	6	0.000	0.000	37	0.01	4	4	-	-
LF Showerhead	10	0.000	0.002	85	0.03	9	9	-	-
Faucet Aerator	6	0.000	0.001	61	0.01	3	4	-	-
Std-Eff Wtr Htr Repl.	0	-	-	-	-	-	-	-	-
Hi-Eff or Electric Wtr Htr Repl.	2,033	0.000	0.002	93	0.28	45	51	-	-
Lighting	35	0.041	0.077	394	-	-	-	-	-
Refrigerator/Freezer[3]	764	0.070	0.065	566	-	-	-	-	-
Refrigerator Removal	0	-	-	-	-	-	-	-	-
Refrigerator Exchange	848	0.054	0.050	439	-	-	-	-	-
Freezer Removal	0	-	-	-	-	-	-	-	-
Freezer Exchange	509	0.082	0.076	664	-	-	-	-	-

Measure	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)
Total Non-Efficiency Measures	**5,240**
Misc Ins,Attic Access/Vent	391
Duct Sealing	78
Duct Insulation	94
Damming Material	59
Htg. Sys. Tune & Clean	319
Htg. Sys./WH Other	644
Air Conditioning Work	600
Water Heater Repair	140
Refrigerator Coil Clean	0
Waterbed Mattress Pad	0
Programmable Tstat	0
Unspecified Utility Meas	0
CO Detector	44
Smoke Detector	18
Fuses	0
Htg Sys Safety Check	211
Htg Sys Ventilation	274
Water Heater Ventilation	169
Bathroom Ventilation	477
Dryer Ventilation	88
Other Exhaust Ventilation	76
Health/Safety Repairs	779
Health/Safety Other	75
Consumables	0
General Repairs	941
Meter Refrig (no action)	0
Meter Freezer (no action)	0
Support	3,133
Transportation Allowance	0
Landlord Contr Misc	0
Landlord Contr Furnace	0
Landlord Contr DHW	0
Client Contr (Any)	0
Lead Safe Work	173
Unspecifed/Other	19

[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 All Measures Installed During Calendar Year 2015

Total Reported Labor, Materials and Utility Admin Expenditures: $1,400,660

Utility Administration Expenditures: -

Total Labor and Material Expenditures: $1,400,660

Measure	Number of Dwellings with Impacts: Total	Electric	Gas	Propane	Fuel Oil	Other	Number of Dwellings with kWh Impacts: Season Cooling	Heating	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu
Total Efficiency Measures	**113**	**113**	**105**	**5**	**0**	**0**	**113**	**113**	**871,618**	**25.3**		**13.8**		**69,705**	**264**	**26,896**	**1,376**	**0**	**0**	**7,713**	**0.224**		**0.122**		**617**	**2.51**	**256**	**275**	**-**	**-**
Total Shell & Htg. Sys. Repl	113	113	105	5	0	0	109	109	716,138	22.3	25,886	9.7	15,858	41,745	248	24,105	1,334	0	0	6,338	0.205	237	0.089	145	369	2.36	230	267	-	-
Total Shell Measures	112	112	105	5	0	0	109	108	452,590	22.3	25,886	9.7	15,785	41,672	162	15,787	1,146	0	0	4,041	0.205	237	0.090	146	372	1.54	150	229	-	-
Wall Insul.	85	81	82	3	0	0	81	0	134,689	9.1	10,925	0.0	0	10,925	65	6,313	312	0	0	1,585	0.112	135	0.000	0	135	0.79	77	104	-	-
Open Blown Ceiling Insul	108	104	101	5	0	0	104	2	72,163	7.1	8,558	0.3	475	9,033	33	3,255	361	0	0	668	0.068	82	0.146	238	87	0.33	32	72	-	-
Cavity Fill Insul	45	42	43	2	0	0	42	0	40,969	1.7	2,095	0.0	0	2,095	19	1,875	190	0	0	910	0.041	50	0.000	0	50	0.45	44	95	-	-
Sloped Attic Insul	47	44	45	2	0	0	44	0	19,221	1.9	2,318	0.0	0	2,318	18	1,719	47	0	0	409	0.044	53	0.000	0	53	0.39	38	24	-	-
Kneewall Insul	34	31	32	2	0	0	31	0	11,584	0.6	696	0.0	0	696	7	682	56	0	0	341	0.019	22	0.000	0	22	0.22	21	28	-	-
Infil. Reduction	110	106	104	5	0	0	106	1	60,702	1.4	1,699	0.0	80	1,779	14	1,348	91	0	0	552	0.013	16	0.049	80	17	0.13	13	18	-	-
Found./Crawl. Insul	56	15	51	4	0	0	14	1	45,274	0.7	801	0.1	144	945	6	585	77	0	0	808	0.047	57	0.088	144	63	0.12	11	19	-	-
Bandjoist Insul.	72	0	68	4	0	0	-	0	18,478	0.0	0	0.0	0	0	4	365	23	0	0	257	-	-	-	-	-	0.06	5	6	-	-
Furnace Blower Fan[1]	110	105	105	5	0	0	-	105	0	0.0	0	10.0	16,292	16,292	(1)	(64)	(4)	0	0	0	0.000	0	0.095	155	155	(0.01)	(1)	(1)	-	-
Exhaust Ventilation[2]	57	57	56	1	0	0	57	57	49,509	-0.1	(1,205)	(0.7)	(1,205)	(2,411)	(3)	(292)	(6)	0	0	869	-0.003	(21)	(0.013)	(21)	(42)	(0.05)	(5)	(6)	-	-
Total Heating System Repl	87	2	84	1	0	0	-	2	263,548	0.0	0	0.0	73	73	85	8,318	187	0	0	3,029	0.000	0	0.022	37	37	1.02	99	187	-	-
Condensing Htg Sys Rep	85	0	84	1	0	0	-	-	252,588	0.0	0	0.0	0	0	85	8,318	187	0	0	2,972	-	-	-	-	-	1.02	99	187	-	-
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	2	2	0	0	0	0	-	2	10,000	0.0	0	0.0	73	73	0	0	0	0	0	5,000	0.000	0	0.022	37	37	-	-	-	-	-
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	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu
Water Heating	111	23	87	1	0	0	198	31	165	2	0	0	126,364	0.0	0.0	1,803	16.3	2,790	43	0	0	1,138	0.000	0.001	78	0.187	32	43	-	-
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	-	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-	-
Pipe Insul.	111	23	87	1	0	0	111	23	87	1	0	0	2,207	0.0	0.0	843	0.7	255	3	0	0	20	0.000	0.000	37	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	-	-	-	-	-	-	-	-	-
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.	87	8	78	1	0	0	87	8	78	1	0	0	124,157	0.0	0.0	960	15.5	2,535	40	0	0	1,427	0.000	0.003	120	0.20	33	40	-	-
Lighting	107	107					878	878					6,146	1.4	2.6	13,574	-	-	-	-	-	57	0.013	0.025	127	-	-	-	-	-
Refrigerator/Freezer[3]	25	25					26	26					22,971	1.5	1.4	12,583	-	-	-	-	-	919	0.062	0.058	503	-	-	-	-	-
Refrigerator Removal	0	0					0	0					0	0.0	0.0	0	-	-	-	-	-	0	-	-	-	-	-	-	-	-
Refrigerator Exchange	21	21					21	21					19,673	1.2	1.2	10,038	-	-	-	-	-	937	0.059	0.055	478	-	-	-	-	-
Freezer Removal	0	0					0	0					0	0.0	0.0	0	-	-	-	-	-	0	-	-	-	-	-	-	-	-
Freezer Exchange	5	5					5	5					3,297	0.3	0.3	2,545	-	-	-	-	-	659	0.063	0.059	509	-	-	-	-	-

Total Non-Efficiency Measures	113												**529,042**									**4,682**		
Misc Ins,Attic Access/Vent	111												19,619									177		
Duct Sealing	3												216									72		
Duct Insulation	31												2,443									79		
Damming Material	68												1,688									25		
Htg. Sys. Tune & Clean	47												9,200									196		
Htg. Sys./WH Other	21												8,674									413		
Air Conditioning Work	1												622									622		
Water Heater Repair	2												65									33		
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	112												8,769									78		
Smoke Detector	111												8,368									75		
Fuses	4												177									44		
Htg Sys Safety Check	0												0									0		
Htg Sys Ventilation	36												7,313									203		
Water Heater Ventilation	44												6,395									145		
Bathroom Ventilation	77												35,741									464		
Dryer Ventilation	56												6,729									120		
Other Exhaust Ventilation	51												2,463									48		
Health/Safety Repairs	62												9,732									157		
Health/Safety Other	6												234									39		
Consumables	1												45									45		
General Repairs	68												23,455									345		
Meter Refrig (no action)	94												0									0		
Meter Freezer (no action)	26												0									0		
Support	100												351,874									3,519		
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	93												24,663									265		
Unspecifed/Other	43												558									13		

[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 All Measures Installed During Calendar Year 2015

Total Reported Labor, Materials and Utility Admin Expenditures: $789,155

Utility Administration Expenditures: -

Total Labor and Material Expenditures: $789,155

Measure	Number of Dwellings with Impacts: Total	Electric	Gas	Propane	Fuel Oil	Other	Number of Dwellings with kWh Impacts: Season Cooling	Heating	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu
Total Efficiency Measures	**59**	**59**	**50**	**6**	**0**	**0**	**58**	**59**	**447,283**	**16.7**		**7.8**		**41,060**	**135**	**12,338**	**2,515**	**0**	**0**	**7,581**	**0.289**		**0.132**		**696**	**2.69**	**247**	**419**	**-**	**-**
Total Shell & Htg. Sys. Repl	59	59	50	6	0	0	55	59	381,381	15.3	17,732	5.4	7,825	25,557	127	10,937	2,467	0	0	6,464	0.278	322	0.092	133	433	2.54	219	411	-	-
Total Shell Measures	59	59	50	6	0	0	55	59	203,098	15.3	17,732	5.4	7,737	25,469	69	5,973	1,209	0	0	3,442	0.278	322	0.091	131	432	1.39	119	202	-	-
Wall Insul.	44	39	38	4	0	0	39	2	58,481	6.5	7,813	0.6	905	8,718	30	2,598	360	0	0	1,329	0.166	200	0.314	453	224	0.79	68	90	-	-
Open Blown Ceiling Insul	53	46	45	5	0	0	46	3	37,839	5.0	6,057	0.8	1,208	7,265	18	1,518	431	0	0	714	0.109	132	0.279	403	158	0.39	34	86	-	-
Cavity Fill Insul	5	4	2	2	0	0	4	1	3,617	0.3	365	0.1	87	452	1	78	119	0	0	723	0.076	91	0.060	87	113	0.45	39	60	-	-
Sloped Attic Insul	32	26	25	5	0	0	26	2	14,644	1.7	2,095	0.3	487	2,582	11	985	136	0	0	458	0.067	81	0.169	243	99	0.46	39	27	-	-
Kneewall Insul	22	17	17	3	0	0	17	2	4,843	0.4	471	0.1	160	631	2	197	73	0	0	220	0.023	28	0.055	80	37	0.13	12	24	-	-
Infil. Reduction	59	52	50	6	0	0	52	3	40,891	1.0	1,199	0.1	175	1,374	7	614	92	0	0	693	0.019	23	0.040	58	26	0.14	12	15	-	-
Found./Crawl. Insul	28	7	24	3	0	0	7	1	5,760	0.5	566	0.0	43	609	1	118	14	0	0	206	0.067	81	0.030	43	87	0.06	5	5	-	-
Bandjoist Insul.	29	1	24	4	0	0	-	1	2,646	0.0	0	0.0	40	40	1	97	22	0	0	91	0.000	0	0.028	40	40	0.05	4	6	-	-
Furnace Blower Fan[1]	56	54	50	6	0	0	-	54	0	0.0	0	3.9	5,672	5,672	(0)	(27)	(3)	0	0	0	0.000	0	0.073	105	105	(0.01)	(1)	(1)	-	-
Exhaust Ventilation[2]	40	40	33	5	0	0	40	40	34,378	-0.1	(834)	(0.7)	(1,040)	(1,874)	(2)	(204)	(34)	0	0	859	-0.003	(21)	(0.018)	(26)	(47)	(0.07)	(6)	(7)	-	-
Total Heating System Repl	46	1	39	6	0	0	-	1	178,283	0.0	0	0.1	88	88	58	4,964	1,258	0	0	3,876	0.000	0	0.061	88	88	1.48	127	210	-	-
Condensing Htg Sys Rep	45	0	39	6	0	0	-	-	175,683	0.0	0	0.0	0	0	58	4,964	1,258	0	0	3,904	-	-	-	-	-	1.48	127	210	-	-
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	1	1	0	0	0	0	-	1	2,600	0.0	0	0.1	88	88	0	0	0	0	0	2,600	0.000	0	0.061	88	88	-	-	-	-	-
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	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Summer kW	Winter kW	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Summer kW	Winter kW	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu
Water Heating	56	17	38	1	0	0	167	40	123	4	0	0	56,214	0.0	0.0	2,232	7.7	1,401	48	0	0	1,004	0.000	0.002	131	0.201	37	48	-	-
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	-	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-	-
Pipe Insul.	44	13	30	1	0	0	44	13	30	1	0	0	850	0.0	0.0	494	0.3	105	4	0	0	19	0.000	0.000	38	0.01	3	4	-	-
LF Showerhead	23	7	15	1	0	0	25	7	17	1	0	0	250	0.0	0.0	935	0.4	127	9	0	0	11	0.000	0.003	134	0.03	8	9	-	-
Faucet Aerator	44	12	31	1	0	0	66	17	48	1	0	0	326	0.0	0.0	443	0.3	79	2	0	0	7	0.000	0.001	37	0.01	3	2	-	-
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.	32	3	28	1	0	0	32	3	28	1	0	0	54,788	0.0	0.0	360	6.7	1,090	33	0	0	1,712	0.000	0.003	120	0.24	39	33	-	-
Lighting	50	50					542	542					3,851	1.0	1.9	9,862	-	-	-	-	-	77	0.021	0.038	197	-	-	-	-	-
Refrigerator/Freezer[3]	7	7					7	7					5,838	0.4	0.4	3,408	-	-	-	-	-	834	0.060	0.056	487	-	-	-	-	-
Refrigerator Removal	0	0					0	0					0	0.0	0.0	0	-	-	-	-	-	0	-	-	-	-	-	-	-	-
Refrigerator Exchange	5	5					5	5					4,244	0.3	0.3	2,390	-	-	-	-	-	849	0.059	0.055	478	-	-	-	-	-
Freezer Removal	0	0					0	0					0	0.0	0.0	0	-	-	-	-	-	0	-	-	-	-	-	-	-	-
Freezer Exchange	2	2					2	2					1,594	0.1	0.1	1,018	-	-	-	-	-	797	0.063	0.059	509	-	-	-	-	-

	Total	Spending on Materials & Labor ($)	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)
Total Non-Efficiency Measures	59	**341,872**	**5,794**
Misc Ins,Attic Access/Vent	59	14,786	251
Duct Sealing	20	2,480	124
Duct Insulation	50	1,359	27
Damming Material	28	836	30
Htg. Sys. Tune & Clean	12	1,969	164
Htg. Sys./WH Other	9	5,236	582
Air Conditioning Work	0	0	0
Water Heater Repair	7	450	64
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	32	628	20
Smoke Detector	14	910	65
Fuses	1	65	65
Htg Sys Safety Check	0	0	0
Htg Sys Ventilation	46	14,756	321
Water Heater Ventilation	27	6,149	228
Bathroom Ventilation	56	12,298	220
Dryer Ventilation	22	1,399	64
Other Exhaust Ventilation	55	1,369	25
Health/Safety Repairs	36	7,761	216
Health/Safety Other	8	381	48
Consumables	0	0	0
General Repairs	59	32,876	557
Meter Refrig (no action)	48	0	0
Meter Freezer (no action)	17	0	0
Support	59	212,994	3,610
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	46	22,726	494
Unspecifed/Other	43	445	10

[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 All Measures Installed During Calendar Year 2015

Total Reported Labor, Materials and Utility Admin Expenditures: $692,403
Utility Administration Expenditures: -
Total Labor and Material Expenditures: $692,403

Measure	Number of Dwellings with Impacts: Total	Electric	Gas	Propane	Fuel Oil	Other	Number of Dwellings with kWh Impacts: Season Cooling	Heating	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu
Total Efficiency Measures	**60**	**60**	**44**	**2**	**0**	**0**	**60**	**60**	**371,734**	**15.4**		**17.5**		**73,093**	**135**	**13,083**	**686**	**0**	**0**	**6,196**	**0.257**		**0.291**		**1,218**	**3.07**	**297**	**343**	**-**	**-**
Total Shell & Htg. Sys. Repl	60	60	44	2	0	0	57	60	284,777	11.3	13,672	11.5	17,535	31,206	127	11,566	686	0	0	4,746	0.199	240	0.191	292	520	2.88	263	343	-	-
Total Shell Measures	60	60	44	2	0	0	57	60	111,889	11.3	13,672	11.2	17,105	30,777	75	6,802	342	0	0	1,865	0.199	240	0.186	285	513	1.69	155	171	-	-
Wall Insul.	29	29	23	1	0	0	29	5	29,313	3.5	4,192	1.2	1,821	6,013	19	1,756	125	0	0	1,011	0.120	145	0.238	364	207	0.84	76	125	-	-
Open Blown Ceiling Insul	51	49	37	2	0	0	49	12	45,258	5.3	6,379	4.3	6,582	12,961	26	2,341	119	0	0	887	0.108	130	0.359	548	265	0.69	63	59	-	-
Cavity Fill Insul	12	10	10	0	0	0	10	2	5,035	0.6	694	0.4	626	1,321	10	874	0	0	0	420	0.058	69	0.205	313	132	0.96	87	-	-	-
Sloped Attic Insul	19	17	16	1	0	0	17	2	3,483	0.9	1,036	0.3	476	1,511	10	893	41	0	0	183	0.051	61	0.156	238	89	0.61	56	41	-	-
Kneewall Insul	7	6	7	0	0	0	6	0	1,108	0.1	161	0.0	0	161	2	164	0	0	0	158	0.022	27	0.000	0	27	0.26	23	-	-	-
Infil. Reduction	52	50	37	2	0	0	50	13	15,482	0.8	919	0.3	457	1,376	6	589	50	0	0	298	0.015	18	0.023	35	28	0.17	16	25	-	-
Found./Crawl. Insul	16	6	12	1	0	0	6	3	12,040	0.2	290	0.2	340	629	2	203	9	0	0	753	0.040	48	0.074	113	105	0.19	17	9	-	-
Bandjoist Insul.	3	0	3	0	0	0	-	0	170	0.0	0	0.0	0	0	0	8	0	0	0	57	-	-	-	-	-	0.03	3	-	-	-
Furnace Blower Fan[1]	46	46	44	2	0	0	-	46	0	0.0	0	4.5	6,804	6,804	(0)	(24)	(1)	0	0	0	0.000	0	0.097	148	148	(0.01)	(1)	(1)	-	-
Exhaust Ventilation[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	45	10	33	2	0	0	-	10	172,888	0.0	0	0.3	429	429	52	4,763	343	0	0	3,842	0.000	0	0.028	43	43	1.58	144	172	-	-
Condensing Htg Sys Rep	35	0	33	2	0	0	-	-	117,480	0.0	0	0.0	0	0	52	4,763	343	0	0	3,357	-	-	-	-	-	1.58	144	172	-	-
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	1	1	0	0	0	0	-	1	3,120	0.0	0	0.0	56	56	0	0	0	0	0	3,120	0.000	0	0.037	56	56	-	-	-	-	-
Heat Pump Repl	10	10	0	0	0	0	-	10	52,288	0.0	0	0.2	373	373	0	0	0	0	0	5,229	0.000	0	0.024	37	37	-	-	-	-	-
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	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu
Water Heating	60	27	33	0	0	0	181	79	102	0	0	0	62,493	0.0	0.1	5,682	8.2	1,518	0	0	0	1,042	0.000	0.004	210	0.247	46	-	-	-
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.	57	24	33	0	0	0	57	24	33	0	0	0	1,103	0.0	0.0	752	0.3	114	0	0	0	19	0.000	0.000	31	0.01	3	-	-	-
LF Showerhead	53	22	31	0	0	0	62	27	35	0	0	0	630	0.0	0.1	2,746	0.8	259	0	0	0	12	0.000	0.003	125	0.03	8	-	-	-
Faucet Aerator	13	8	5	0	0	0	17	10	7	0	0	0	85	0.0	0.0	419	0.0	9	0	0	0	7	0.000	0.001	52	0.01	2	-	-	-
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	-	-	-	-	-	-	-	-
Hi-Eff or Electric Wtr Htr Repl.	45	18	27	0	0	0	45	18	27	0	0	0	60,675	0.0	0.0	1,765	7.0	1,136	0	0	0	1,348	0.000	0.002	98	0.26	42	-	-	-
Lighting	58	58					599	599					4,203	2.3	4.3	22,025	-	-	-	-	-	72	0.040	0.074	380	-	-	-	-	-
Refrigerator/Freezer[3]	27	27					32	32					20,261	1.7	1.6	14,179	-	-	-	-	-	750	0.065	0.060	525	-	-	-	-	-
Refrigerator Removal	0	0					0	0					0	0.0	0.0	0	-	-	-	-	-	0	-	-	-	-	-	-	-	-
Refrigerator Exchange	22	22					23	23					15,494	1.3	1.3	10,903	-	-	-	-	-	704	0.061	0.057	496	-	-	-	-	-
Freezer Removal	0	0					0	0					0	0.0	0.0	0	-	-	-	-	-	0	-	-	-	-	-	-	-	-
Freezer Exchange	9	9					9	9					4,767	0.4	0.4	3,276	-	-	-	-	-	530	0.045	0.042	364	-	-	-	-	-

	Total	Spending on Materials & Labor ($)	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)
Total Non-Efficiency Measures	60	**320,669**	**5,344**
Misc Ins,Attic Access/Vent	49	19,041	389
Duct Sealing	8	1,614	202
Duct Insulation	0	0	0
Damming Material	17	1,219	72
Htg. Sys. Tune & Clean	7	1,035	148
Htg. Sys./WH Other	22	17,337	788
Air Conditioning Work	1	800	800
Water Heater Repair	7	385	55
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	55	4,266	78
Smoke Detector	46	4,515	98
Fuses	0	0	0
Htg Sys Safety Check	0	0	0
Htg Sys Ventilation	1	60	60
Water Heater Ventilation	3	1,300	433
Bathroom Ventilation	38	33,090	871
Dryer Ventilation	23	3,570	155
Other Exhaust Ventilation	3	1,600	533
Health/Safety Repairs	40	15,992	400
Health/Safety Other	2	235	118
Consumables	0	0	0
General Repairs	46	25,276	549
Meter Refrig (no action)	37	0	0
Meter Freezer (no action)	19	0	0
Support	59	188,847	3,201
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
Unspecifed/Other	4	487	122

[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 All Measures Installed During Calendar Year 2015

Total Reported Labor, Materials and Utility Admin Expenditures: $2,535,882

Utility Administration Expenditures: -

Total Labor and Material Expenditures: $2,535,882

Measure	Number of Dwellings with Impacts: Total	Electric	Gas	Propane	Fuel Oil	Other	Number of Dwellings with kWh Impacts: Season Cooling	Heating	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu
Total Efficiency Measures	**196**	**196**	**191**	**2**	**0**	**0**	**196**	**196**	**1,455,845**	**56.6**		**54.5**		**222,518**	**627**	**58,890**	**555**	**0**	**0**	**7,428**	**0.289**		**0.278**		**1,135**	**3.28**	**308**	**278**	**-**	**-**
Total Shell & Htg. Sys. Repl	196	196	191	2	0	0	170	196	1,183,969	43.7	52,665	34.4	51,389	104,054	592	52,488	522	0	0	6,041	0.257	310	0.175	262	531	3.10	275	261	-	-
Total Shell Measures	196	196	191	2	0	0	170	196	825,387	43.7	52,665	34.4	51,389	104,054	417	36,986	359	0	0	4,211	0.257	310	0.175	262	531	2.18	194	179	-	-
Wall Insul.	138	120	135	1	0	0	120	2	264,110	17.7	21,390	0.5	747	22,137	124	10,945	96	0	0	1,914	0.148	178	0.255	374	184	0.92	81	96	-	-
Open Blown Ceiling Insul	157	137	153	1	0	0	137	3	148,248	13.9	16,706	0.9	1,286	17,993	150	13,337	92	0	0	944	0.101	122	0.292	429	131	0.98	87	92	-	-
Cavity Fill Insul	109	92	107	1	0	0	92	1	65,669	3.1	3,704	0.4	545	4,248	46	4,051	67	0	0	602	0.033	40	0.371	545	46	0.43	38	67	-	-
Sloped Attic Insul	52	45	51	0	0	0	45	1	29,394	1.8	2,115	0.2	284	2,399	22	1,930	0	0	0	565	0.039	47	0.194	284	53	0.43	38	-	-	-
Kneewall Insul	77	69	75	0	0	0	69	2	30,220	1.3	1,591	0.1	185	1,776	17	1,552	0	0	0	392	0.019	23	0.063	93	26	0.23	21	-	-	-
Infil. Reduction	196	170	191	2	0	0	170	3	194,313	4.1	5,000	0.1	210	5,210	35	3,097	45	0	0	991	0.024	29	0.048	70	31	0.18	16	22	-	-
Found./Crawl. Insul	102	19	100	2	0	0	19	0	93,412	1.8	2,159	0.0	0	2,159	25	2,224	60	0	0	916	0.094	114	0.000	0	114	0.25	22	30	-	-
Bandjoist Insul.	1	0	1	0	0	0	-	0	20	0.0	0	0.0	0	0	0	6	0	0	0	20	-	-	-	-	-	0.07	6	-	-	-
Furnace Blower Fan[1]	193	193	191	2	0	0	-	193	0	0.0	0	32.1	48,131	48,131	(2)	(156)	(2)	0	0	0	0.000	0	0.167	249	249	(0.01)	(1)	(1)	-	-
Exhaust Ventilation[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	151	0	149	2	0	0	-	0	358,581	0.0	0	0.0	0	0	175	15,501	163	0	0	2,375	-	-	-	-	-	1.17	104	81	-	-
Condensing Htg Sys Rep	123	0	122	1	0	0	-	-	297,132	0.0	0	0.0	0	0	161	14,216	112	0	0	2,416	-	-	-	-	-	1.32	117	112	-	-
Non-Cond Htg Sys Repl	28	0	27	1	0	0	-	-	61,449	0.0	0	0.0	0	0	14	1,285	51	0	0	2,195	-	-	-	-	-	0.53	48	51	-	-
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	-	-	-	-	-	-	-	-	-	-

	Number of Measures Installed by Fuel Type: Total	Electric	Gas	Propane	Fuel Oil	Other	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms	Propane gallons	Fuel Oil gallons	Other Mbtu
Water Heating	194	8	184	2	0	0	680	27	650	3	0	0	236,563	0.0	0.0	1,248	35.0	6,403	33	0	0	1,219	0.000	0.003	156	0.190	35	17	-	-
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.	191	8	181	2	0	0	191	8	181	2	0	0	2,581	0.0	0.0	243	1.6	566	6	0	0	14	0.000	0.000	30	0.01	3	3	-	-
LF Showerhead	63	4	59	0	0	0	65	4	61	0	0	0	576	0.0	0.0	444	1.4	433	0	0	0	9	0.000	0.003	111	0.02	7	-	-	-
Faucet Aerator	156	6	150	0	0	0	280	13	267	0	0	0	1,150	0.0	0.0	320	1.3	391	0	0	0	7	0.000	0.001	53	0.01	3	-	-	-
Std-Eff Wtr Htr Repl.	15	0	15	0	0	0	15	0	15	0	0	0	21,492	0.0	0.0	0	1.4	221	0	0	0	1,433	-	-	-	0.09	15	-	-	-
Hi-Eff or Electric Wtr Htr Repl.	129	2	126	1	0	0	129	2	126	1	0	0	210,764	0.0	0.0	240	29.4	4,791	27	0	0	1,634	0.000	0.003	120	0.23	38	27	-	-
Lighting	178	178					1,971	1,971					13,797	8.8	16.3	84,177	-	-	-	-	-	78	0.050	0.092	473	-	-	-	-	-
Refrigerator/Freezer[3]	36	36					39	39					21,516	4.1	3.8	33,039	-	-	-	-	-	598	0.113	0.106	918	-	-	-	-	-
Refrigerator Removal	0	0					0	0					0	0.0	0.0	0	-	-	-	-	-	0	-	-	-	-	-	-	-	-
Refrigerator Exchange	35	35					35	35					20,056	3.5	3.3	28,497	-	-	-	-	-	573	0.100	0.094	814	-	-	-	-	-
Freezer Removal	0	0					0	0					0	0.0	0.0	0	-	-	-	-	-	0	-	-	-	-	-	-	-	-
Freezer Exchange	4	4					4	4					1,460	0.6	0.5	4,542	-	-	-	-	-	365	0.140	0.131	1,136	-	-	-	-	-

Total Non-Efficiency Measures	196																													
									1,080,038												**5,510**									
Misc Ins,Attic Access/Vent	184								64,315												350									
Duct Sealing	70								15,974												228									
Duct Insulation	176								13,533												77									
Damming Material	105								9,528												91									
Htg. Sys. Tune & Clean	29								9,420												325									
Htg. Sys./WH Other	23								9,724												423									
Air Conditioning Work	0								0												0									
Water Heater Repair	2								1,244												622									
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	174								8,880												51									
Smoke Detector	128								5,780												45									
Fuses	0								0												0									
Htg Sys Safety Check	0								0												0									
Htg Sys Ventilation	125								33,263												266									
Water Heater Ventilation	75								14,207												189									
Bathroom Ventilation	194								163,135												841									
Dryer Ventilation	166								21,691												131									
Other Exhaust Ventilation	0								0												0									
Health/Safety Repairs	167								69,830												418									
Health/Safety Other	87								12,209												140									
Consumables	1								173												173									
General Repairs	193								175,346												909									
Meter Refrig (no action)	132								0												0									
Meter Freezer (no action)	50								0												0									
Support	120								443,311												3,694									
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	59								8,062												137									
Unspecifed/Other	12								412												34									

[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.

This page intentionally left blank

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 2015

Total Reported Labor, Materials and Utility Admin Expenditures: $199,331
Utility Administration Expenditures: -
Total Labor and Material Expenditures: $199,331

Measure	Number of Dwellings with Impacts: Total	Electric	Gas	Number of Dwellings with Electricity Impacts: Season Cooling	Heating	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Gas Annual therms	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Gas Annual therms
Total Efficiency Measures	**43**	**39**	**32**	**39**	**39**	**169,563**	**9.0**		**3.7**		**22,371**	**86**	**8,264**	**3,943**	**0.231**		**0.094**		**574**	**2.70**	**258**
Total Shell & Htg. Sys. Repl	43	38	32	35	38	129,925	8.0	9,617	1.9	2,906	12,524	81	7,380	3,022	0.228	275	0.050	76	330	2.53	231
Total Shell Measures	43	38	32	35	38	62,664	8.0	9,617	1.9	2,894	12,511	43	3,885	1,457	0.228	275	0.050	76	329	1.33	121
Wall Insul.	29	26	19	26	1	28,164	3.4	4,080	0.3	434	4,514	17	1,530	971	0.130	157	0.284	434	174	0.88	81
Open Blown Ceiling Insul.	37	32	26	32	1	12,975	1.5	1,749	0.0	70	1,820	3	279	351	0.045	55	0.046	70	57	0.12	11
Cavity Fill Insul.	20	15	14	15	0	6,555	0.8	919	0.0	0	919	6	529	328	0.051	61	0.000	0	61	0.41	38
Sloped Attic Insul.	24	19	16	19	1	5,507	1.5	1,789	0.2	315	2,104	7	603	229	0.078	94	0.206	315	111	0.41	38
Kneewall Insul.	20	15	16	15	0	2,787	0.5	592	0.0	0	592	3	266	139	0.033	39	0.000	0	39	0.18	17
Infil. Reduction	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Found./Crawl. Insul.	22	8	18	8	1	5,606	0.4	488	0.1	169	658	3	284	255	0.051	61	0.111	169	82	0.17	16
Bandjoist Insul.	13	1	12	-	1	1,069	0.0	0	0.0	32	32	4	406	82	0.000	0	0.021	32	32	0.37	34
Furnace Blower Fan[1]	42	37	32	-	37	0	0.0	0	1.2	1,873	1,873	(0)	(11)	0	0.000	0	0.033	51	51	(0.00)	(0)
Exhaust Ventilation[2]	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Total Heating System Repl	25	1	24	-	1	67,261	0.0	0	0.0	13	13	38	3,495	2,690	0.000	0	0.008	13	13	1.60	146
Condensing Htg Sys Repl	24	0	24	-	-	63,761	0.0	0	0.0	0	0	38	3,495	2,657	-	-	-	-	-	1.60	146
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	0.0	13	13	0	0	3,500	0.000	0	0.008	13	13	-	-
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		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	3	26	25	3	22	36,358	0.0	0.0	242	5.4	885	1,254	0.000	0.002	81	0.207	34
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.	4	1	3	4	1	3	48	0.0	0.0	14	0.0	12	12	0.000	0.000	14	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.	25	2	23	21	2	19	36,310	0.0	0.0	227	5.4	873	1,452	0.000	0.003	114	0.23	38
Lighting	38	38		208	208		896	0.9	1.6	8,205	-	-	24	0.023	0.042	216	-	-
Refrigerator/Freezer[3]	3	3		3	3		2,384	0.2	0.2	1,401	-	-	795	0.057	0.054	467	-	-
Refrigerator Removal	0	0		0	0		0	0.0	0.0	0	-	-	0	-	-	-	-	-
Refrigerator Exchange	3	3		3	3		2,384	0.2	0.2	1,401	-	-	795	0.057	0.054	467	-	-
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	-	-	-	-	-

Measure	Total	Spending on Materials & Labor ($)
Total Non-Efficiency Measures	40	**29,767**	**744**
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	5	587	117
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	23	4,905	213
Water Heater Ventilation	23	4,067	177
Bathroom Ventilation	0	0	0
Dryer Ventilation	0	0	0
Other Exhaust Ventilation	0	0	0
Health/Safety Repairs	25	36,310	1,452
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	40	20,208	505
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
Unspecifed/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 2015

Total Reported Labor, Materials and Utility Admin Expenditures: $487,929

Utility Administration Expenditures: -

Total Labor and Material Expenditures: $487,929

Measure	Number of Dwellings with Impacts: Total	Electric	Gas	Number of Dwellings with Electricity Impacts: Season Cooling	Heating	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Gas Annual therms	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Gas Annual therms
Total Efficiency Measures	**132**	**126**	**79**	**125**	**126**	**429,857**	**11.0**		**8.8**		**53,496**	**189**	**18,732**	**3,256**	**0.088**		**0.070**		**425**	**2.40**	**237**
Total Shell & Htg. Sys. Repl	116	99	75	85	99	317,819	6.3	7,550	2.2	3,460	11,009	173	15,894	2,740	0.074	89	0.023	35	111	2.31	212
Total Shell Measures	116	99	74	85	99	206,274	6.3	7,550	2.2	3,404	10,953	111	10,200	1,778	0.074	89	0.022	34	111	1.50	138
Wall Insul.	65	54	43	54	0	100,359	2.6	3,119	0.0	0	3,119	40	3,654	1,544	0.048	58	0.000	0	58	0.92	85
Open Blown Ceiling Insul.	81	68	48	68	2	50,207	2.4	2,941	1.0	1,534	4,475	43	3,919	620	0.036	43	0.498	767	66	0.89	82
Cavity Fill Insul.	18	11	15	11	0	13,055	0.2	192	0.0	0	192	9	807	725	0.014	17	0.000	0	17	0.59	54
Sloped Attic Insul.	18	15	15	15	0	7,799	0.3	328	0.0	0	328	8	711	433	0.018	22	0.000	0	22	0.52	47
Kneewall Insul.	17	14	11	14	0	5,844	0.1	167	0.0	0	167	2	176	344	0.010	12	0.000	0	12	0.17	16
Infil. Reduction	5	3	5	3	0	1,756	0.0	48	0.0	0	48	0	32	351	0.013	16	0.000	0	16	0.07	6
Found./Crawl. Insul.	33	11	26	10	1	23,134	0.6	754	0.1	93	847	9	813	701	0.063	75	0.060	93	77	0.34	31
Bandjoist Insul.	23	2	21	-	2	4,119	0.0	0	0.0	13	13	1	119	179	0.000	0	0.004	6	6	0.06	6
Furnace Blower Fan[1]	114	97	74	-	97	0	0.0	0	1.1	1,763	1,763	(0)	(31)	0	0.000	0	0.012	18	18	(0.00)	(0)
Exhaust Ventilation[2]	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Total Heating System Repl	47	1	46	-	1	111,545	0.0	0	0.0	56	56	62	5,694	2,373	0.000	0	0.036	56	56	1.35	124
Condensing Htg Sys Repl	46	0	46	-	-	109,145	0.0	0	0.0	0	0	62	5,694	2,373	-	-	-	-	-	1.35	124
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	2,400	0.0	0	0.0	56	56	0	0	2,400	0.000	0	0.036	56	56	-	-
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: Total	Electric	Gas	Number of Measures by Fuel Type: Total	Electric	Gas		Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms		Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms
Water Heating	83	13	70	128	14	115	86,563	0.0	0.0	669	16.6	2,838	1,043	0.000	0.000	51	0.237	41
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.	68	11	57	68	11	57	1,273	0.0	0.0	543	0.7	238	19	0.000	0.000	49	0.01	4
LF Showerhead	2	0	2	3	0	3	21	0.0	0.0	0	0.1	18	11	-	-	-	0.03	9
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.	62	3	59	57	3	55	85,268	0.0	0.0	126	15.8	2,581	1,375	0.000	0.001	42	0.27	44
Lighting	114	114		1,107	1,107		7,749	2.3	4.2	21,730	-	-	68	0.020	0.037	191	-	-
Refrigerator/Freezer[3]	29	29		29	29		17,726	2.5	2.3	20,088	-	-	611	0.085	0.080	693	-	-
Refrigerator Removal	0	0		0	0		0	0.0	0.0	0	-	-	0	-	-	-	-	-
Refrigerator Exchange	23	23		22	22		15,641	2.1	2.0	17,107	-	-	680	0.091	0.086	744	-	-
Freezer Removal	0	0		0	0		0	0.0	0.0	0	-	-	0	-	-	-	-	-
Freezer Exchange	7	7		7	7		2,085	0.4	0.3	2,981	-	-	298	0.052	0.049	426	-	-

Total Non-Efficiency Measures	132					**58,073**							**440**					
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	10					795							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	1					100							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	9					1,960							218					
Water Heater Ventilation	13					2,475							190					
Bathroom Ventilation	0					0							0					
Dryer Ventilation	0					0							0					
Other Exhaust Ventilation	0					0							0					
Health/Safety Repairs	62					85,268							1,375					
Health/Safety Other	0					0							0					
Consumables	0					0							0					
General Repairs	5					1,145							229					
Meter Refrig (no action)	0					0							0					
Meter Freezer (no action)	0					0							0					
Support	132					51,598							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					
Unspecifed/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 2015

Total Reported Labor, Materials and Utility Admin Expenditures: $671,841

Utility Administration Expenditures: -

Total Labor and Material Expenditures: $671,841

Measure	Number of Dwellings with Impacts: Total	Electric	Gas	Number of Dwellings with Electricity Impacts: Season Cooling	Heating	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Gas Annual therms	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Gas Annual therms
Total Efficiency Measures	**102**	**83**	**99**	**83**	**83**	**547,432**	**20.6**		**14.3**		**72,897**	**254**	**24,690**	**5,367**	**0.249**		**0.172**		**878**	**2.57**	**249**
Total Shell & Htg. Sys. Repl	101	83	98	80	83	443,054	16.2	19,553	7.0	10,822	30,376	239	21,988	4,387	0.203	244	0.085	130	366	2.44	224
Total Shell Measures	101	83	98	80	83	275,388	16.2	19,553	7.0	10,822	30,376	154	14,140	2,727	0.203	244	0.085	130	366	1.57	144
Wall Insul.	78	64	75	64	1	98,942	7.1	8,618	0.3	448	9,067	64	5,894	1,268	0.112	135	0.291	448	142	0.85	79
Open Blown Ceiling Insul.	82	69	79	69	1	44,403	5.0	6,009	0.5	783	6,792	37	3,356	542	0.072	87	0.508	783	98	0.46	42
Cavity Fill Insul.	21	15	20	15	0	12,132	0.9	1,052	0.0	0	1,052	12	1,146	578	0.058	70	0.000	0	70	0.62	57
Sloped Attic Insul.	28	25	27	25	0	8,421	1.3	1,597	0.0	0	1,597	12	1,079	301	0.053	64	0.000	0	64	0.43	40
Kneewall Insul.	18	12	18	12	0	12,983	0.4	426	0.0	0	426	5	474	721	0.029	36	0.000	0	36	0.29	26
Infil. Reduction	100	79	97	79	1	36,977	0.8	932	0.0	54	986	13	1,227	370	0.010	12	0.035	54	12	0.14	13
Found./Crawl. Insul.	38	11	38	11	0	30,591	0.8	919	0.0	0	919	6	591	805	0.069	84	0.000	0	84	0.17	16
Bandjoist Insul.	72	1	71	-	1	30,938	0.0	0	0.0	47	47	5	422	430	0.000	0	0.030	47	47	0.06	6
Furnace Blower Fan[1]	100	82	98	-	82	0	0.0	0	6.2	9,491	9,491	(1)	(48)	0	0.000	0	0.075	116	116	(0.01)	(0)
Exhaust Ventilation[2]	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Total Heating System Repl	67	0	67	-	0	167,666	0.0	0	0.0	0	0	85	7,848	2,502	-	-	-	-	-	1.27	117
Condensing Htg Sys Repl	67	0	67	-	-	167,666	0.0	0	0.0	0	0	85	7,848	2,502	-	-	-	-	-	1.27	117
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	-	-	-	-	-	-	-

	Number of Measures by Fuel Type: Total	Electric	Gas		Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms		Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms
Water Heating	94	12	82	244	28	216	87,732	0.0	0.0	1,803	14.9	2,702	933	0.000	0.003	150	0.182	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.	84	10	74	84	10	74	1,605	0.0	0.0	391	0.8	275	19	0.000	0.000	39	0.01	4
LF Showerhead	20	5	15	20	5	15	200	0.0	0.0	855	0.4	135	10	0.000	0.000	171	0.03	9
Faucet Aerator	59	7	52	89	11	78	455	0.0	0.0	353	0.4	136	8	0.000	0.001	50	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.	58	2	56	51	2	49	85,472	0.0	0.0	203	13.2	2,156	1,474	0.000	0.003	101	0.24	39
Lighting	74	74		782	782		5,474	3.4	6.2	32,176	-	-	74	0.046	0.084	435	-	-
Refrigerator/Freezer[3]	17	17		17	17		11,172	1.1	1.0	8,543	-	-	657	0.062	0.058	503	-	-
Refrigerator Removal	0	0		0	0		0	0.0	0.0	0	-	-	0	-	-	-	-	-
Refrigerator Exchange	15	15		15	15		9,963	0.9	0.9	7,478	-	-	664	0.061	0.057	499	-	-
Freezer Removal	0	0		0	0		0	0.0	0.0	0	-	-	0	-	-	-	-	-
Freezer Exchange	2	2		2	2		1,209	0.1	0.1	1,066	-	-	604	0.066	0.061	533	-	-

Total Non-Efficiency Measures	102	**124,409**	**1,220**
Misc Ins,Attic Access/Vent	28	2,203	79
Duct Sealing	12	1,942	162
Duct Insulation	0	0	0
Damming Material	0	0	0
Htg. Sys. Tune & Clean	52	6,114	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	40	3,877	97
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	66	8,831	134
Water Heater Ventilation	46	5,209	113
Bathroom Ventilation	0	0	0
Dryer Ventilation	0	0	0
Other Exhaust Ventilation	0	0	0
Health/Safety Repairs	32	1,852	58
Health/Safety Other	0	0	0
Consumables	0	0	0
General Repairs	96	24,333	253
Meter Refrig (no action)	57	0	0
Meter Freezer (no action)	17	0	0
Support	97	70,049	722
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
Unspecifed/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 2015

Total Reported Labor, Materials and Utility Admin Expenditures: $158,272
Utility Administration Expenditures: -
Total Labor and Material Expenditures: $158,272

Measure	Number of Dwellings with Impacts: Total	Electric	Gas	Number of Dwellings with Electricity Impacts: Season Cooling	Heating	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Gas Annual therms	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Gas Annual therms
Total Efficiency Measures	**25**	**18**	**22**	**18**	**18**	**126,448**	**5.2**		**1.3**		**11,282**	**60**	**5,359**	**5,058**	**0.287**		**0.073**		**627**	**2.72**	**244**
Total Shell & Htg. Sys. Repl	25	17	22	17	17	109,734	4.6	5,581	0.6	795	6,376	58	5,032	4,389	0.272	328	0.032	47	375	2.65	229
Total Shell Measures	25	17	22	17	17	59,516	4.6	5,581	0.6	795	6,376	34	2,970	2,381	0.272	328	0.032	47	375	1.57	135
Wall Insul.	17	10	14	10	0	22,818	1.5	1,860	0.0	0	1,860	11	935	1,342	0.154	186	0.000	0	186	0.78	67
Open Blown Ceiling Insul.	22	15	19	15	0	13,665	1.7	2,018	0.0	0	2,018	7	606	621	0.112	135	0.000	0	135	0.37	32
Cavity Fill Insul.	8	5	6	5	0	2,332	0.4	428	0.0	0	428	5	473	291	0.071	86	0.000	0	86	0.92	79
Sloped Attic Insul.	7	3	5	3	0	2,496	0.2	226	0.0	0	226	4	303	357	0.062	75	0.000	0	75	0.70	61
Kneewall Insul.	7	3	6	3	0	2,293	0.1	157	0.0	0	157	2	187	328	0.044	52	0.000	0	52	0.36	31
Infil. Reduction	23	15	21	15	0	9,159	0.1	162	0.0	0	162	3	216	398	0.009	11	0.000	0	11	0.12	10
Found./Crawl. Insul.	20	9	18	9	0	5,724	0.6	730	0.0	0	730	2	203	286	0.067	81	0.000	0	81	0.13	11
Bandjoist Insul.	13	0	13	-	0	1,029	0.0	0	0.0	0	0	1	52	79	-	-	-	-	-	0.05	4
Furnace Blower Fan[1]	25	17	22	-	17	0	0.0	0	0.6	795	795	(0)	(6)	0	0.000	0	0.032	47	47	(0.00)	(0)
Exhaust Ventilation[2]	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Total Heating System Repl	15	0	15	-	0	50,218	0.0	0	0.0	0	0	24	2,062	3,348	-	-	-	-	-	1.60	137
Condensing Htg Sys Repl	15	0	15	-	-	50,218	0.0	0	0.0	0	0	24	2,062	3,348	-	-	-	-	-	1.60	137
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	-	-	-	-	-	-	-

	Number of Measures: Total	Electric	Gas	Number of Measures by Fuel Type: Total	Electric	Gas		Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms		Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms
Water Heating	20	2	18	42	3	39	11,793	0.0	0.0	192	1.5	327	590	0.000	0.001	96	0.084	18
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.	20	2	18	20	2	18	400	0.0	0.0	80	0.2	76	20	0.000	0.000	40	0.01	4
LF Showerhead	6	0	6	6	0	6	60	0.0	0.0	0	0.2	61	10	-	-	-	0.03	10
Faucet Aerator	8	0	8	11	0	11	33	0.0	0.0	0	0.1	22	4	-	-	-	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.	8	1	7	5	1	4	11,300	0.0	0.0	112	1.0	167	1,413	0.000	0.003	112	0.15	24
Lighting	13	13		96	96		672	0.3	0.5	2,675	-	-	52	0.022	0.040	206	-	-
Refrigerator/Freezer[3]	5	5		4	4		4,249	0.3	0.2	2,039	-	-	850	0.050	0.047	408	-	-
Refrigerator Removal	0	0		0	0		0	0.0	0.0	0	-	-	0	-	-	-	-	-
Refrigerator Exchange	5	5		4	4		4,249	0.3	0.2	2,039	-	-	850	0.050	0.047	408	-	-
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	**25**	**31,825**	**1,273**
Misc Ins,Attic Access/Vent	11	1,354	123
Duct Sealing	0	0	0
Duct Insulation	0	0	0
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	17	2,800	165
Water Heater Ventilation	8	1,100	138
Bathroom Ventilation	0	0	0
Dryer Ventilation	0	0	0
Other Exhaust Ventilation	0	0	0
Health/Safety Repairs	4	242	61
Health/Safety Other	0	0	0
Consumables	0	0	0
General Repairs	23	7,184	312
Meter Refrig (no action)	8	0	0
Meter Freezer (no action)	5	0	0
Support	23	18,769	816
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
Unspecifed/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-Iowa Community Action

Billing Adjusted Costs and Impacts for Utility-Funded Measures Installed During Calendar Year 2015

Total Reported Labor, Materials and Utility Admin Expenditures: $410,969
Utility Administration Expenditures: -
Total Labor and Material Expenditures: $410,969

Measure	Number of Dwellings with Impacts: Total	Electric	Gas	Number of Dwellings with Electricity Impacts: Season Cooling	Heating	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Gas Annual therms	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Gas Annual therms
Total Efficiency Measures	**78**	**71**	**59**	**70**	**71**	**334,473**	**11.0**		**6.4**		**32,497**	**174**	**16,559**	**4,288**	**0.158**		**0.090**		**458**	**2.94**	**281**
Total Shell & Htg. Sys. Repl	78	71	59	67	71	308,450	9.8	11,790	4.4	6,856	18,646	169	15,792	3,954	0.146	176	0.062	97	263	2.87	268
Total Shell Measures	78	71	59	67	71	242,947	9.8	11,790	4.4	6,856	18,646	110	10,290	3,115	0.146	176	0.062	97	263	1.87	174
Wall Insul.	48	41	41	41	2	113,514	3.6	4,338	0.5	794	5,132	59	5,514	2,365	0.088	106	0.254	397	125	1.44	134
Open Blown Ceiling Insul.	64	57	52	57	4	42,677	2.8	3,432	0.4	674	4,106	13	1,208	667	0.050	60	0.108	169	72	0.25	23
Cavity Fill Insul.	20	17	16	17	1	16,467	0.8	1,019	0.1	154	1,173	14	1,339	823	0.050	60	0.099	154	69	0.90	84
Sloped Attic Insul.	27	26	23	26	1	10,800	1.2	1,465	0.4	637	2,102	12	1,131	400	0.047	56	0.408	637	81	0.53	49
Kneewall Insul.	21	20	15	20	2	13,198	0.3	341	0.3	427	768	2	197	628	0.014	17	0.137	213	38	0.14	13
Infil. Reduction	74	59	56	59	4	26,314	0.4	435	0.1	93	529	5	428	356	0.006	7	0.015	23	9	0.08	8
Found./Crawl. Insul.	26	11	22	10	2	18,898	0.6	760	0.3	484	1,244	5	471	727	0.063	76	0.155	242	113	0.23	21
Bandjoist Insul.	8	1	7	-	1	1,078	0.0	0	0.0	53	53	0	27	135	0.000	0	0.034	53	53	0.04	4
Furnace Blower Fan[1]	74	67	59	-	67	0	0.0	0	2.3	3,539	3,539	(0)	(26)	0	0.000	0	0.034	53	53	(0.00)	(0)
Exhaust Ventilation[2]	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Total Heating System Repl	34	0	34	-	0	65,503	0.0	0	0.0	0	0	59	5,502	1,927	-	-	-	-	-	1.74	162
Condensing Htg Sys Repl	34	0	34	-	-	65,503	0.0	0	0.0	0	0	59	5,502	1,927	-	-	-	-	-	1.74	162
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	-	-	-	-	-	-	-

Measure	Number of Measures by Fuel Type: Total	Electric	Gas	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms
Water Heating	61	27	34	19,825	0.0	0.0	2,277	4.1	766	325	0.000	0.001	84	0.121	23
Temp. Reduct.	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	-	-	-	-	-
Pipe Insul.	56	26	30	325	0.0	0.0	771	0.4	126	6	0.000	0.000	30	0.01	4
LF Showerhead	7	4	3	45	0.0	0.0	530	0.1	29	6	0.000	0.003	133	0.03	10
Faucet Aerator	22	11	11	76	0.0	0.0	310	0.1	28	3	0.000	0.001	28	0.01	3
Std-Eff Wtr Htr Repl.	0	0	0	0	0.0	0.0	0	0.0	0	0	-	-	-	-	-
Hi-Eff or Electric Wtr Htr Repl.	18	7	11	19,379	0.0	0.0	666	3.6	584	1,077	0.000	0.002	95	0.33	53
Lighting	53	53		964	0.9	1.6	8,423	-	-	18	0.017	0.031	159	-	-
Refrigerator/Freezer[3]	8	8		5,234	0.4	0.4	3,151	-	-	654	0.048	0.045	394	-	-
Refrigerator Removal	0	0		0	0.0	0.0	0	-	-	0	-	-	-	-	-
Refrigerator Exchange	6	6		3,960	0.3	0.3	2,325	-	-	660	0.048	0.045	388	-	-
Freezer Removal	0	0		0	0.0	0.0	0	-	-	0	-	-	-	-	-
Freezer Exchange	2	2		1,274	0.1	0.1	825	-	-	637	0.051	0.047	413	-	-

Measure	Total	Spending on Materials & Labor ($)	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)
Total Non-Efficiency Measures	78	**76,496**	**981**
Misc Ins,Attic Access/Vent	45	9,000	200
Duct Sealing	0	0	0
Duct Insulation	0	0	0
Damming Material	0	0	0
Htg. Sys. Tune & Clean	18	1,753	97
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	28	4,197	150
Water Heater Ventilation	28	3,486	124
Bathroom Ventilation	0	0	0
Dryer Ventilation	0	0	0
Other Exhaust Ventilation	0	0	0
Health/Safety Repairs	17	1,072	63
Health/Safety Other	0	0	0
Consumables	0	0	0
General Repairs	70	19,628	280
Meter Refrig (no action)	46	0	0
Meter Freezer (no action)	13	0	0
Support	78	37,361	479
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
Unspecifed/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 2015

Total Reported Labor, Materials and Utility Admin Expenditures: $109,089
Utility Administration Expenditures: -
Total Labor and Material Expenditures: $109,089

Measure	Number of Dwellings with Impacts: Total	Electric	Gas	Number of Dwellings with Electricity Impacts: Season Cooling	Heating	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Gas Annual therms	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Gas Annual therms
Total Efficiency Measures	**17**	**17**	**16**	**16**	**17**	**88,203**	**4.0**		**1.9**		**12,206**	**40**	**3,781**	**5,188**	**0.252**		**0.114**		**718**	**2.49**	**236**
Total Shell & Htg. Sys. Repl	16	16	16	15	16	72,716	3.4	4,147	0.8	1,282	5,429	38	3,467	4,545	0.229	276	0.052	80	339	2.38	217
Total Shell Measures	16	16	16	15	16	37,006	3.4	4,147	0.8	1,282	5,429	21	1,946	2,313	0.229	276	0.052	80	339	1.33	122
Wall Insul.	9	8	9	8	0	12,108	1.0	1,176	0.0	0	1,176	7	654	1,345	0.122	147	0.000	0	147	0.80	73
Open Blown Ceiling Insul.	16	15	16	15	0	11,899	1.5	1,804	0.0	0	1,804	5	424	744	0.100	120	0.000	0	120	0.29	27
Cavity Fill Insul.	2	2	2	2	0	4,457	0.2	241	0.0	0	241	3	255	2,228	0.100	120	0.000	0	120	1.40	128
Sloped Attic Insul.	9	8	9	8	0	3,484	0.5	633	0.0	0	633	5	450	387	0.066	79	0.000	0	79	0.55	50
Kneewall Insul.	2	2	2	2	0	632	0.1	71	0.0	0	71	1	51	316	0.029	35	0.000	0	35	0.28	25
Infil. Reduction	15	11	15	11	0	4,426	0.2	222	0.0	0	222	1	117	295	0.017	20	0.000	0	20	0.09	8
Found./Crawl. Insul.	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Bandjoist Insul.	0	0	0	-	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Furnace Blower Fan[1]	16	16	16	-	16	0	0.0	0	0.8	1,282	1,282	(0)	(6)	0	0.000	0	0.052	80	80	(0.00)	(0)
Exhaust Ventilation[2]	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Total Heating System Repl	13	0	13	-	0	35,710	0.0	0	0.0	0	0	17	1,521	2,747	-	-	-	-	-	1.28	117
Condensing Htg Sys Repl	13	0	13	-	-	35,710	0.0	0	0.0	0	0	17	1,521	2,747	-	-	-	-	-	1.28	117
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	-	-	-	-	-	-	-

	Number of Measures by Fuel Type: Total	Electric	Gas		Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms		Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms
Water Heating	16	6	10	32	13	19	14,185	0.0	0.0	1,198	1.8	314	887	0.000	0.004	200	0.178	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.	14	5	9	14	5	9	270	0.0	0.0	299	0.1	34	19	0.000	0.000	60	0.01	4
LF Showerhead	1	0	1	1	0	1	10	0.0	0.0	0	0.0	9	10	-	-	-	0.03	9
Faucet Aerator	3	2	1	5	3	2	25	0.0	0.0	92	0.0	4	8	0.000	0.001	46	0.01	4
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.	12	5	7	12	5	7	13,880	0.0	0.0	807	1.6	267	1,157	0.000	0.004	161	0.23	38
Lighting	14	14		186	186		1,302	0.6	1.1	5,580	-	-	93	0.042	0.077	399	-	-
Refrigerator/Freezer[3]	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	-	-	-	-	-

Total Non-Efficiency Measures	18	**20,886**	**1,160**
Misc Ins,Attic Access/Vent	8	3,449	431
Duct Sealing	0	0	0
Duct Insulation	4	675	169
Damming Material	0	0	0
Htg. Sys. Tune & Clean	2	250	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	13	1,675	129
Water Heater Ventilation	8	1,120	140
Bathroom Ventilation	0	0	0
Dryer Ventilation	0	0	0
Other Exhaust Ventilation	0	0	0
Health/Safety Repairs	12	13,880	1,157
Health/Safety Other	0	0	0
Consumables	0	0	0
General Repairs	12	2,250	188
Meter Refrig (no action)	0	0	0
Meter Freezer (no action)	0	0	0
Support	18	11,468	637
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
Unspecifed/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.

North Iowa Community Action Organization

Billing Adjusted Costs and Impacts for Utility-Funded Measures Installed During Calendar Year 2015

Total Reported Labor, Materials and Utility Admin Expenditures: $471,343

Utility Administration Expenditures: -

Total Labor and Material Expenditures: $471,343

Measure	Number of Dwellings with Impacts: Total	Electric	Gas	Number of Dwellings with Electricity Impacts: Season Cooling	Heating	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Gas Annual therms	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Gas Annual therms
Total Efficiency Measures	**77**	**68**	**72**	**68**	**68**	**416,610**	**2.8**		**5.6**		**16,676**	**197**	**20,536**	**5,411**	**0.041**		**0.082**		**245**	**2.73**	**285**
Total Shell & Htg. Sys. Repl	75	66	72	52	66	312,288	2.1	2,510	4.5	7,484	9,994	183	17,999	4,164	0.040	48	0.069	113	151	2.53	250
Total Shell Measures	75	66	72	52	66	212,879	2.1	2,510	4.5	7,450	9,960	143	14,066	2,838	0.040	48	0.068	113	151	1.98	195
Wall Insul.	64	44	62	44	2	123,552	0.9	1,111	0.6	1,027	2,138	51	4,983	1,931	0.021	25	0.311	513	49	0.81	80
Open Blown Ceiling Insul.	70	49	67	49	3	25,183	0.8	905	1.6	2,689	3,594	56	5,520	360	0.015	18	0.542	896	73	0.84	82
Cavity Fill Insul.	40	24	39	24	1	23,669	0.1	169	0.1	189	359	15	1,492	592	0.006	7	0.115	189	15	0.39	38
Sloped Attic Insul.	36	25	34	25	2	15,978	0.1	172	0.4	631	803	11	1,084	444	0.006	7	0.191	316	32	0.32	32
Kneewall Insul.	29	20	27	20	2	10,442	0.1	73	0.3	469	542	5	491	360	0.003	4	0.142	234	27	0.18	18
Infil. Reduction	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Found./Crawl. Insul.	36	9	33	7	3	10,713	0.1	79	0.1	242	321	4	367	298	0.009	11	0.049	81	36	0.11	11
Bandjoist Insul.	28	0	28	-	0	3,341	0.0	0	0.0	0	0	2	175	119	-	-	-	-	-	0.06	6
Furnace Blower Fan[1]	72	63	72	-	63	0	0.0	0	1.3	2,203	2,203	(0)	(44)	0	0.000	0	0.021	35	35	(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	38	1	37	-	1	99,410	0.0	0	0.0	34	34	40	3,933	2,616	0.000	0	0.021	34	34	1.08	106
Condensing Htg Sys Repl	37	0	37	-	-	96,260	0.0	0	0.0	0	0	40	3,933	2,602	-	-	-	-	-	1.08	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	3,150	0.0	0	0.0	34	34	0	0	3,150	0.000	0	0.021	34	34	-	-
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: Total	Electric	Gas	Number of Measures by Fuel Type: Total	Electric	Gas		Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms		Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms
Water Heating	73	9	64	265	29	236	85,764	0.0	0.0	468	14.0	2,537	1,175	0.000	0.001	52	0.219	40
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.	71	8	63	71	8	63	188	0.0	0.0	92	0.5	185	3	0.000	0.000	11	0.01	3
LF Showerhead	32	4	28	32	4	28	91	0.0	0.0	177	0.6	200	3	0.000	0.001	44	0.02	7
Faucet Aerator	61	9	52	99	15	84	51	0.0	0.0	129	0.4	117	1	0.000	0.000	14	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.	64	2	62	63	2	61	85,434	0.0	0.0	70	12.5	2,035	1,335	0.000	0.001	35	0.20	33
Lighting	64	64		608	608		3,437	0.4	0.7	3,805	-	-	54	0.006	0.012	59	-	-
Refrigerator/Freezer[3]	20	20		20	20		15,121	0.3	0.3	2,408	-	-	756	0.015	0.014	120	-	-
Refrigerator Removal	0	0		0	0		0	0.0	0.0	0	-	-	0	-	-	-	-	-
Refrigerator Exchange	16	16		14	14		12,416	0.2	0.2	1,669	-	-	776	0.013	0.012	104	-	-
Freezer Removal	0	0		0	0		0	0.0	0.0	0	-	-	0	-	-	-	-	-
Freezer Exchange	6	6		6	6		2,705	0.1	0.1	739	-	-	451	0.015	0.014	123	-	-

Total Non-Efficiency Measures	77	**54,733**	**711**
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	6	1,400	233
Water Heater Ventilation	18	3,700	206
Bathroom Ventilation	0	0	0
Dryer Ventilation	0	0	0
Other Exhaust Ventilation	0	0	0
Health/Safety Repairs	64	85,434	1,335
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	77	49,633	645
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
Unspecifed/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.

Northeast Iowa Community Action Corporation

Billing Adjusted Costs and Impacts for Utility-Funded Measures Installed During Calendar Year 2015

Total Reported Labor, Materials and Utility Admin Expenditures: $256,671
Utility Administration Expenditures: -
Total Labor and Material Expenditures: $256,671

Measure	Number of Dwellings with Impacts: Total	Electric	Gas	Number of Dwellings with Electricity Impacts: Season Cooling	Heating	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Gas Annual therms	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Gas Annual therms
Total Efficiency Measures	**106**	**87**	**57**	**84**	**87**	**223,800**	**13.4**		**6.9**		**45,373**	**60**	**5,926**	**2,111**	**0.160**		**0.080**		**522**	**1.06**	**104**
Total Shell & Htg. Sys. Repl	100	81	56	73	81	172,222	10.6	12,820	3.4	5,246	18,066	57	5,288	1,722	0.146	176	0.041	65	223	1.01	94
Total Shell Measures	100	81	56	73	81	91,124	10.6	12,820	3.4	5,246	18,066	26	2,404	911	0.146	176	0.041	65	223	0.46	43
Wall Insul.	20	17	16	17	2	11,326	2.9	3,553	0.5	744	4,297	12	1,123	566	0.173	209	0.238	372	253	0.75	70
Open Blown Ceiling Insul.	43	32	36	31	3	21,477	5.2	6,288	0.1	184	6,472	4	355	499	0.168	203	0.039	61	202	0.11	10
Cavity Fill Insul.	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Sloped Attic Insul.	1	0	1	0	0	369	0.0	0	0.0	0	0	1	49	369	-	-	-	-	-	0.53	49
Kneewall Insul.	10	5	8	4	2	5,220	0.3	319	0.0	70	389	1	116	522	0.066	80	0.022	35	78	0.16	14
Infil. Reduction	80	75	25	73	5	23,809	1.5	1,766	0.3	521	2,288	3	290	298	0.020	24	0.067	104	31	0.12	12
Found./Crawl. Insul.	19	8	17	7	1	13,243	0.7	893	0.0	70	963	2	225	697	0.106	128	0.045	70	120	0.14	13
Bandjoist Insul.	40	3	37	-	3	15,680	0.0	0	0.1	111	111	3	258	392	0.000	0	0.024	37	37	0.07	7
Furnace Blower Fan[1]	95	76	56	-	76	0	0.0	0	2.3	3,546	3,546	(0)	(11)	0	0.000	0	0.030	47	47	(0.00)	(0)
Exhaust Ventilation[2]	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Total Heating System Repl	31	0	31	-	0	81,098	0.0	0	0.0	0	0	31	2,883	2,616	-	-	-	-	-	1.00	93
Condensing Htg Sys Repl	31	0	31	-	-	81,098	0.0	0	0.0	0	0	31	2,883	2,616	-	-	-	-	-	1.00	93
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	-	-	-	-	-	-	-

	Number of Measures by Fuel Type: Total	Electric	Gas		Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms		Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms
Water Heating	70	31	39	95	38	57	37,539	0.0	0.0	3,330	3.6	638	536	0.000	0.001	107	0.092	16
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.	67	30	37	67	30	37	489	0.0	0.0	1,876	0.3	96	7	0.000	0.000	63	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.	29	8	21	28	8	20	37,050	0.0	0.0	1,454	3.3	542	1,278	0.000	0.004	182	0.16	26
Lighting	31	31		184	184		414	1.0	1.9	9,737	-	-	13	0.033	0.061	314	-	-
Refrigerator/Freezer[3]	18	18		18	18		13,625	1.8	1.6	14,240	-	-	757	0.097	0.091	791	-	-
Refrigerator Removal	0	0		0	0		0	0.0	0.0	0	-	-	0	-	-	-	-	-
Refrigerator Exchange	15	15		15	15		11,691	1.5	1.4	11,961	-	-	779	0.098	0.092	797	-	-
Freezer Removal	0	0		0	0		0	0.0	0.0	0	-	-	0	-	-	-	-	-
Freezer Exchange	3	3		3	3		1,934	0.3	0.3	2,279	-	-	645	0.093	0.087	760	-	-

Total Non-Efficiency Measures	111	**32,871**	**296**
Misc Ins,Attic Access/Vent	19	1,881	99
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	1	199	199
Water Heater Ventilation	4	520	130
Bathroom Ventilation	0	0	0
Dryer Ventilation	0	0	0
Other Exhaust Ventilation	0	0	0
Health/Safety Repairs	9	768	85
Health/Safety Other	0	0	0
Consumables	0	0	0
General Repairs	53	6,134	116
Meter Refrig (no action)	42	0	0
Meter Freezer (no action)	11	0	0
Support	106	23,369	220
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
Unspecifed/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 2015

Total Reported Labor, Materials and Utility Admin Expenditures: $166,834

Utility Administration Expenditures: -

Total Labor and Material Expenditures: $166,834

Measure	Number of Dwellings with Impacts			Number of Dwellings with Electricity Impacts Season		Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Gas Annual therms	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Gas Annual therms
	Total	Electric	Gas	Cooling	Heating																
Total Efficiency Measures	**45**	**34**	**39**	**34**	**34**	**140,396**	**7.9**		**5.6**		**34,266**	**41**	**3,950**	**3,120**	**0.232**		**0.166**		**1,008**	**1.06**	**101**
Total Shell & Htg. Sys. Repl	45	32	39	30	32	117,451	5.0	6,027	0.7	1,038	7,064	40	3,668	2,610	0.167	201	0.021	32	221	1.02	94
Total Shell Measures	45	32	39	30	32	76,806	5.0	6,027	0.7	1,038	7,064	23	2,141	1,707	0.167	201	0.021	32	221	0.60	55
Wall Insul.	20	14	17	14	0	30,623	1.5	1,793	0.0	0	1,793	9	872	1,531	0.106	128	0.000	0	128	0.56	51
Open Blown Ceiling Insul.	29	19	25	19	1	11,913	1.9	2,277	0.1	101	2,379	4	342	411	0.099	120	0.066	101	125	0.15	14
Cavity Fill Insul.	13	5	12	5	1	12,460	0.3	327	0.2	321	647	5	434	958	0.054	65	0.208	321	129	0.39	36
Sloped Attic Insul.	10	7	10	7	0	3,093	0.4	516	0.0	0	516	3	289	309	0.061	74	0.000	0	74	0.31	29
Kneewall Insul.	3	2	3	2	0	1,099	0.0	44	0.0	0	44	0	41	366	0.018	22	0.000	0	22	0.15	14
Infil. Reduction	19	15	5	15	0	3,708	0.2	270	0.0	0	270	0	18	195	0.015	18	0.000	0	18	0.04	4
Found./Crawl. Insul.	19	8	15	8	2	12,917	0.7	800	0.2	281	1,081	1	132	680	0.083	100	0.091	141	135	0.10	9
Bandjoist Insul.	14	0	14	-	0	993	0.0	0	0.0	0	0	0	18	71	-	-	-	-	-	0.01	1
Furnace Blower Fan[1]	43	30	39	-	30	0	0.0	0	0.2	334	334	(0)	(5)	0	0.000	0	0.007	11	11	(0.00)	(0)
Exhaust Ventilation[2]	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Total Heating System Repl	17	0	17	-	0	40,645	0.0	0	0.0	0	0	17	1,527	2,391	-	-	-	-	-	0.98	90
Condensing Htg Sys Repl	17	0	17	-	-	40,645	0.0	0	0.0	0	0	17	1,527	2,391	-	-	-	-	-	0.98	90
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	-	-	-	-	-	-	-

	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	27	3	24	35	3	32	14,655	0.0	0.0	193	1.6	282	543	0.000	0.000	64	0.066	12
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	3	22	25	3	22	436	0.0	0.0	193	0.1	44	17	0.000	0.000	64	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.	11	0	11	10	0	10	14,219	0.0	0.0	0	1.5	238	1,293	-	-	-	0.13	22
Lighting	33	33		556	556		3,773	2.5	4.5	23,435	-	-	114	0.075	0.138	710	-	-
Refrigerator/Freezer[3]	6	6		6	6		4,516	0.4	0.4	3,574	-	-	753	0.073	0.068	596	-	-
Refrigerator Removal	0	0		0	0		0	0.0	0.0	0	-	-	0	-	-	-	-	-
Refrigerator Exchange	5	5		5	5		3,866	0.4	0.4	3,149	-	-	773	0.077	0.072	630	-	-
Freezer Removal	0	0		0	0		0	0.0	0.0	0	-	-	0	-	-	-	-	-
Freezer Exchange	1	1		1	1		650	0.1	0.0	425	-	-	650	0.052	0.049	425	-	-

Total Non-Efficiency Measures	46	**26,438**	**575**
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	6	556	93
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	25	5,550	222
Water Heater Ventilation	20	4,268	213
Bathroom Ventilation	0	0	0
Dryer Ventilation	0	0	0
Other Exhaust Ventilation	0	0	0
Health/Safety Repairs	11	14,219	1,293
Health/Safety Other	0	0	0
Consumables	0	0	0
General Repairs	4	553	138
Meter Refrig (no action)	0	0	0
Meter Freezer (no action)	0	0	0
Support	46	15,392	335
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
Unspecifed/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 2015

Total Reported Labor, Materials and Utility Admin Expenditures: $303,949

Utility Administration Expenditures: -

Total Labor and Material Expenditures: $303,949

Measure	Number of Dwellings with Impacts: Total	Electric	Gas	Number of Dwellings with Electricity Impacts: Season Cooling	Heating	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Gas Annual therms	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Gas Annual therms
Total Efficiency Measures	**49**	**46**	**46**	**46**	**46**	**266,040**	**7.2**		**5.2**		**24,839**	**122**	**12,060**	**5,429**	**0.157**		**0.113**		**540**	**2.65**	**262**
Total Shell & Htg. Sys. Repl	49	46	46	43	46	210,736	6.0	7,230	3.3	5,126	12,356	115	10,678	4,301	0.139	168	0.071	111	269	2.49	232
Total Shell Measures	49	46	46	43	46	139,693	6.0	7,230	3.3	5,126	12,356	75	6,953	2,851	0.139	168	0.071	111	269	1.62	151
Wall Insul.	32	28	31	28	0	57,873	2.4	2,881	0.0	0	2,881	28	2,597	1,809	0.085	103	0.000	0	103	0.90	84
Open Blown Ceiling Insul.	42	37	40	37	1	28,039	2.3	2,718	0.8	1,254	3,972	20	1,882	668	0.061	73	0.803	1,254	107	0.51	47
Cavity Fill Insul.	18	13	17	13	0	21,033	0.6	720	0.0	0	720	13	1,181	1,169	0.046	55	0.000	0	55	0.75	69
Sloped Attic Insul.	12	8	12	8	0	3,874	0.2	242	0.0	0	242	3	321	323	0.025	30	0.000	0	30	0.29	27
Kneewall Insul.	13	11	13	11	0	3,523	0.2	189	0.0	0	189	3	254	271	0.014	17	0.000	0	17	0.21	20
Infil. Reduction	46	41	44	41	1	16,973	0.4	434	0.0	24	458	5	460	369	0.009	11	0.015	24	11	0.11	10
Found./Crawl. Insul.	9	1	9	1	0	5,232	0.0	47	0.0	0	47	1	125	581	0.039	47	0.000	0	47	0.15	14
Bandjoist Insul.	26	0	26	-	0	3,147	0.0	0	0.0	0	0	2	157	121	-	-	-	-	-	0.06	6
Furnace Blower Fan[1]	48	45	46	-	45	0	0.0	0	2.5	3,849	3,849	(0)	(23)	0	0.000	0	0.055	86	86	(0.01)	(0)
Exhaust Ventilation[2]	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Total Heating System Repl	31	0	31	-	0	71,043	0.0	0	0.0	0	0	40	3,725	2,292	-	-	-	-	-	1.29	120
Condensing Htg Sys Repl	31	0	31	-	-	71,043	0.0	0	0.0	0	0	40	3,725	2,292	-	-	-	-	-	1.29	120
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	-	-	-	-	-	-	-

	Number of Measures: Total	Electric	Gas	Number of Measures by Fuel Type: Total	Electric	Gas		Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms		Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms
Water Heating	48	8	40	138	24	115	47,506	0.0	0.0	1,321	7.5	1,382	990	0.000	0.003	165	0.187	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.	46	8	38	46	8	38	850	0.0	0.0	242	0.4	127	18	0.000	0.000	30	0.01	3
LF Showerhead	23	5	18	23	5	18	230	0.0	0.0	591	0.5	146	10	0.000	0.003	118	0.03	8
Faucet Aerator	25	4	21	40	7	33	200	0.0	0.0	175	0.2	53	8	0.000	0.001	44	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.	34	4	30	29	4	26	46,226	0.0	0.0	313	6.5	1,056	1,360	0.000	0.002	78	0.22	35
Lighting	43	43		331	331		2,317	0.8	1.5	7,701	-	-	54	0.019	0.035	179	-	-
Refrigerator/Freezer[3]	8	8		9	9		5,482	0.4	0.4	3,461	-	-	685	0.053	0.050	433	-	-
Refrigerator Removal	0	0		0	0		0	0.0	0.0	0	-	-	0	-	-	-	-	-
Refrigerator Exchange	5	5		5	5		3,845	0.2	0.2	1,804	-	-	769	0.044	0.042	361	-	-
Freezer Removal	0	0		0	0		0	0.0	0.0	0	-	-	0	-	-	-	-	-
Freezer Exchange	4	4		4	4		1,637	0.2	0.2	1,657	-	-	409	0.051	0.048	414	-	-

Total Non-Efficiency Measures	69						**37,909**						**549**					
Misc Ins,Attic Access/Vent	16						1,009						63					
Duct Sealing	0						0						0					
Duct Insulation	0						0						0					
Damming Material	0						0						0					
Htg. Sys. Tune & Clean	15						1,270						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	1						250						250					
Water Heater Ventilation	0						0						0					
Bathroom Ventilation	0						0						0					
Dryer Ventilation	0						0						0					
Other Exhaust Ventilation	0						0						0					
Health/Safety Repairs	12						392						33					
Health/Safety Other	0						0						0					
Consumables	0						0						0					
General Repairs	41						8,167						199					
Meter Refrig (no action)	56						0						0					
Meter Freezer (no action)	27						0						0					
Support	47						26,820						571					
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					
Unspecifed/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 2015

Total Reported Labor, Materials and Utility Admin Expenditures: $195,419

Utility Administration Expenditures: -

Total Labor and Material Expenditures: $195,419

Measure	Number of Dwellings with Impacts			Number of Dwellings with Electricity Impacts Season		Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings							Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures							
							Electricity					Gas			Electricity					Gas	
							Summer		Winter		Annual	Pk-Day	Annual	Spending on Materials & Labor ($)	Summer		Winter		Annual	Pk-Day	Annual
	Total	Electric	Gas	Cooling	Heating		kW	kWh	kW	kWh	kWh	therms	therms		kW	kWh	kW	kWh	kWh	therms	therms
Total Efficiency Measures	**29**	**25**	**29**	**25**	**25**	**156,706**	**5.2**		**1.6**		**12,084**	**55**	**5,330**	**5,404**	**0.206**		**0.062**		**483**	**1.89**	**184**
Total Shell & Htg. Sys. Repl	29	24	28	23	24	134,881	4.6	5,539	0.6	978	6,517	53	4,893	4,651	0.200	241	0.026	41	272	1.88	175
Total Shell Measures	29	24	28	23	24	76,263	4.6	5,539	0.6	978	6,517	35	3,238	2,630	0.200	241	0.026	41	272	1.24	116
Wall Insul.	16	15	15	15	0	30,611	1.7	2,032	0.0	0	2,032	13	1,251	1,913	0.112	135	0.000	0	135	0.89	83
Open Blown Ceiling Insul.	26	21	24	21	0	15,534	1.9	2,312	0.0	0	2,312	6	589	597	0.091	110	0.000	0	110	0.26	25
Cavity Fill Insul.	4	2	4	2	0	5,316	0.1	131	0.0	0	131	4	358	1,329	0.054	65	0.000	0	65	0.96	90
Sloped Attic Insul.	7	7	7	7	0	3,406	0.4	444	0.0	0	444	3	310	487	0.053	63	0.000	0	63	0.47	44
Kneewall Insul.	6	6	6	6	0	2,538	0.2	231	0.0	0	231	2	216	423	0.032	38	0.000	0	38	0.39	36
Infil. Reduction	28	15	23	15	0	11,024	0.1	155	0.0	0	155	2	173	394	0.009	10	0.000	0	10	0.08	8
Found./Crawl. Insul.	13	4	13	4	0	6,107	0.2	235	0.0	0	235	3	283	470	0.049	59	0.000	0	59	0.23	22
Bandjoist Insul.	12	0	12	-	0	1,728	0.0	0	0.0	0	0	1	67	144	-	-	-	-	-	0.06	6
Furnace Blower Fan[1]	29	24	28	-	24	0	0.0	0	0.6	978	978	(0)	(8)	0	0.000	0	0.026	41	41	(0.00)	(0)
Exhaust Ventilation[2]	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Total Heating System Repl	19	0	19	-	0	58,618	0.0	0	0.0	0	0	18	1,655	3,085	-	-	-	-	-	0.93	87
Condensing Htg Sys Repl	19	0	19	-	-	58,618	0.0	0	0.0	0	0	18	1,655	3,085	-	-	-	-	-	0.93	87
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	-	-	-	-	-	-	-

	Number of Measures by Fuel Type																		
							Summer		Winter	Annual	Pk-Day	Annual		Summer		Winter	Annual	Pk-Day	Annual
	Total	Electric	Gas	Total	Electric	Gas	kW		kW	kWh	therms	therms		kW		kW	kWh	therms	therms
Water Heating	25	5	20	38	6	32	19,381	0.0	0.0	405	2.3	436	775	0.000		0.001	81	0.117	22
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	5	19	24	5	19	310	0.0	0.0	299	0.2	71	13	0.000		0.000	60	0.01	4
LF Showerhead	4	0	4	4	0	4	40	0.0	0.0	0	0.1	36	10	-		-	-	0.03	9
Faucet Aerator	1	0	1	1	0	1	10	0.0	0.0	0	0.0	2	10	-		-	-	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.	13	1	12	9	1	8	19,021	0.0	0.0	106	2.0	327	1,463	0.000		0.003	106	0.17	27
Lighting	18	18		138	138		966	0.4	0.8	4,206	-	-	54	0.025		0.045	234	-	-
Refrigerator/Freezer[3]	2	2		2	2		1,478	0.1	0.1	956	-	-	739	0.059		0.055	478	-	-
Refrigerator Removal	0	0		0	0		0	0.0	0.0	0	-	-	0	-		-	-	-	-
Refrigerator Exchange	2	2		2	2		1,478	0.1	0.1	956	-	-	739	0.059		0.055	478	-	-
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	29	**38,713**	**1,335**
Misc Ins,Attic Access/Vent	15	3,594	240
Duct Sealing	0	0	0
Duct Insulation	0	0	0
Damming Material	0	0	0
Htg. Sys. Tune & Clean	3	305	102
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	17	4,220	248
Water Heater Ventilation	13	2,890	222
Bathroom Ventilation	0	0	0
Dryer Ventilation	0	0	0
Other Exhaust Ventilation	0	0	0
Health/Safety Repairs	10	933	93
Health/Safety Other	0	0	0
Consumables	0	0	0
General Repairs	25	6,200	248
Meter Refrig (no action)	2	0	0
Meter Freezer (no action)	2	0	0
Support	28	20,571	735
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
Unspecifed/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 2015

Total Reported Labor, Materials and Utility Admin Expenditures: $151,933

Utility Administration Expenditures: -

Total Labor and Material Expenditures: $151,933

Measure	Number of Dwellings with Impacts: Total	Electric	Gas	Number of Dwellings with Electricity Impacts: Season Cooling	Heating	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Gas Annual therms	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Gas Annual therms
Total Efficiency Measures	**28**	**26**	**20**	**26**	**26**	**124,785**	**4.6**		**2.9**		**16,623**	**41**	**3,728**	**4,457**	**0.177**		**0.112**		**639**	**2.03**	**186**
Total Shell & Htg. Sys. Repl	27	25	19	24	25	95,756	3.7	4,464	1.7	2,474	6,938	39	3,432	3,547	0.154	186	0.067	99	278	2.05	181
Total Shell Measures	27	25	19	24	25	42,106	3.7	4,464	1.7	2,461	6,925	26	2,295	1,559	0.154	186	0.067	98	277	1.37	121
Wall Insul.	12	12	8	12	3	6,063	1.3	1,557	0.0	54	1,610	4	378	505	0.108	130	0.012	18	134	0.54	47
Open Blown Ceiling Insul.	17	16	13	16	3	14,894	1.3	1,616	0.7	982	2,597	12	1,079	876	0.084	101	0.222	327	162	0.94	83
Cavity Fill Insul.	9	9	6	9	2	2,722	0.2	267	0.1	105	372	1	64	302	0.025	30	0.035	52	41	0.12	11
Sloped Attic Insul.	6	5	5	5	0	2,651	0.3	349	0.0	0	349	3	275	442	0.058	70	0.000	0	70	0.63	55
Kneewall Insul.	3	2	3	2	0	905	0.0	3	0.0	0	3	0	4	302	0.001	1	0.000	0	1	0.02	1
Infil. Reduction	27	24	19	24	5	7,653	0.2	272	0.0	46	318	3	273	283	0.009	11	0.006	9	13	0.16	14
Found./Crawl. Insul.	7	3	6	3	0	5,790	0.3	401	0.0	0	401	2	192	827	0.111	134	0.000	0	134	0.36	32
Bandjoist Insul.	11	1	10	-	1	1,427	0.0	0	0.0	17	17	0	36	130	0.000	0	0.011	17	17	0.04	4
Furnace Blower Fan[1]	22	20	19	-	20	0	0.0	0	0.9	1,258	1,258	(0)	(7)	0	0.000	0	0.043	63	63	(0.00)	(0)
Exhaust Ventilation[2]	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Total Heating System Repl	14	1	13	-	1	53,650	0.0	0	0.0	13	13	13	1,137	3,832	0.000	0	0.009	13	13	0.99	87
Condensing Htg Sys Repl	13	0	13	-	-	52,100	0.0	0	0.0	0	0	13	1,137	4,008	-	-	-	-	-	0.99	87
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	1,550	0.0	0	0.0	13	13	0	0	1,550	0.000	0	0.009	13	13	-	-
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: Total	Electric	Gas	Number of Measures by Fuel Type: Total	Electric	Gas		Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms		Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms
Water Heating	25	12	13	53	32	22	23,373	0.0	0.0	1,868	1.6	296	935	0.000	0.003	156	0.122	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.	6	4	2	6	4	2	21	0.0	0.0	94	0.0	7	3	0.000	0.000	23	0.01	4
LF Showerhead	12	6	6	13	7	6	130	0.0	0.0	607	0.2	55	11	0.000	0.002	101	0.03	9
Faucet Aerator	14	8	6	23	15	8	47	0.0	0.0	459	0.0	14	3	0.000	0.001	57	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.	19	7	12	11	6	6	23,175	0.0	0.0	708	1.3	219	1,220	0.000	0.002	101	0.11	18
Lighting	18	18		145	145		376	0.4	0.7	3,615	-	-	21	0.021	0.039	201	-	-
Refrigerator/Freezer[3]	7	7		7	7		5,280	0.5	0.5	4,202	-	-	754	0.074	0.069	600	-	-
Refrigerator Removal	0	0		0	0		0	0.0	0.0	0	-	-	0	-	-	-	-	-
Refrigerator Exchange	5	5		5	5		3,995	0.4	0.4	3,252	-	-	799	0.080	0.075	650	-	-
Freezer Removal	0	0		0	0		0	0.0	0.0	0	-	-	0	-	-	-	-	-
Freezer Exchange	2	2		2	2		1,285	0.1	0.1	950	-	-	643	0.058	0.055	475	-	-

Total Non-Efficiency Measures	28					**27,148**							**970**					
Misc Ins,Attic Access/Vent	13					933							72					
Duct Sealing	6					1,373							229					
Duct Insulation	0					0							0					
Damming Material	0					0							0					
Htg. Sys. Tune & Clean	11					1,111							101					
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	10					2,250							225					
Water Heater Ventilation	0					0							0					
Bathroom Ventilation	0					0							0					
Dryer Ventilation	0					0							0					
Other Exhaust Ventilation	0					0							0					
Health/Safety Repairs	3					103							34					
Health/Safety Other	0					0							0					
Consumables	0					0							0					
General Repairs	24					6,651							277					
Meter Refrig (no action)	20					0							0					
Meter Freezer (no action)	0					0							0					
Support	27					14,727							545					
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					
Unspecifed/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 2015

Total Reported Labor, Materials and Utility Admin Expenditures: $474,758
Utility Administration Expenditures: -
Total Labor and Material Expenditures: $474,758

Measure	Number of Dwellings with Impacts: Total	Electric	Gas	Number of Dwellings with Electricity Impacts: Season Cooling	Heating	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Gas Annual therms	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Gas Annual therms
Total Efficiency Measures	**76**	**73**	**53**	**71**	**73**	**425,380**	**24.1**		**6.3**		**43,741**	**243**	**21,448**	**5,597**	**0.340**		**0.086**		**599**	**4.58**	**405**
Total Shell & Htg. Sys. Repl	75	72	53	67	72	370,643	23.1	27,872	4.9	6,851	34,722	230	19,365	4,942	0.345	416	0.067	95	482	4.34	365
Total Shell Measures	75	72	53	67	72	261,648	23.1	27,872	4.9	6,851	34,722	149	12,547	3,489	0.345	416	0.067	95	482	2.81	237
Wall Insul.	62	55	43	55	0	111,187	9.3	11,174	0.0	0	11,174	71	5,974	1,793	0.168	203	0.000	0	203	1.65	139
Open Blown Ceiling Insul.	74	66	51	66	0	99,545	9.9	11,894	0.0	0	11,894	49	4,090	1,345	0.149	180	0.000	0	180	0.95	80
Cavity Fill Insul.	1	1	1	1	0	826	0.1	96	0.0	0	96	1	70	826	0.080	96	0.000	0	96	0.84	70
Sloped Attic Insul.	27	24	18	24	0	7,673	1.4	1,713	0.0	0	1,713	11	927	284	0.059	71	0.000	0	71	0.61	51
Kneewall Insul.	20	18	14	18	0	6,422	0.5	610	0.0	0	610	3	293	321	0.028	34	0.000	0	34	0.25	21
Infil. Reduction	52	50	35	50	0	13,082	0.7	839	0.0	0	839	6	529	252	0.014	17	0.000	0	17	0.18	15
Found./Crawl. Insul.	29	15	20	15	0	15,000	1.3	1,546	0.0	0	1,546	4	337	517	0.085	103	0.000	0	103	0.20	17
Bandjoist Insul.	40	0	40	-	0	7,911	0.0	0	0.0	0	0	4	362	198	-	-	-	-	-	0.11	9
Furnace Blower Fan[1]	75	72	53	-	72	0	0.0	0	4.9	6,851	6,851	(0)	(36)	0	0.000	0	0.067	95	95	(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	42	0	42	-	0	108,995	0.0	0	0.0	0	0	81	6,818	2,595	-	-	-	-	-	1.93	162
Condensing Htg Sys Repl	42	0	42	-	-	108,995	0.0	0	0.0	0	0	81	6,818	2,595	-	-	-	-	-	1.93	162
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	-	-	-	-	-	-	-

	Number of Measures by Fuel Type: Total	Electric	Gas		Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms		Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms
Water Heating	39	0	39	38	0	38	49,811	0.0	0.0	0	12.8	2,083	1,277	-	-	-	0.327	53
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.	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	-	-	-	-	-
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.	39	0	39	38	0	38	49,811	0.0	0.0	0	12.8	2,083	1,277	-	-	-	0.33	53
Lighting	29	29		207	207		302	0.5	1.0	5,179	-	-	10	0.019	0.035	179	-	-
Refrigerator/Freezer[3]	8	8		8	8		4,625	0.5	0.4	3,839	-	-	578	0.059	0.055	480	-	-
Refrigerator Removal	0	0		0	0		0	0.0	0.0	0	-	-	0	-	-	-	-	-
Refrigerator Exchange	7	7		7	7		4,400	0.4	0.4	3,330	-	-	629	0.059	0.055	476	-	-
Freezer Removal	0	0		0	0		0	0.0	0.0	0	-	-	0	-	-	-	-	-
Freezer Exchange	1	1		1	1		225	0.1	0.1	509	-	-	225	0.063	0.059	509	-	-

Total Non-Efficiency Measures	76	**49,378**	**650**
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	345	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	24	4,650	194
Water Heater Ventilation	2	469	235
Bathroom Ventilation	0	0	0
Dryer Ventilation	0	0	0
Other Exhaust Ventilation	0	0	0
Health/Safety Repairs	39	49,811	1,277
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	76	43,914	578
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
Unspecifed/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 2015

Total Reported Labor, Materials and Utility Admin Expenditures: $264,222

Utility Administration Expenditures: -

Total Labor and Material Expenditures: $264,222

Measure	Number of Dwellings with Impacts: Total	Electric	Gas	Number of Dwellings with Electricity Impacts: Season Cooling	Heating	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Gas Annual therms	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Gas Annual therms
Total Efficiency Measures	**67**	**65**	**44**	**65**	**65**	**233,578**	**15.7**		**11.4**		**55,530**	**91**	**8,345**	**3,486**	**0.242**		**0.176**		**854**	**2.07**	**190**
Total Shell & Htg. Sys. Repl	67	65	44	64	64	188,761	12.7	15,312	6.4	9,499	24,811	87	7,683	2,817	0.198	239	0.101	148	382	1.98	175
Total Shell Measures	67	65	44	64	63	132,386	12.7	15,312	6.4	9,430	24,742	64	5,625	1,976	0.198	239	0.101	150	381	1.45	128
Wall Insul.	45	43	30	43	8	53,983	5.3	6,452	2.0	2,887	9,339	33	2,888	1,200	0.124	150	0.245	361	217	1.09	96
Open Blown Ceiling Insul.	53	50	37	50	11	37,390	4.4	5,336	1.1	1,620	6,956	13	1,143	705	0.088	107	0.100	147	139	0.35	31
Cavity Fill Insul.	10	7	9	7	1	4,385	0.8	930	0.1	78	1,008	3	248	439	0.110	133	0.053	78	144	0.31	28
Sloped Attic Insul.	15	14	10	14	4	4,028	0.6	753	0.4	617	1,370	4	354	269	0.045	54	0.105	154	98	0.40	35
Kneewall Insul.	11	10	7	10	3	2,700	0.2	263	0.2	297	559	2	173	245	0.022	26	0.067	99	56	0.28	25
Infil. Reduction	67	55	44	55	15	17,028	0.4	476	0.4	575	1,051	4	313	254	0.007	9	0.026	38	19	0.08	7
Found./Crawl. Insul.	30	19	21	18	5	6,089	0.9	1,102	0.2	322	1,424	2	202	203	0.051	61	0.044	64	75	0.11	10
Bandjoist Insul.	48	14	34	-	14	6,783	0.0	0	0.3	450	450	4	321	141	0.000	0	0.022	32	32	0.11	9
Furnace Blower Fan[1]	50	48	44	-	48	0	0.0	0	1.8	2,585	2,585	(0)	(16)	0	0.000	0	0.037	54	54	(0.00)	(0)
Exhaust Ventilation[2]	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Total Heating System Repl	19	2	17	-	2	56,375	0.0	0	0.0	69	69	23	2,057	2,967	0.000	0	0.023	35	35	1.38	121
Condensing Htg Sys Repl	17	0	17	-	-	50,375	0.0	0	0.0	0	0	23	2,057	2,963	-	-	-	-	-	1.38	121
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	6,000	0.0	0	0.0	69	69	0	0	3,000	0.000	0	0.023	35	35	-	-
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: Total	Electric	Gas	Number of Measures by Fuel Type: Total	Electric	Gas		Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms		Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms
Water Heating	60	34	26	127	68	59	35,620	0.0	0.0	2,964	3.6	662	594	0.000	0.001	87	0.138	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.	54	30	24	54	30	24	305	0.0	0.0	1,163	0.2	84	6	0.000	0.000	39	0.01	4
LF Showerhead	6	2	4	6	2	4	60	0.0	0.0	222	0.1	34	10	0.000	0.003	111	0.03	9
Faucet Aerator	27	16	11	49	29	20	155	0.0	0.0	1,069	0.1	33	6	0.000	0.002	67	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.	26	9	17	18	7	11	35,100	0.0	0.0	510	3.1	511	1,350	0.000	0.001	57	0.18	30
Lighting	56	56		531	531		1,915	2.3	4.3	22,081	-	-	34	0.041	0.076	394	-	-
Refrigerator/Freezer[3]	9	9		10	10		7,282	0.7	0.7	5,673	-	-	809	0.078	0.072	630	-	-
Refrigerator Removal	0	0		0	0		0	0.0	0.0	0	-	-	0	-	-	-	-	-
Refrigerator Exchange	8	8		8	8		6,414	0.4	0.4	3,402	-	-	802	0.052	0.049	425	-	-
Freezer Removal	0	0		0	0		0	0.0	0.0	0	-	-	0	-	-	-	-	-
Freezer Exchange	2	2		2	2		868	0.3	0.3	2,271	-	-	434	0.140	0.131	1,136	-	-

Total Non-Efficiency Measures	65					**30,644**							**471**					
Misc Ins,Attic Access/Vent	17					2,195							129					
Duct Sealing	0					0							0					
Duct Insulation	0					0							0					
Damming Material	0					0							0					
Htg. Sys. Tune & Clean	6					750							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	21					4,174							199					
Water Heater Ventilation	23					3,470							151					
Bathroom Ventilation	0					0							0					
Dryer Ventilation	0					0							0					
Other Exhaust Ventilation	0					0							0					
Health/Safety Repairs	11					780							71					
Health/Safety Other	0					0							0					
Consumables	0					0							0					
General Repairs	61					19,276							316					
Meter Refrig (no action)	0					0							0					
Meter Freezer (no action)	0					0							0					
Support	0					0							0					
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					
Unspecifed/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 2015

Total Reported Labor, Materials and Utility Admin Expenditures: $332,166

Utility Administration Expenditures: -

Total Labor and Material Expenditures: $332,166

Measure	Number of Dwellings with Impacts: Total	Electric	Gas	Number of Dwellings with Electricity Impacts: Season Cooling	Heating	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Gas Annual therms	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Gas Annual therms
Total Efficiency Measures	**57**	**38**	**46**	**38**	**38**	**290,134**	**7.2**		**3.1**		**18,389**	**99**	**10,079**	**5,090**	**0.190**		**0.080**		**484**	**2.15**	**219**
Total Shell & Htg. Sys. Repl	55	37	44	35	37	239,577	6.5	7,796	1.9	3,064	10,860	93	9,067	4,356	0.185	223	0.051	83	294	2.12	206
Total Shell Measures	55	37	44	35	37	132,612	6.5	7,796	1.9	3,064	10,860	59	5,697	2,411	0.185	223	0.051	83	294	1.33	129
Wall Insul.	37	26	33	26	0	49,151	2.6	3,174	0.0	0	3,174	26	2,494	1,328	0.101	122	0.000	0	122	0.78	76
Open Blown Ceiling Insul.	51	33	42	33	0	23,591	2.3	2,732	0.0	0	2,732	9	923	463	0.069	83	0.000	0	83	0.23	22
Cavity Fill Insul.	19	12	18	12	0	10,965	0.4	429	0.0	0	429	6	579	577	0.030	36	0.000	0	36	0.33	32
Sloped Attic Insul.	20	14	17	14	0	5,938	0.6	728	0.0	0	728	6	540	297	0.043	52	0.000	0	52	0.33	32
Kneewall Insul.	14	8	13	8	0	4,951	0.2	186	0.0	0	186	3	322	354	0.019	23	0.000	0	23	0.25	25
Infil. Reduction	52	31	42	31	0	15,711	0.3	375	0.0	0	375	5	464	302	0.010	12	0.000	0	12	0.11	11
Found./Crawl. Insul.	21	3	20	3	0	16,469	0.1	172	0.0	0	172	3	267	784	0.047	57	0.000	0	57	0.14	13
Bandjoist Insul.	24	0	24	-	0	5,837	0.0	0	0.0	0	0	1	126	243	-	-	-	-	-	0.05	5
Furnace Blower Fan[1]	55	37	44	-	37	0	0.0	0	1.9	3,064	3,064	(0)	(18)	0	0.000	0	0.051	83	83	(0.00)	(0)
Exhaust Ventilation[2]	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Total Heating System Repl	38	0	38	-	0	106,965	0.0	0	0.0	0	0	35	3,371	2,815	-	-	-	-	-	0.91	89
Condensing Htg Sys Repl	38	0	38	-	-	106,965	0.0	0	0.0	0	0	35	3,371	2,815	-	-	-	-	-	0.91	89
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	-	-	-	-	-	-	-

Measure	Number of Measures: Total	Electric	Gas	Number of Measures by Fuel Type: Total	Electric	Gas	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms
Water Heating	42	7	35	69	10	59	44,520	0.0	0.0	640	5.9	1,012	1,060	0.000	0.001	91	0.169	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.	39	7	32	39	7	32	780	0.0	0.0	280	0.3	94	20	0.000	0.000	40	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.	32	3	29	30	3	27	43,740	0.0	0.0	360	5.6	918	1,367	0.000	0.003	120	0.19	32
Lighting	35	35		306	306		2,142	0.5	0.9	4,793	-	-	61	0.014	0.027	137	-	-
Refrigerator/Freezer[3]	5	5		4	4		3,895	0.3	0.2	2,096	-	-	779	0.052	0.048	419	-	-
Refrigerator Removal	0	0		0	0		0	0.0	0.0	0	-	-	0	-	-	-	-	-
Refrigerator Exchange	5	5		4	4		3,895	0.3	0.2	2,096	-	-	779	0.052	0.048	419	-	-
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	-	-	-	-	-

Measure	Total	Spending on Materials & Labor ($)	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)
Total Non-Efficiency Measures	57	**42,032**	**737**
Misc Ins,Attic Access/Vent	17	2,054	121
Duct Sealing	0	0	0
Duct Insulation	0	0	0
Damming Material	0	0	0
Htg. Sys. Tune & Clean	4	500	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	13	2,605	200
Water Heater Ventilation	10	1,296	130
Bathroom Ventilation	0	0	0
Dryer Ventilation	0	0	0
Other Exhaust Ventilation	0	0	0
Health/Safety Repairs	7	357	51
Health/Safety Other	0	0	0
Consumables	0	0	0
General Repairs	26	4,821	185
Meter Refrig (no action)	0	0	0
Meter Freezer (no action)	0	0	0
Support	52	30,399	585
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
Unspecifed/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 2015

Total Reported Labor, Materials and Utility Admin Expenditures: $338,533

Utility Administration Expenditures: -

Total Labor and Material Expenditures: $338,533

Measure	Number of Dwellings with Impacts: Total	Electric	Gas	Number of Dwellings with Electricity Impacts: Season Cooling	Heating	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Gas Annual therms	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Gas Annual therms
Total Efficiency Measures	**53**	**43**	**46**	**42**	**43**	**265,345**	**11.0**		**3.6**		**25,223**	**112**	**10,268**	**5,007**	**0.261**		**0.085**		**587**	**2.44**	**223**
Total Shell & Htg. Sys. Repl	52	41	46	37	41	217,456	10.0	12,040	2.1	2,973	15,013	106	9,138	4,182	0.270	325	0.050	73	366	2.31	199
Total Shell Measures	52	41	46	37	41	112,894	10.0	12,040	2.1	2,973	15,013	61	5,269	2,171	0.270	325	0.050	73	366	1.33	115
Wall Insul.	39	27	35	27	1	46,680	4.3	5,213	0.5	735	5,947	27	2,354	1,197	0.160	193	0.509	735	220	0.78	67
Open Blown Ceiling Insul.	44	31	40	31	1	26,871	3.4	4,099	0.0	65	4,164	15	1,294	611	0.110	132	0.045	65	134	0.38	32
Cavity Fill Insul.	2	2	1	2	0	711	0.2	229	0.0	0	229	0	23	356	0.095	114	0.000	0	114	0.27	23
Sloped Attic Insul.	26	17	22	17	1	10,690	1.1	1,364	0.2	299	1,662	10	844	411	0.067	80	0.207	299	98	0.45	38
Kneewall Insul.	19	13	16	13	1	3,921	0.3	382	0.1	129	511	2	191	206	0.024	29	0.089	129	39	0.14	12
Infil. Reduction	52	19	46	19	2	17,218	0.2	300	0.0	70	370	4	385	331	0.013	16	0.024	35	19	0.10	8
Found./Crawl. Insul.	25	7	23	7	1	4,880	0.4	453	0.0	37	491	1	111	195	0.054	65	0.026	37	70	0.06	5
Bandjoist Insul.	23	1	22	-	1	1,923	0.0	0	0.0	40	40	1	81	84	0.000	0	0.028	40	40	0.04	4
Furnace Blower Fan[1]	50	39	46	-	39	0	0.0	0	1.1	1,599	1,599	(0)	(14)	0	0.000	0	0.028	41	41	(0.00)	(0)
Exhaust Ventilation[2]	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Total Heating System Repl	35	0	35	-	0	104,563	0.0	0	0.0	0	0	45	3,869	2,988	-	-	-	-	-	1.28	111
Condensing Htg Sys Repl	35	0	35	-	-	104,563	0.0	0	0.0	0	0	45	3,869	2,988	-	-	-	-	-	1.28	111
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: 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	47	12	35	136	26	110	41,234	0.0		0.0	1,314	6.1	1,130	877	0.000		0.002		109	0.173	32
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.	36	8	28	36	8	28	690	0.0		0.0	320	0.3	98	19	0.000		0.000		40	0.01	3
LF Showerhead	18	4	14	20	4	16	200	0.0		0.0	444	0.4	118	11	0.000		0.003		111	0.03	8
Faucet Aerator	37	9	28	56	12	44	276	0.0		0.0	309	0.2	73	7	0.000		0.001		34	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	2	26	24	2	22	40,068	0.0		0.0	240	5.2	841	1,431	0.000		0.003		120	0.20	32
Lighting	37	37		394	394		2,831	0.7		1.3	6,714	-	-	77	0.019		0.035		181	-	-
Refrigerator/Freezer[3]	5	5		5	5		3,824	0.3		0.3	2,181	-	-	765	0.054		0.050		436	-	-
Refrigerator Removal	0	0		0	0		0	0.0		0.0	0	-	-	0	-		-		-	-	-
Refrigerator Exchange	4	4		4	4		3,174	0.2		0.2	1,767	-	-	793	0.054		0.051		442	-	-
Freezer Removal	0	0		0	0		0	0.0		0.0	0	-	-	0	-		-		-	-	-
Freezer Exchange	1	1		1	1		650	0.1		0.0	414	-	-	650	0.051		0.048		414	-	-
Total Non-Efficiency Measures	53					**73,188**								**1,381**							
Misc Ins,Attic Access/Vent	47					5,642								120							
Duct Sealing	0					0								0							
Duct Insulation	11					379								34							
Damming Material	0					0								0							
Htg. Sys. Tune & Clean	8					1,000								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	36					8,660								241							
Water Heater Ventilation	24					5,208								217							
Bathroom Ventilation	0					0								0							
Dryer Ventilation	0					0								0							
Other Exhaust Ventilation	0					0								0							
Health/Safety Repairs	26					1,243								48							
Health/Safety Other	1					147								147							
Consumables	0					0								0							
General Repairs	52					15,198								292							
Meter Refrig (no action)	14					0								0							
Meter Freezer (no action)	4					0								0							
Support	53					35,654								673							
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							
Unspecifed/Other	4					57								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.

Community Action Agency of Siouxland

Billing Adjusted Costs and Impacts for Utility-Funded Measures Installed During Calendar Year 2015

Total Reported Labor, Materials and Utility Admin Expenditures: $214,448

Utility Administration Expenditures: -

Total Labor and Material Expenditures: $214,448

Measure	Number of Dwellings with Impacts: Total	Electric	Gas	Number of Dwellings with Electricity Impacts: Season Cooling	Heating	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Gas Annual therms	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Gas Annual therms
Total Efficiency Measures	**49**	**47**	**37**	**47**	**47**	**194,572**	**10.1**		**10.0**		**45,985**	**94**	**9,222**	**3,971**	**0.215**		**0.213**		**978**	**2.55**	**249**
Total Shell & Htg. Sys. Repl	45	43	36	40	40	135,274	7.2	8,738	5.9	9,000	17,739	88	8,020	3,006	0.181	218	0.147	225	413	2.44	223
Total Shell Measures	45	43	36	40	40	60,134	7.2	8,738	5.9	8,966	17,704	50	4,521	1,336	0.181	218	0.147	224	412	1.38	126
Wall Insul.	20	19	17	19	2	16,975	2.1	2,587	0.5	742	3,329	12	1,129	849	0.113	136	0.243	371	175	0.73	66
Open Blown Ceiling Insul.	40	37	31	37	6	28,365	3.8	4,554	2.5	3,764	8,318	22	1,973	709	0.102	123	0.410	627	225	0.70	64
Cavity Fill Insul.	8	7	6	7	2	3,300	0.4	438	0.4	626	1,064	4	383	413	0.052	63	0.205	313	152	0.70	64
Sloped Attic Insul.	16	15	15	15	0	2,825	0.7	839	0.0	0	839	8	724	177	0.046	56	0.000	0	56	0.53	48
Kneewall Insul.	6	5	6	5	0	861	0.1	152	0.0	0	152	2	154	144	0.025	30	0.000	0	30	0.28	26
Infil. Reduction	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Found./Crawl. Insul.	11	3	10	3	0	7,688	0.1	168	0.0	0	168	2	169	699	0.046	56	0.000	0	56	0.18	17
Bandjoist Insul.	1	0	1	-	0	120	0.0	0	0.0	0	0	0	5	120	-	-	-	-	-	0.05	5
Furnace Blower Fan[1]	36	34	36	-	34	0	0.0	0	2.5	3,833	3,833	(0)	(16)	0	0.000	0	0.074	113	113	(0.00)	(0)
Exhaust Ventilation[2]	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Total Heating System Repl	27	1	26	-	1	75,140	0.0	0	0.0	34	34	38	3,499	2,783	0.000	0	0.022	34	34	1.48	135
Condensing Htg Sys Repl	26	0	26	-	-	71,640	0.0	0	0.0	0	0	38	3,499	2,755	-	-	-	-	-	1.48	135
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	0.0	34	34	0	0	3,500	0.000	0	0.022	34	34	-	-
Other Htg Sys Repl	0	0	0	-	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-

Measure	Number of Measures by Fuel Type: Total	Electric	Gas	Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms	Spending on Materials & Labor ($)	Summer kW	Winter kW	Annual kWh	Pk-Day therms	Annual therms
Water Heating	48	20	28	137	51	85	41,838	0.0	0.1	2,782	6.4	1,202	872	0.000	0.003	139	0.229	43
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.	46	18	28	46	18	28	903	0.0	0.0	439	0.3	98	20	0.000	0.000	24	0.01	4
LF Showerhead	41	16	25	49	20	29	490	0.0	0.0	1,572	0.7	211	12	0.000	0.002	98	0.03	8
Faucet Aerator	9	4	5	11	4	7	55	0.0	0.0	83	0.0	9	6	0.000	0.000	21	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.	32	10	22	31	9	21	40,390	0.0	0.0	687	5.4	884	1,262	0.000	0.002	69	0.25	40
Lighting	44	44		438	438		3,076	1.5	2.8	14,587	-	-	70	0.035	0.064	332	-	-
Refrigerator/Freezer[3]	20	20		23	23		14,384	1.3	1.3	10,878	-	-	719	0.067	0.063	544	-	-
Refrigerator Removal	0	0		0	0		0	0.0	0.0	0	-	-	0	-	-	-	-	-
Refrigerator Exchange	17	17		17	17		11,526	1.1	1.0	8,803	-	-	678	0.064	0.060	518	-	-
Freezer Removal	0	0		0	0		0	0.0	0.0	0	-	-	0	-	-	-	-	-
Freezer Exchange	6	6		6	6		2,858	0.3	0.2	2,075	-	-	476	0.043	0.040	346	-	-

Measure	Total	Spending on Materials & Labor ($)
Total Non-Efficiency Measures	49	**19,876**	**406**
Misc Ins,Attic Access/Vent	1	356	356
Duct Sealing	0	0	0
Duct Insulation	0	0	0
Damming Material	0	0	0
Htg. Sys. Tune & Clean	1	100	100
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	0	0	0
Bathroom Ventilation	0	0	0
Dryer Ventilation	0	0	0
Other Exhaust Ventilation	0	0	0
Health/Safety Repairs	32	40,390	1,262
Health/Safety Other	0	0	0
Consumables	0	0	0
General Repairs	0	0	0
Meter Refrig (no action)	26	0	0
Meter Freezer (no action)	12	0	0
Support	49	19,420	396
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
Unspecifed/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 2015

Total Reported Labor, Materials and Utility Admin Expenditures: $592,126

Utility Administration Expenditures: -

Total Labor and Material Expenditures: $592,126

Measure	Number of Dwellings with Impacts: Total	Electric	Gas	Number of Dwellings with Electricity Impacts: Season Cooling	Heating	Spending on Materials & Labor ($)	Billing Adjusted First-Year Savings: Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Gas Annual therms	Average Billing Adjusted First Year Costs and Savings per Dwelling Receiving Measures: Spending on Materials & Labor ($)	Electricity Summer kW	Summer kWh	Winter kW	Winter kWh	Annual kWh	Gas Pk-Day therms	Gas Annual therms
Total Efficiency Measures	**99**	**99**	**97**	**99**	**99**	**542,531**	**25.0**		**22.5**		**103,706**	**273**	**25,424**	**5,480**	**0.252**		**0.227**		**1,048**	**2.81**	**262**
Total Shell & Htg. Sys. Repl	97	97	96	64	97	446,999	17.9	21,636	11.4	17,022	38,658	259	22,834	4,608	0.280	338	0.118	175	399	2.69	238
Total Shell Measures	97	97	96	64	97	301,624	17.9	21,636	11.4	17,022	38,658	178	15,728	3,110	0.280	338	0.118	175	399	1.85	164
Wall Insul.	67	56	67	56	0	116,940	8.1	9,797	0.0	0	9,797	58	5,104	1,745	0.145	175	0.000	0	175	0.86	76
Open Blown Ceiling Insul.	74	62	73	62	0	70,926	6.9	8,289	0.0	0	8,289	68	6,010	958	0.111	134	0.000	0	134	0.93	82
Cavity Fill Insul.	47	38	47	38	0	32,141	1.5	1,846	0.0	0	1,846	26	2,254	684	0.040	49	0.000	0	49	0.54	48
Sloped Attic Insul.	16	13	16	13	0	8,691	0.6	665	0.0	0	665	7	586	543	0.042	51	0.000	0	51	0.42	37
Kneewall Insul.	29	24	29	24	0	10,949	0.5	568	0.0	0	568	7	578	378	0.020	24	0.000	0	24	0.22	20
Infil. Reduction	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	-	-	-	-	-	-	-
Found./Crawl. Insul.	57	6	57	6	0	61,958	0.4	472	0.0	0	472	14	1,244	1,087	0.065	79	0.000	0	79	0.24	22
Bandjoist Insul.	1	0	1	-	0	20	0.0	0	0.0	0	0	0	6	20	-	-	-	-	-	0.07	6
Furnace Blower Fan[1]	97	97	96	-	97	0	0.0	0	11.4	17,022	17,022	(1)	(54)	0	0.000	0	0.118	175	175	(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	63	0	63	-	0	145,376	0.0	0	0.0	0	0	81	7,105	2,308	-	-	-	-	-	1.28	113
Condensing Htg Sys Repl	63	0	63	-	-	145,376	0.0	0	0.0	0	0	81	7,105	2,308	-	-	-	-	-	1.28	113
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: 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	92	5	87	300	18	282	77,976	0.0		0.0	994	13.9	2,590	848	0.000		0.004		199	0.160	30
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.	88	5	83	88	5	83	914	0.0		0.0	200	0.7	258	10	0.000		0.000		40	0.01	3
LF Showerhead	31	2	29	31	2	29	284	0.0		0.0	327	0.7	206	9	0.000		0.004		163	0.02	7
Faucet Aerator	74	4	70	131	9	122	458	0.0		0.0	276	0.6	179	6	0.000		0.002		69	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.	54	2	52	50	2	48	76,321	0.0		0.0	190	11.9	1,948	1,413	0.000		0.002		95	0.23	37
Lighting	90	90		979	979		6,853	4.9		9.1	46,735	-	-	76	0.055		0.101		519	-	-
Refrigerator/Freezer[3]	19	19		19	19		10,702	2.1		2.0	17,319	-	-	563	0.112		0.105		912	-	-
Refrigerator Removal	0	0		0	0		0	0.0		0.0	0	-	-	0	-		-		-	-	-
Refrigerator Exchange	19	19		19	19		10,702	2.1		2.0	17,319	-	-	563	0.112		0.105		912	-	-
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	75					**49,596**								**661**							
Misc Ins,Attic Access/Vent	1					210								210							
Duct Sealing	0					0								0							
Duct Insulation	0					0								0							
Damming Material	0					0								0							
Htg. Sys. Tune & Clean	9					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	50					10,067								201							
Water Heater Ventilation	27					4,098								152							
Bathroom Ventilation	0					0								0							
Dryer Ventilation	0					0								0							
Other Exhaust Ventilation	0					0								0							
Health/Safety Repairs	54					76,321								1,413							
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	42					34,096								812							
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							
Unspecifed/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.

This page intentionally left blank

APPENDIX A -- CLIENT CHARACTERISTICS

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Household characteristics										
Quarterly gross income	$3,727	$3,911	$4,002	$4,190	$4,130	$4,344	$4,355	$4,286	$4,406	$4,600
Average members	2.8	2.9	2.8	2.8	2.9	2.9	2.8	2.7	2.7	2.7
Percentage of households with:										
Elderly	32.3	32.6	31.5	34.2	24.0	29.1	29.4	30.8	28.9	31.3
Handicapped	42.5	43.1	42.7	35.7	25.4	32.9	30.1	32.6	31.3	30.6
Young children	15.6	18.7	21.5	21.5	18.6	25.2	21.9	20.1	22.4	19.4
Housing type (%)										
Single family home	90.3	90.7	87.7	87.9	82.6	89.6	87.3	84.8	87.4	88.4
Mobile home	7.7	7.8	7.5	9.9	7.6	10.0	10.2	11.9	10.6	8.6
Duplex	2.1	0.6	0.1	0.3	0.3	0.1	0.7	3.2	1.9	2.8
Three+ unit apartment	0.0	0.4	1.3	1.0	6.8	0.3	1.8	0.1	0.1	0.2
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	0.6	3.5	1.0	2.6	0.0	0.0	0.0	0.0	0.0
Heating system type (%)										
Natural gas	84.0	84.3	85.8	85.6	82.7	81.0	80.8	80.3	84.2	86.7
Propane	11.7	11.4	10.1	9.3	11.9	12.9	13.3	12.3	9.2	8.1
Fuel oil	1.0	0.6	0.7	0.3	0.8	0.8	0.8	0.9	0.2	0.1
Electricity	3.3	3.5	3.3	4.7	4.5	5.4	5.1	6.4	6.4	5.2
Other	0.0	0.2	0.1	0.1	0.0	0.0	0.0	0.2	0.0	0.0
Air conditioning type (%)										
Central	49.8	56.3	52.5	55.3	54.1	58.7	57.3	60.2	63.6	62.0
Room	37.4	8.7	34.6	32.5	31.4	27.8	30.4	29.4	26.3	29.5
None or Missing Data	12.8	35.0	12.8	12.2	14.5	13.6	12.3	10.4	10.1	8.5
Blower door readings (average cfm50)										
Pre	3,856	3,639	3,608	3,374	3,281	3,294	3,454	3,281	3,437	3,429
Post	2,389	2,216	2,215	2,120	2,040	2,054	2,139	2,053	2,100	2,148