

Energy Efficiency Potential Assessment – Volume II

April 17, 2015

Prepared For

PPL Electric

The Cadmus Group, Inc.

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Overview of Appendices

Volume II contains technical details of baseline inputs, detailed potential study results, measure details, and measures included in estimates of program potential. This volume is organized into the following four appendices

Appendix A – Baseline Data contains key inputs used to develop baseline estimates of end use consumption. These inputs include end use saturations, fuel shares, unit energy consumption (UECs), energy use intensities (EUIs), and industrial end use distributions.

Appendix B. Detailed Potential Results contains pie charts that show the distribution of 5-year (2016 through 2020) cumulative base achievable potential by sector, segment, and end use.

Appendix C. Measure Details contains the technical details of each measure permutation considered in this study.

Each table includes the following fields (if applicable):

- **Segment**
- **End Use**
- **Construction Vintage:** New or Existing
- **Measure Name**
- **Measure Description**
- **Baseline Description**
- **Unit Description:** Units of savings and costs (e.g. per square foot, per unit, per industry).
- **Savings per Unit:** Per unit stand-alone savings for the energy efficiency measure. Industrial per unit savings are expressed in MWh.
- **Measure Life:** Expected useful lifetime of a given measure (years).
- **Incremental Cost (\$):** Incremental cost to install the energy efficiency measure (inclusive of capital costs, labor, and annual O&M). Industrial costs are expressed on thousands of dollars.
- **Technical Feasibility:** Percent of installations that are technical feasible.
- **Incomplete Factor:** Percent of applications that are
- **Levelized Cost:** The total resource cost (TRC) levelized cost of conserved energy, discounted over the life of the energy efficiency measure.
- **TRC Benefit-Cost (B/C) Ratio:** The ratio of net present value TRC benefits to net present value TRC costs.



- **Achievable Potential:** Base scenario cumulative achievable potential in 2020, expressed in MWh.

Appendix D. Program Potential Measures includes the list of residential, commercial, GNI, and industrial measures considered in the four program potential scenarios. This section also includes end use and program designations for each measure

Appendix A – Baseline Data

Table 1. Residential Baseline Inputs

Segment	End Use	Saturation	Fuel Share	UEC (kWh/Year)
Low Income Multi-family	Computer Desktop	0.39	100%	130
Low Income Multi-family	Computer Laptop	0.81	100%	33
Low Income Multi-family	Cooking	1.00	58%	94
Low Income Multi-family	Cool Central	0.38	100%	1,109
Low Income Multi-family	Cool Room	0.88	100%	94
Low Income Multi-family	Copier	0.25	100%	133
Low Income Multi-family	Dehumidifier	0.04	100%	1,073
Low Income Multi-family	Dryer	0.72	81%	593
Low Income Multi-family	Fax	0.13	100%	35
Low Income Multi-family	Freezer	0.11	100%	339
Low Income Multi-family	Heat Central	0.30	39%	5,142
Low Income Multi-family	Heat Pump	0.02	100%	5,716
Low Income Multi-family	Heat Room	0.24	100%	4,191
Low Income Multi-family	Lighting Exterior	0.54	100%	62
Low Income Multi-family	Lighting Interior Linear Fluorescent	1.22	100%	54
Low Income Multi-family	Lighting Interior Specialty	3.21	100%	48
Low Income Multi-family	Lighting Interior Standard	15.88	100%	39
Low Income Multi-family	Monitor	0.39	100%	49
Low Income Multi-family	Multifunction Device	0.50	100%	121
Low Income Multi-family	Other	1.00	100%	0
Low Income Multi-family	Plug Load Other	1.00	100%	180
Low Income Multi-family	Refrigerator	1.13	100%	399
Low Income Multi-family	TV	1.73	100%	71
Low Income Multi-family	TV Bigscreen	0.19	100%	164
Low Income Multi-family	Ventilation and Circulation	0.30	100%	519
Low Income Multi-family	Water Heat GT 55 Gal	0.06	0%	4,159
Low Income Multi-family	Water Heat LE 55 Gal	0.90	72%	3,050
Low Income Single Family Attached	Computer Desktop	0.65	100%	130
Low Income Single Family Attached	Computer Laptop	0.98	100%	33
Low Income Single Family Attached	Cooking	1.00	71%	96
Low Income Single Family Attached	Cool Central	0.53	100%	1,398
Low Income Single Family Attached	Cool Room	0.95	100%	126
Low Income Single Family Attached	Copier	0.41	100%	133



Segment	End Use	Saturation	Fuel Share	UEC (kWh/Year)
Low Income Single Family Attached	Dehumidifier	0.60	100%	1,001
Low Income Single Family Attached	Dryer	1.02	86%	593
Low Income Single Family Attached	Fax	0.56	100%	35
Low Income Single Family Attached	Freezer	0.58	100%	317
Low Income Single Family Attached	Heat Central	0.35	3%	11,718
Low Income Single Family Attached	Heat Pump	0.20	100%	7,211
Low Income Single Family Attached	Heat Room	0.32	100%	6,625
Low Income Single Family Attached	Lighting Exterior	2.92	100%	66
Low Income Single Family Attached	Lighting Interior Linear Fluorescent	8.79	100%	54
Low Income Single Family Attached	Lighting Interior Specialty	15.78	100%	37
Low Income Single Family Attached	Lighting Interior Standard	41.50	100%	37
Low Income Single Family Attached	Monitor	0.65	100%	49
Low Income Single Family Attached	Multifunction Device	0.83	100%	121
Low Income Single Family Attached	Other	1.00	100%	0
Low Income Single Family Attached	Plug Load Other	1.00	100%	180
Low Income Single Family Attached	Refrigerator	1.39	100%	431
Low Income Single Family Attached	TV	2.87	100%	71
Low Income Single Family Attached	TV Bigscreen	0.21	100%	164
Low Income Single Family Attached	Ventilation and Circulation	0.35	100%	655
Low Income Single Family Attached	Water Heat GT 55 Gal	0.16	13%	4,159
Low Income Single Family Attached	Water Heat LE 55 Gal	0.73	55%	3,050
Low-Income Manufactured	Computer Desktop	0.46	100%	130
Low-Income Manufactured	Computer Laptop	0.45	100%	33
Low-Income Manufactured	Cooking	1.00	71%	93
Low-Income Manufactured	Cool Central	0.50	100%	1,146

Segment	End Use	Saturation	Fuel Share	UEC (kWh/Year)
Low-Income Manufactured	Cool Room	0.76	100%	98
Low-Income Manufactured	Copier	0.15	100%	133
Low-Income Manufactured	Dehumidifier	0.18	100%	1,001
Low-Income Manufactured	Dryer	1.00	94%	593
Low-Income Manufactured	Fax	0.17	100%	35
Low-Income Manufactured	Freezer	0.49	100%	317
Low-Income Manufactured	Heat Central	0.35	21%	5,982
Low-Income Manufactured	Heat Pump	0.13	100%	5,907
Low-Income Manufactured	Heat Room	0.01	100%	4,502
Low-Income Manufactured	Lighting Exterior	1.25	100%	66
Low-Income Manufactured	Lighting Interior Linear Fluorescent	1.96	100%	54
Low-Income Manufactured	Lighting Interior Specialty	4.42	100%	37
Low-Income Manufactured	Lighting Interior Standard	21.61	100%	37
Low-Income Manufactured	Monitor	0.46	100%	49
Low-Income Manufactured	Multifunction Device	0.30	100%	121
Low-Income Manufactured	Other	1.00	100%	0
Low-Income Manufactured	Plug Load Other	1.00	100%	180
Low-Income Manufactured	Pool Pump	0.00	100%	2,180
Low-Income Manufactured	Refrigerator	1.18	100%	431
Low-Income Manufactured	TV	2.12	100%	71
Low-Income Manufactured	TV Bigscreen	0.18	100%	164
Low-Income Manufactured	Ventilation and Circulation	0.35	100%	537
Low-Income Manufactured	Water Heat GT 55 Gal	0.00	0%	4,159
Low-Income Manufactured	Water Heat LE 55 Gal	0.93	81%	3,050
Low-Income Single Family Detached	Computer Desktop	0.65	100%	130
Low-Income Single Family Detached	Computer Laptop	0.98	100%	33
Low-Income Single Family Detached	Cooking	1.00	71%	96
Low-Income Single Family Detached	Cool Central	0.53	100%	1,398
Low-Income Single Family Detached	Cool Room	0.95	100%	126
Low-Income Single Family Detached	Copier	0.41	100%	133
Low-Income Single Family Detached	Dehumidifier	0.60	100%	1,001
Low-Income Single Family Detached	Dryer	1.02	86%	593
Low-Income Single Family Detached	Fax	0.56	100%	35
Low-Income Single Family Detached	Freezer	0.58	100%	317



Segment	End Use	Saturation	Fuel Share	UEC (kWh/Year)
Low-Income Single Family Detached	Heat Central	0.35	3%	11,718
Low-Income Single Family Detached	Heat Pump	0.20	100%	7,211
Low-Income Single Family Detached	Heat Room	0.32	100%	6,625
Low-Income Single Family Detached	Lighting Exterior	2.92	100%	66
Low-Income Single Family Detached	Lighting Interior Linear Fluorescent	8.79	100%	54
Low-Income Single Family Detached	Lighting Interior Specialty	15.78	100%	37
Low-Income Single Family Detached	Lighting Interior Standard	41.50	100%	37
Low-Income Single Family Detached	Monitor	0.65	100%	49
Low-Income Single Family Detached	Multifunction Device	0.83	100%	121
Low-Income Single Family Detached	Other	1.00	100%	0
Low-Income Single Family Detached	Plug Load Other	1.00	100%	180
Low-Income Single Family Detached	Pool Pump	0.11	100%	2,180
Low-Income Single Family Detached	Refrigerator	1.39	100%	431
Low-Income Single Family Detached	TV	2.87	100%	71
Low-Income Single Family Detached	TV Bigscreen	0.21	100%	164
Low-Income Single Family Detached	Ventilation and Circulation	0.35	100%	655
Low-Income Single Family Detached	Water Heat GT 55 Gal	0.16	13%	4,159
Low-Income Single Family Detached	Water Heat LE 55 Gal	0.73	55%	3,050
Manufactured	Computer Desktop	0.46	100%	130
Manufactured	Computer Laptop	0.45	100%	33
Manufactured	Cooking	1.00	71%	93
Manufactured	Cool Central	0.50	100%	1,146
Manufactured	Cool Room	0.76	100%	98
Manufactured	Copier	0.15	100%	133
Manufactured	Dehumidifier	0.18	100%	1,001
Manufactured	Dryer	1.00	94%	593
Manufactured	Fax	0.17	100%	35
Manufactured	Freezer	0.49	100%	317

Segment	End Use	Saturation	Fuel Share	UEC (kWh/Year)
Manufactured	Heat Central	0.35	21%	5,982
Manufactured	Heat Pump	0.13	100%	5,907
Manufactured	Heat Room	0.01	100%	4,502
Manufactured	Lighting Exterior	1.25	100%	66
Manufactured	Lighting Interior Linear Fluorescent	1.96	100%	54
Manufactured	Lighting Interior Specialty	4.42	100%	37
Manufactured	Lighting Interior Standard	21.61	100%	37
Manufactured	Monitor	0.46	100%	49
Manufactured	Multifunction Device	0.30	100%	121
Manufactured	Other	1.00	100%	0
Manufactured	Plug Load Other	1.00	100%	180
Manufactured	Pool Pump	0.00	100%	2,180
Manufactured	Refrigerator	1.18	100%	431
Manufactured	TV	2.12	100%	71
Manufactured	TV Bigscreen	0.18	100%	164
Manufactured	Ventilation and Circulation	0.35	100%	537
Manufactured	Water Heat GT 55 Gal	0.00	0%	4,159
Manufactured	Water Heat LE 55 Gal	0.93	81%	3,045
Multi-family	Computer Desktop	0.39	100%	130
Multi-family	Computer Laptop	0.81	100%	33
Multi-family	Cooking	1.00	58%	94
Multi-family	Cool Central	0.38	100%	1,109
Multi-family	Cool Room	0.88	100%	94
Multi-family	Copier	0.25	100%	133
Multi-family	Dehumidifier	0.04	100%	1,073
Multi-family	Dryer	0.72	81%	593
Multi-family	Fax	0.13	100%	35
Multi-family	Freezer	0.11	100%	339
Multi-family	Heat Central	0.30	39%	5,142
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Multi-family	Lighting Interior Specialty	3.21	100%	48
Multi-family	Lighting Interior Standard	15.88	100%	39
Multi-family	Monitor	0.39	100%	49
Multi-family	Multifunction Device	0.50	100%	121
Multi-family	Other	1.00	100%	0
Multi-family	Plug Load Other	1.00	100%	180
Multi-family	Refrigerator	1.13	100%	399
Multi-family	TV	1.73	100%	71
Multi-family	TV Bigscreen	0.19	100%	164
Multi-family	Ventilation and Circulation	0.30	100%	519



Segment	End Use	Saturation	Fuel Share	UEC (kWh/Year)
Multi-family	Water Heat GT 55 Gal	0.06	0%	4,159
Multi-family	Water Heat LE 55 Gal	0.90	72%	3,050
Single Family Attached	Computer Desktop	0.65	100%	130
Single Family Attached	Computer Laptop	0.98	100%	33
Single Family Attached	Cooking	1.00	71%	96
Single Family Attached	Cool Central	0.53	100%	1,398
Single Family Attached	Cool Room	0.95	100%	126
Single Family Attached	Copier	0.41	100%	133
Single Family Attached	Dehumidifier	0.60	100%	1,001
Single Family Attached	Dryer	1.02	86%	593
Single Family Attached	Fax	0.56	100%	35
Single Family Attached	Freezer	0.58	100%	317
Single Family Attached	Heat Central	0.35	3%	11,718
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Single Family Attached	Lighting Exterior	2.92	100%	66
Single Family Attached	Lighting Interior Linear Fluorescent	8.79	100%	54
Single Family Attached	Lighting Interior Specialty	15.78	100%	37
Single Family Attached	Lighting Interior Standard	41.50	100%	37
Single Family Attached	Monitor	0.65	100%	49
Single Family Attached	Multifunction Device	0.83	100%	121
Single Family Attached	Other	1.00	100%	0
Single Family Attached	Plug Load Other	1.00	100%	180
Single Family Attached	Refrigerator	1.39	100%	431
Single Family Attached	TV	2.87	100%	71
Single Family Attached	TV Bigscreen	0.21	100%	164
Single Family Attached	Ventilation and Circulation	0.35	100%	655
Single Family Attached	Water Heat GT 55 Gal	0.16	13%	4,159
Single Family Attached	Water Heat LE 55 Gal	0.73	55%	3,050
Single Family Detached	Computer Desktop	0.65	100%	130
Single Family Detached	Computer Laptop	0.98	100%	33
Single Family Detached	Cooking	1.00	71%	96
Single Family Detached	Cool Central	0.53	100%	1,398
Single Family Detached	Cool Room	0.95	100%	126
Single Family Detached	Copier	0.41	100%	133
Single Family Detached	Dehumidifier	0.60	100%	1,001
Single Family Detached	Dryer	1.02	86%	593
Single Family Detached	Fax	0.56	100%	35
Single Family Detached	Freezer	0.58	100%	317
Single Family Detached	Heat Central	0.35	3%	11,718
Single Family Detached	Heat Pump	0.20	100%	7,211
Single Family Detached	Heat Room	0.32	100%	6,625
Single Family Detached	Lighting Exterior	2.92	100%	66

Segment	End Use	Saturation	Fuel Share	UEC (kWh/Year)
Single Family Detached	Lighting Interior Linear Fluorescent	8.79	100%	54
Single Family Detached	Lighting Interior Specialty	15.78	100%	37
Single Family Detached	Lighting Interior Standard	41.50	100%	37
Single Family Detached	Monitor	0.65	100%	49
Single Family Detached	Multifunction Device	0.83	100%	121
Single Family Detached	Other	1.00	100%	0
Single Family Detached	Plug Load Other	1.00	100%	180
Single Family Detached	Pool Pump	0.11	100%	2,180
Single Family Detached	Refrigerator	1.39	100%	431
Single Family Detached	TV	2.87	100%	71
Single Family Detached	TV Bigscreen	0.21	100%	164
Single Family Detached	Ventilation and Circulation	0.35	100%	655
Single Family Detached	Water Heat GT 55 Gal	0.16	13%	4,159
Single Family Detached	Water Heat LE 55 Gal	0.73	55%	3,045

Table 2. Commercial Baseline Inputs

Segment	End Use	Saturation	Fuel Share	EUI (kWh/Sqft)
Education	Computers	1.00	100%	1.18
Education	Cooking	1.00	100%	0.13
Education	Cooling Chillers	0.07	100%	0.08
Education	Cooling DX	0.30	100%	1.69
Education	Fax	1.00	100%	3.99
Education	Flat Screen Monitors	1.00	100%	0.73
Education	Freezer	1.00	100%	3.10
Education	Heat Pump	0.11	100%	2.34
Education	Lighting Exterior	1.00	100%	1.37
Education	Lighting Interior Fluorescent	1.00	100%	2.68
Education	Lighting Interior HID	1.00	100%	0.04
Education	Lighting Interior Other	1.00	100%	0.02
Education	Lighting Interior Screw Base	1.00	100%	0.01
Education	Other	1.00	100%	0.00
Education	Other Plug Load	1.00	100%	0.03
Education	Photo Copiers	1.00	100%	0.02
Education	Pool Pump	1.00	100%	0.01
Education	Printers	1.00	100%	0.00
Education	Refrigeration	1.00	100%	0.00
Education	Refrigerator	1.00	100%	0.00
Education	Room Cooling	0.10	100%	0.00
Education	Servers	1.00	100%	0.00
Education	Space Heat	0.29	0%	0.00
Education	Vending Machines	1.00	100%	0.01
Education	Ventilation and Circulation	1.00	100%	0.00
Education	Water Heat GT 55 Gal	0.38	46%	0.00



Segment	End Use	Saturation	Fuel Share	EUI (kWh/Sqft)
Education	Water Heat LE 55 Gal	0.63	46%	0.12
Grocery	Computers	1.00	100%	0.05
Grocery	Cooking	1.00	100%	0.04
Grocery	Cooling Chillers	0.00	100%	0.02
Grocery	Cooling DX	0.36	100%	0.02
Grocery	Fax	1.00	100%	0.01
Grocery	Flat Screen Monitors	1.00	100%	0.20
Grocery	Freezer	1.00	100%	0.17
Grocery	Heat Pump	0.18	100%	0.07
Grocery	Lighting Exterior	1.00	100%	0.16
Grocery	Lighting Interior Fluorescent	1.00	100%	0.05
Grocery	Lighting Interior HID	1.00	100%	0.03
Grocery	Lighting Interior Other	1.00	100%	0.39
Grocery	Lighting Interior Screw Base	1.00	100%	0.11
Grocery	Other	1.00	100%	0.17
Grocery	Other Plug Load	1.00	100%	0.12
Grocery	Photo Copiers	1.00	100%	0.08
Grocery	Printers	1.00	100%	0.23
Grocery	Refrigeration	1.00	100%	0.36
Grocery	Refrigerator	1.00	100%	0.10
Grocery	Room Cooling	0.01	100%	0.08
Grocery	Servers	1.00	100%	0.07
Grocery	Space Heat	0.25	5%	0.08
Grocery	Vending Machines	1.00	100%	0.04
Grocery	Ventilation and Circulation	1.00	100%	0.04
Grocery	Water Heat GT 55 Gal	0.20	40%	0.07
Grocery	Water Heat LE 55 Gal	0.80	40%	0.07
Healthcare	Computers	1.00	100%	0.03
Healthcare	Cooking	1.00	100%	0.06
Healthcare	Cooling Chillers	0.05	100%	0.02
Healthcare	Cooling DX	0.38	100%	0.13
Healthcare	Fax	1.00	100%	0.58
Healthcare	Flat Screen Monitors	1.00	100%	0.58
Healthcare	Freezer	1.00	100%	0.58
Healthcare	Heat Pump	0.35	100%	3.22
Healthcare	Lighting Exterior	1.00	100%	2.30
Healthcare	Lighting Interior Fluorescent	1.00	100%	1.35
Healthcare	Lighting Interior HID	1.00	100%	2.24
Healthcare	Lighting Interior Other	1.00	100%	1.58
Healthcare	Lighting Interior Screw Base	1.00	100%	1.38
Healthcare	Other	1.00	100%	1.37
Healthcare	Other Plug Load	1.00	100%	2.12
Healthcare	Photo Copiers	1.00	100%	1.42
Healthcare	Printers	1.00	100%	1.42
Healthcare	Refrigeration	1.00	100%	1.08
Healthcare	Refrigerator	1.00	100%	1.58

Segment	End Use	Saturation	Fuel Share	EUI (kWh/Sqft)
Healthcare	Room Cooling	0.02	100%	0.03
Healthcare	Servers	1.00	100%	0.10
Healthcare	Space Heat	0.16	0%	0.01
Healthcare	Vending Machines	1.00	100%	0.04
Healthcare	Ventilation and Circulation	1.00	100%	0.10
Healthcare	Water Heat GT 55 Gal	0.39	69%	0.03
Healthcare	Water Heat LE 55 Gal	0.61	69%	0.05
Lodging	Computers	1.00	100%	0.03
Lodging	Cooking	1.00	100%	0.01
Lodging	Cooling Chillers	0.00	100%	0.12
Lodging	Cooling DX	0.14	100%	0.15
Lodging	Fax	1.00	100%	0.80
Lodging	Flat Screen Monitors	1.00	100%	0.58
Lodging	Freezer	1.00	100%	0.28
Lodging	Heat Pump	0.17	100%	0.14
Lodging	Lighting Exterior	1.00	100%	0.07
Lodging	Lighting Interior Fluorescent	1.00	100%	0.02
Lodging	Lighting Interior HID	1.00	100%	1.18
Lodging	Lighting Interior Other	1.00	100%	2.39
Lodging	Lighting Interior Screw Base	1.00	100%	1.29
Lodging	Other	1.00	100%	0.85
Lodging	Other Plug Load	1.00	100%	1.62
Lodging	Package Terminal Air Conditioning	0.18	100%	1.71
Lodging	Photo Copiers	1.00	100%	2.40
Lodging	Pool Pump	1.00	100%	0.86
Lodging	Printers	1.00	100%	1.48
Lodging	Refrigeration	1.00	100%	0.98
Lodging	Refrigerator	1.00	100%	1.73
Lodging	Room Cooling	0.00	100%	1.35
Lodging	Servers	1.00	100%	0.91
Lodging	Space Heat	0.41	0%	0.75
Lodging	Vending Machines	1.00	100%	0.74
Lodging	Ventilation and Circulation	1.00	100%	0.64
Lodging	Water Heat GT 55 Gal	0.88	0%	1.21
Lodging	Water Heat LE 55 Gal	0.13	0%	0.64
Office	Computers	1.00	100%	1.83
Office	Cooking	1.00	100%	1.58
Office	Cooling Chillers	0.00	100%	2.21
Office	Cooling DX	0.33	100%	1.61
Office	Fax	1.00	100%	1.29
Office	Flat Screen Monitors	1.00	100%	1.92
Office	Freezer	1.00	100%	2.14
Office	Heat Pump	0.13	100%	1.94
Office	Lighting Exterior	1.00	100%	2.04
Office	Lighting Interior Fluorescent	1.00	100%	2.22
Office	Lighting Interior HID	1.00	100%	2.50



Segment	End Use	Saturation	Fuel Share	EUI (kWh/Sqft)
Office	Lighting Interior Other	1.00	100%	1.04
Office	Lighting Interior Screw Base	1.00	100%	2.47
Office	Other	1.00	100%	2.43
Office	Other Plug Load	1.00	100%	6.43
Office	Photo Copiers	1.00	100%	5.49
Office	Printers	1.00	100%	4.87
Office	Refrigeration	1.00	100%	4.23
Office	Refrigerator	1.00	100%	4.28
Office	Room Cooling	0.04	100%	3.62
Office	Servers	1.00	100%	4.12
Office	Space Heat	0.24	11%	4.07
Office	Vending Machines	1.00	100%	4.00
Office	Ventilation and Circulation	1.00	100%	6.59
Office	Water Heat GT 55 Gal	0.10	53%	2.18
Office	Water Heat LE 55 Gal	0.90	53%	3.71
Other Commercial	Compressed Air	0.03	100%	2.09
Other Commercial	Computers	1.00	100%	3.86
Other Commercial	Cooking	1.00	100%	3.45
Other Commercial	Cooling Chillers	0.05	100%	3.68
Other Commercial	Cooling DX	0.25	100%	3.80
Other Commercial	Fax	1.00	100%	3.03
Other Commercial	Flat Screen Monitors	1.00	100%	2.72
Other Commercial	Freezer	1.00	100%	2.99
Other Commercial	Heat Pump	0.04	100%	2.77
Other Commercial	Lighting Exterior	1.00	100%	2.50
Other Commercial	Lighting Interior Fluorescent	1.00	100%	0.52
Other Commercial	Lighting Interior HID	1.00	100%	3.47
Other Commercial	Lighting Interior Other	1.00	100%	0.33
Other Commercial	Lighting Interior Screw Base	1.00	100%	0.11
Other Commercial	Other	1.00	100%	1.98
Other Commercial	Other Plug Load	1.00	100%	3.21
Other Commercial	Photo Copiers	1.00	100%	0.11
Other Commercial	Pool Pump	1.00	100%	1.83
Other Commercial	Printers	1.00	100%	0.21
Other Commercial	Refrigeration	1.00	100%	0.85
Other Commercial	Refrigerator	1.00	100%	0.92
Other Commercial	Room Cooling	0.23	100%	0.08
Other Commercial	Servers	1.00	100%	0.12
Other Commercial	Space Heat	0.28	2%	1.02
Other Commercial	Vending Machines	1.00	100%	0.05
Other Commercial	Ventilation and Circulation	1.00	100%	0.61
Other Commercial	Water Heat GT 55 Gal	0.36	33%	0.01
Other Commercial	Water Heat LE 55 Gal	0.64	33%	3.48
Restaurant	Computers	1.00	100%	0.94
Restaurant	Cooking	1.00	100%	0.01
Restaurant	Cooling Chillers	0.00	100%	0.20

Segment	End Use	Saturation	Fuel Share	EUI (kWh/Sqft)
Restaurant	Cooling DX	0.21	100%	0.46
Restaurant	Fax	1.00	100%	0.21
Restaurant	Flat Screen Monitors	1.00	100%	1.23
Restaurant	Freezer	1.00	100%	0.13
Restaurant	Heat Pump	0.17	100%	0.01
Restaurant	Lighting Exterior	1.00	100%	0.04
Restaurant	Lighting Interior Fluorescent	1.00	100%	0.46
Restaurant	Lighting Interior HID	1.00	100%	2.45
Restaurant	Lighting Interior Other	1.00	100%	2.79
Restaurant	Lighting Interior Screw Base	1.00	100%	0.64
Restaurant	Other	1.00	100%	2.95
Restaurant	Other Plug Load	1.00	100%	4.02
Restaurant	Photo Copiers	1.00	100%	2.34
Restaurant	Printers	1.00	100%	4.01
Restaurant	Refrigeration	1.00	100%	1.31
Restaurant	Refrigerator	1.00	100%	3.38
Restaurant	Room Cooling	0.07	100%	0.46
Restaurant	Servers	1.00	100%	0.26
Restaurant	Space Heat	0.27	1%	0.02
Restaurant	Ventilation and Circulation	1.00	100%	0.11
Restaurant	Water Heat GT 55 Gal	0.44	13%	0.34
Restaurant	Water Heat LE 55 Gal	0.56	13%	0.19
Retail	Computers	1.00	100%	0.15
Retail	Cooking	1.00	100%	0.30
Retail	Cooling Chillers	0.00	100%	3.83
Retail	Cooling DX	0.11	100%	0.54
Retail	Fax	1.00	100%	0.73
Retail	Flat Screen Monitors	1.00	100%	7.25
Retail	Freezer	1.00	100%	0.94
Retail	Heat Pump	0.17	100%	0.12
Retail	Lighting Exterior	1.00	100%	0.02
Retail	Lighting Interior Fluorescent	1.00	100%	0.04
Retail	Lighting Interior HID	1.00	100%	0.07
Retail	Lighting Interior Other	1.00	100%	0.13
Retail	Lighting Interior Screw Base	1.00	100%	0.04
Retail	Other	1.00	100%	0.03
Retail	Other Plug Load	1.00	100%	0.06
Retail	Photo Copiers	1.00	100%	0.33
Retail	Printers	1.00	100%	0.06
Retail	Refrigeration	1.00	100%	0.02
Retail	Refrigerator	1.00	100%	0.11
Retail	Room Cooling	0.07	100%	0.08
Retail	Servers	1.00	100%	0.02
Retail	Space Heat	0.35	16%	0.04
Retail	Vending Machines	1.00	100%	0.16
Retail	Ventilation and Circulation	1.00	100%	0.05



Segment	End Use	Saturation	Fuel Share	EUI (kWh/Sqft)
Retail	Water Heat GT 55 Gal	0.04	59%	0.28
Retail	Water Heat LE 55 Gal	0.96	59%	0.04
Warehouse	Computers	1.00	100%	0.02
Warehouse	Cooking	1.00	100%	0.01
Warehouse	Cooling Chillers	0.05	100%	0.00
Warehouse	Cooling DX	0.07	100%	0.00
Warehouse	Fax	1.00	100%	0.00
Warehouse	Flat Screen Monitors	1.00	100%	0.00
Warehouse	Freezer	1.00	100%	0.00
Warehouse	Heat Pump	0.10	100%	0.01
Warehouse	Lighting Exterior	1.00	100%	0.00
Warehouse	Lighting Interior Fluorescent	1.00	100%	0.00
Warehouse	Lighting Interior HID	1.00	100%	0.00
Warehouse	Lighting Interior Other	1.00	100%	0.00
Warehouse	Lighting Interior Screw Base	1.00	100%	2.04
Warehouse	Other	1.00	100%	1.09
Warehouse	Other Plug Load	1.00	100%	1.11
Warehouse	Photo Copiers	1.00	100%	1.00
Warehouse	Printers	1.00	100%	1.34
Warehouse	Refrigeration	1.00	100%	1.65
Warehouse	Refrigerator	1.00	100%	2.07
Warehouse	Room Cooling	0.08	100%	1.97
Warehouse	Servers	1.00	100%	1.30
Warehouse	Space Heat	0.34	0%	1.13
Warehouse	Vending Machines	1.00	100%	1.03
Warehouse	Ventilation and Circulation	1.00	100%	1.40
Warehouse	Water Heat GT 55 Gal	0.08	62%	1.00
Warehouse	Water Heat LE 55 Gal	0.92	62%	2.84

Table 3. GNI Baseline Inputs

Segment	End Use	Saturation	Fuel Share	EUI (kWh/Sqft)
Education	Computers	1.00	100%	0.31
Education	Cooking	1.00	100%	0.30
Education	Cooling Chillers	0.07	100%	1.04
Education	Cooling DX	0.30	100%	1.15
Education	Fax	1.00	100%	0.00
Education	Flat Screen Monitors	1.00	100%	0.09
Education	Freezer	1.00	100%	0.00
Education	Heat Pump	0.11	100%	4.21
Education	Lighting Exterior	1.00	100%	0.58
Education	Lighting Interior Fluorescent	1.00	100%	2.49
Education	Lighting Interior HID	1.00	100%	0.01
Education	Lighting Interior Other	1.00	100%	0.01
Education	Lighting Interior Screw Base	1.00	100%	0.03
Education	Other	1.00	100%	0.00

Segment	End Use	Saturation	Fuel Share	EUI (kWh/Sqft)
Education	Other Plug Load	1.00	100%	2.11
Education	Photo Copiers	1.00	100%	0.01
Education	Pool Pump	1.00	100%	0.03
Education	Printers	1.00	100%	0.10
Education	Refrigeration	1.00	100%	0.70
Education	Refrigerator	1.00	100%	0.03
Education	Room Cooling	0.10	100%	1.02
Education	Servers	1.00	100%	0.11
Education	Space Heat	0.29	0%	4.02
Education	Vending Machines	1.00	100%	0.06
Education	Ventilation and Circulation	1.00	100%	2.45
Education	Water Heat GT 55 Gal	0.38	46%	0.55
Education	Water Heat LE 55 Gal	0.63	46%	0.50
Government	Computers	1.00	100%	0.48
Government	Cooking	1.00	100%	0.40
Government	Cooling Chillers	0.00	100%	3.25
Government	Cooling DX	0.33	100%	3.67
Government	Fax	1.00	100%	0.01
Government	Flat Screen Monitors	1.00	100%	0.14
Government	Freezer	1.00	100%	0.00
Government	Heat Pump	0.13	100%	6.61
Government	Lighting Exterior	1.00	100%	0.58
Government	Lighting Interior Fluorescent	1.00	100%	2.92
Government	Lighting Interior HID	1.00	100%	0.08
Government	Lighting Interior Other	1.00	100%	0.03
Government	Lighting Interior Screw Base	1.00	100%	0.39
Government	Other	1.00	100%	0.00
Government	Other Plug Load	1.00	100%	2.92
Government	Photo Copiers	1.00	100%	0.03
Government	Printers	1.00	100%	0.17
Government	Refrigeration	1.00	100%	1.06
Government	Refrigerator	1.00	100%	0.06
Government	Room Cooling	0.04	100%	3.25
Government	Servers	1.00	100%	0.47
Government	Space Heat	0.24	11%	3.92
Government	Vending Machines	1.00	100%	0.07
Government	Ventilation and Circulation	1.00	100%	1.59
Government	Water Heat GT 55 Gal	0.10	53%	0.35
Government	Water Heat LE 55 Gal	0.90	53%	0.32
Healthcare	Computers	1.00	100%	0.34
Healthcare	Cooking	1.00	100%	0.20
Healthcare	Cooling Chillers	0.05	100%	2.89
Healthcare	Cooling DX	0.38	100%	3.25
Healthcare	Fax	1.00	100%	0.01
Healthcare	Flat Screen Monitors	1.00	100%	0.10
Healthcare	Freezer	1.00	100%	0.00



Segment	End Use	Saturation	Fuel Share	EUI (kWh/Sqft)
Healthcare	Heat Pump	0.35	100%	4.15
Healthcare	Lighting Exterior	1.00	100%	0.58
Healthcare	Lighting Interior Fluorescent	1.00	100%	3.90
Healthcare	Lighting Interior HID	1.00	100%	0.03
Healthcare	Lighting Interior Other	1.00	100%	0.21
Healthcare	Lighting Interior Screw Base	1.00	100%	0.54
Healthcare	Other	1.00	100%	0.00
Healthcare	Other Plug Load	1.00	100%	0.72
Healthcare	Photo Copiers	1.00	100%	0.03
Healthcare	Printers	1.00	100%	0.12
Healthcare	Refrigeration	1.00	100%	0.21
Healthcare	Refrigerator	1.00	100%	0.05
Healthcare	Room Cooling	0.02	100%	2.88
Healthcare	Servers	1.00	100%	0.08
Healthcare	Space Heat	0.16	0%	1.25
Healthcare	Vending Machines	1.00	100%	0.04
Healthcare	Ventilation and Circulation	1.00	100%	5.49
Healthcare	Water Heat GT 55 Gal	0.39	69%	1.44
Healthcare	Water Heat LE 55 Gal	0.61	69%	1.31
Institutional - Other	Computers	1.00	100%	0.07
Institutional - Other	Cooking	1.00	100%	0.10
Institutional - Other	Cooling Chillers	0.05	100%	1.24
Institutional - Other	Cooling DX	0.25	100%	1.40
Institutional - Other	Fax	1.00	100%	0.00
Institutional - Other	Flat Screen Monitors	1.00	100%	0.02
Institutional - Other	Freezer	1.00	100%	0.00
Institutional - Other	Heat Pump	0.04	100%	2.03
Institutional - Other	Lighting Exterior	1.00	100%	0.58
Institutional - Other	Lighting Interior Fluorescent	1.00	100%	1.79
Institutional - Other	Lighting Interior HID	1.00	100%	0.06
Institutional - Other	Lighting Interior Other	1.00	100%	0.05
Institutional - Other	Lighting Interior Screw Base	1.00	100%	0.50
Institutional - Other	Other	1.00	100%	0.00
Institutional - Other	Other Plug Load	1.00	100%	1.04
Institutional - Other	Photo Copiers	1.00	100%	0.00
Institutional - Other	Pool Pump	1.00	100%	0.05
Institutional - Other	Printers	1.00	100%	0.03
Institutional - Other	Refrigeration	1.00	100%	0.30
Institutional - Other	Refrigerator	1.00	100%	0.05
Institutional - Other	Room Cooling	0.23	100%	1.24
Institutional - Other	Servers	1.00	100%	0.11
Institutional - Other	Space Heat	0.28	2%	0.86
Institutional - Other	Vending Machines	1.00	100%	0.04
Institutional - Other	Ventilation and Circulation	1.00	100%	1.84
Institutional - Other	Water Heat GT 55 Gal	0.36	33%	0.04
Institutional - Other	Water Heat LE 55 Gal	0.64	33%	0.03

Segment	End Use	Saturation	Fuel Share	EUI (kWh/Sqft)
Religious	Computers	1.00	100%	0.05
Religious	Cooking	1.00	100%	0.10
Religious	Cooling Chillers	0.05	100%	0.47
Religious	Cooling DX	0.25	100%	0.51
Religious	Fax	1.00	100%	0.01
Religious	Flat Screen Monitors	1.00	100%	0.01
Religious	Freezer	1.00	100%	0.00
Religious	Heat Pump	0.04	100%	1.81
Religious	Lighting Exterior	1.00	100%	0.58
Religious	Lighting Interior Fluorescent	1.00	100%	1.24
Religious	Lighting Interior HID	1.00	100%	0.06
Religious	Lighting Interior Other	1.00	100%	0.02
Religious	Lighting Interior Screw Base	1.00	100%	0.21
Religious	Other	1.00	100%	0.00
Religious	Other Plug Load	1.00	100%	0.90
Religious	Photo Copiers	1.00	100%	0.01
Religious	Printers	1.00	100%	0.03
Religious	Refrigeration	1.00	100%	0.17
Religious	Refrigerator	1.00	100%	0.07
Religious	Room Cooling	0.23	100%	0.47
Religious	Servers	1.00	100%	0.26
Religious	Space Heat	0.28	2%	0.00
Religious	Ventilation and Circulation	1.00	100%	0.00
Religious	Water Heat GT 55 Gal	0.36	33%	0.00
Religious	Water Heat LE 55 Gal	0.64	33%	0.00



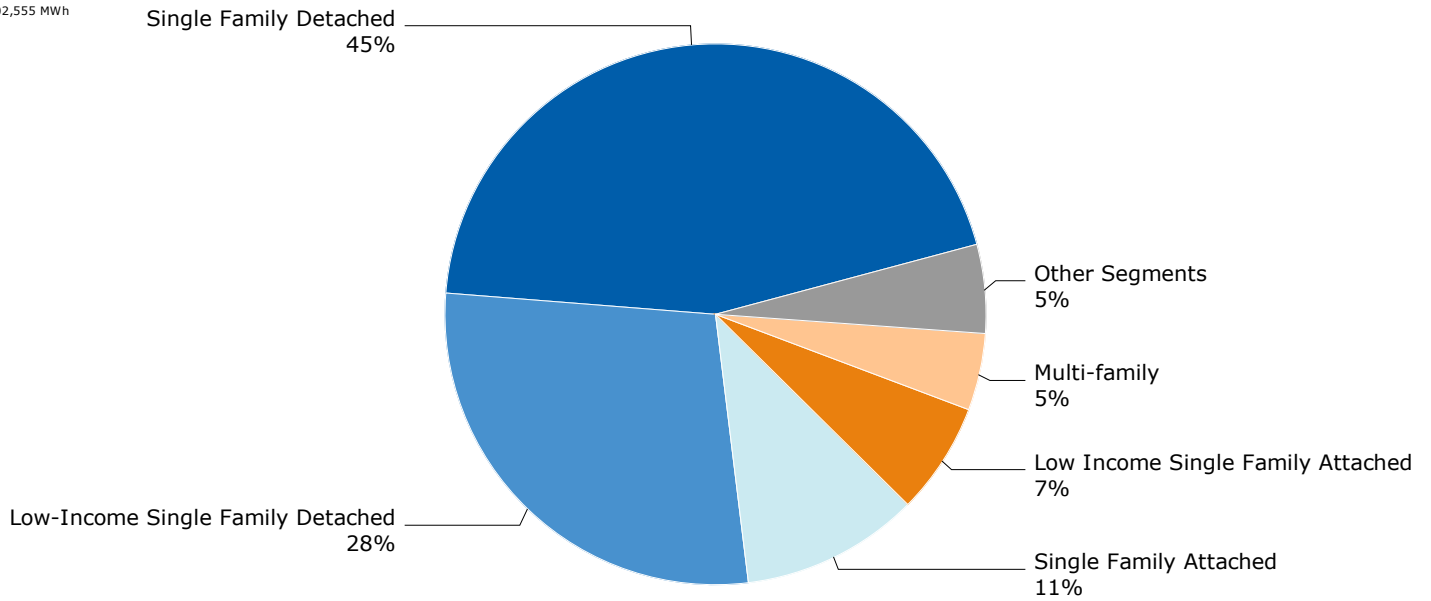
Table 4. Industrial End Use Percents

Segment	Fans	HVAC	Indirect Boiler	Lighting	Motors Other	Other	Process AirComp	Process Electro	Process Heat	Process Other	Process Refrig and	Pumps	Lighting - Street	Lighting - Traffic
Chemical Manufacturing	7%	6%	1%	4%	16%	2%	16%	15%	4%	1%	12%	15%	0%	0%
Electrical Equipment Manufacturing	4%	16%	1%	10%	10%	7%	10%	5%	15%	4%	7%	10%	0%	0%
Fabricated Metal Products	6%	10%	0%	11%	16%	9%	7%	0%	22%	3%	6%	10%	0%	0%
Food Manufacturing	3%	8%	3%	8%	17%	5%	3%	0%	5%	1%	41%	7%	0%	0%
Industrial Machinery	6%	21%	0%	15%	16%	6%	6%	0%	12%	3%	5%	10%	0%	0%
Mining	0%	0%	0%	0%	88%	0%	0%	0%	6%	5%	0%	1%	0%	0%
Miscellaneous Manufacturing	5%	27%	1%	15%	20%	5%	5%	0%	12%	3%	5%	3%	0%	0%
Paper Manufacturing	15%	4%	2%	4%	29%	5%	3%	1%	3%	4%	5%	24%	0%	0%
Primary Metal Manufacturing	4%	4%	0%	3%	17%	2%	4%	26%	32%	3%	1%	2%	0%	0%
Street Lighting	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	90%	10%
Transportation Equipment Mfg	4%	19%	1%	15%	10%	9%	10%	2%	11%	4%	8%	9%	0%	0%

Appendix B. Detailed Potential Results

Figure 1. PPL Achievable Economic Potential: Residential by Segment

Total: 902,555 MWh



Note: 'Other Segments' includes:
 Low Income Multi-family: 3%, Manufactured: 2%, Low-Income Manufactured: 1%

Figure 2. PPL Achievable Economic Potential: Commercial by Segment

Total: 288,030 MWh

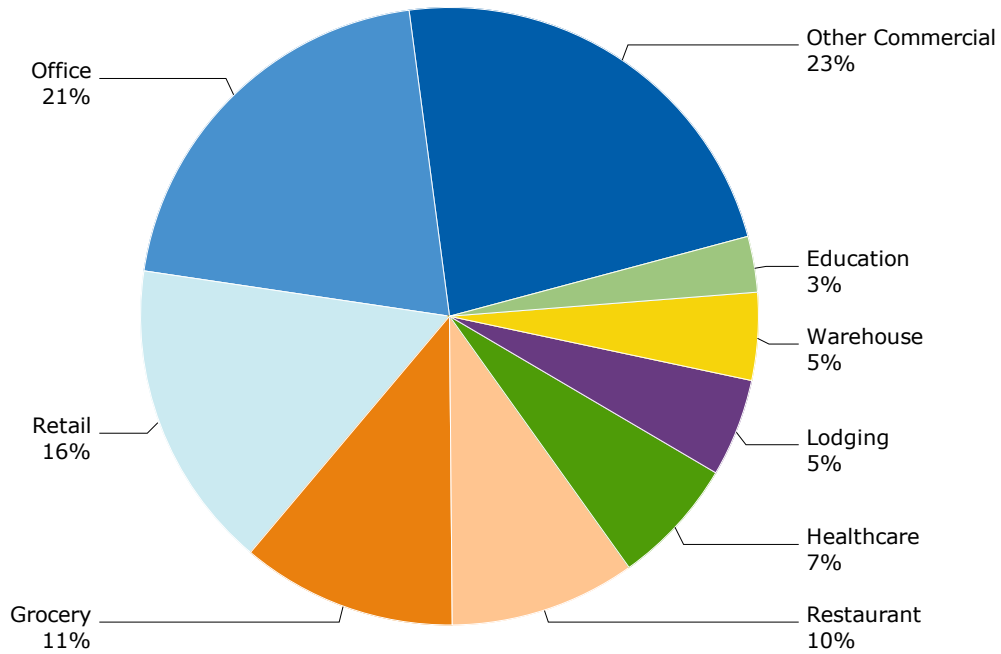
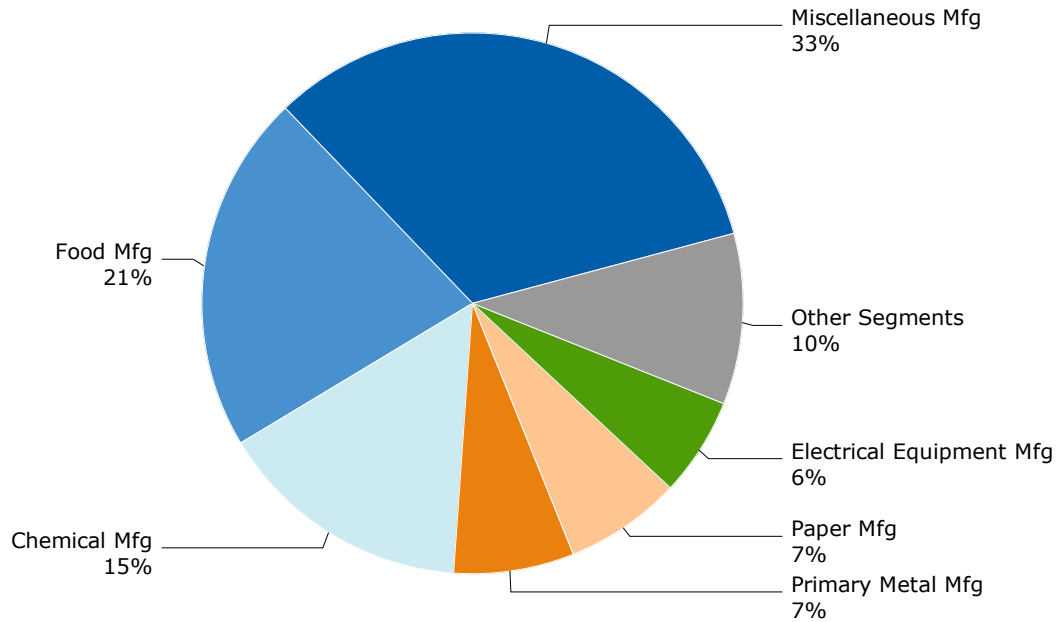




Figure 3. PPL Achievable Economic Potential: Industrial by Segment

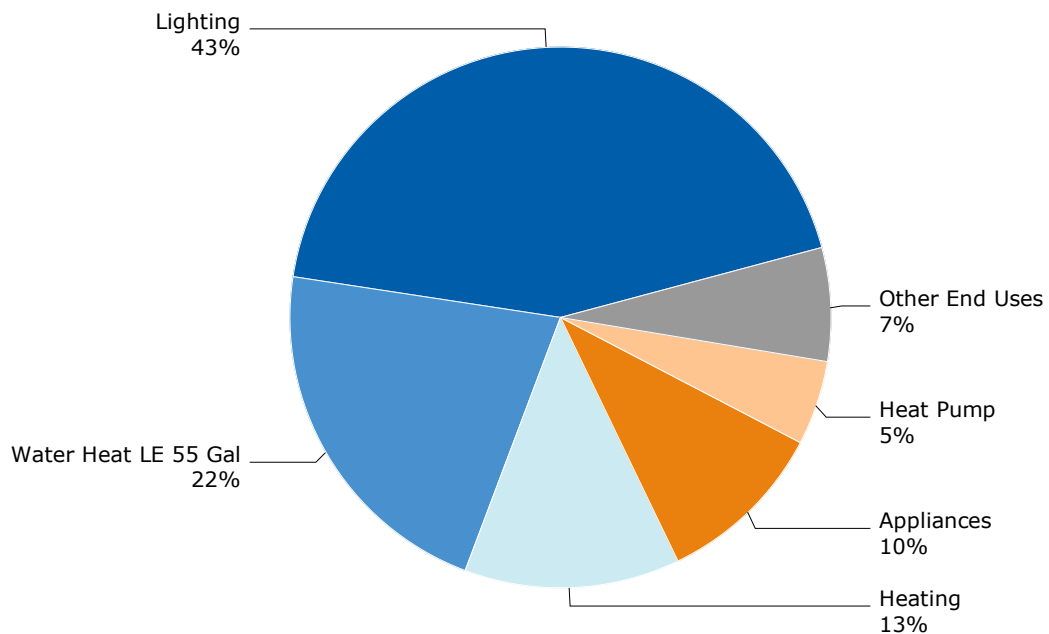
Total: 134,302 MWh



Note: 'Other Segments' includes:
Fabricated Metal Products: 4%, Industrial Machinery: 3%, Street Lighting: 2%, Transportation Equipment Mfg: 1%, Mining: <1%

Figure 4. PPL Achievable Economic Potential: Residential by End Use

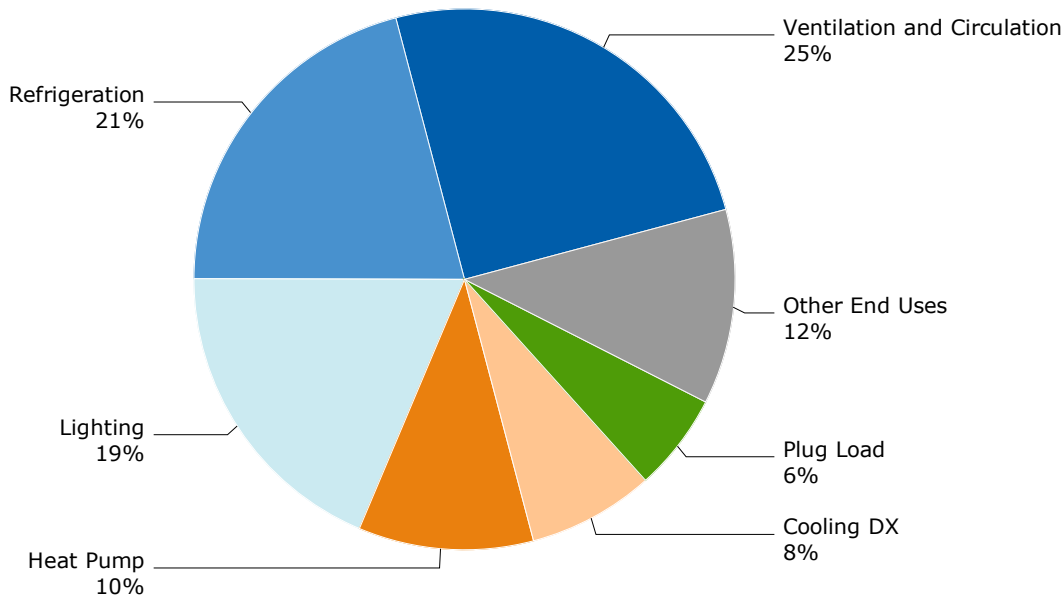
Total: 902,555 MWh



Note: 'Other End Uses' includes:
Plug Load: 4%, Ventilation and Circulation: 1%, Computer Desktop: <1%, Water Heat GT 55 Gal: <1%, Cooling: <1%, TV: <1%, Computer Laptop: <1%, TV Bigscreen: <1%

Figure 5. PPL Achievable Economic Potential: Commercial by End Use

Total: 288,030 MWh

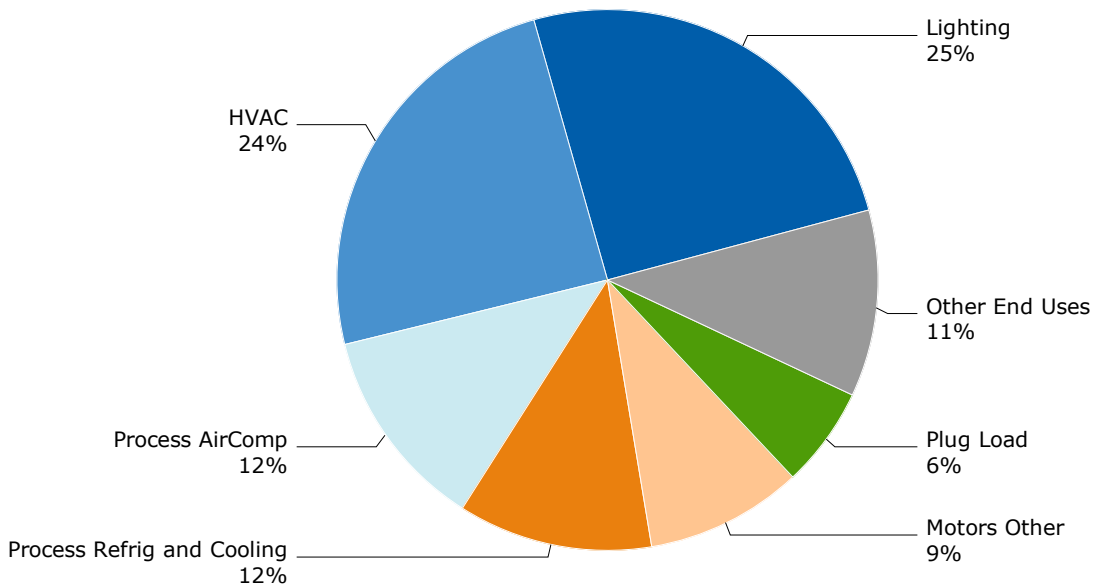


Note: 'Other End Uses' includes:

Water Heat LE 55 Gal: 4%, Cooking: 3%, Room Cooling: 1%, Heating: <1%, Cooling: <1%, Lighting Interior HID: <1%, Package Terminal Air Condit: <1%, Appliances: <1%, Compressed Air: <1%, Water Heat GT 55 Gal: <1%

Figure 6. PPL Achievable Economic Potential: Industrial by End Use

Total: 134,302 MWh



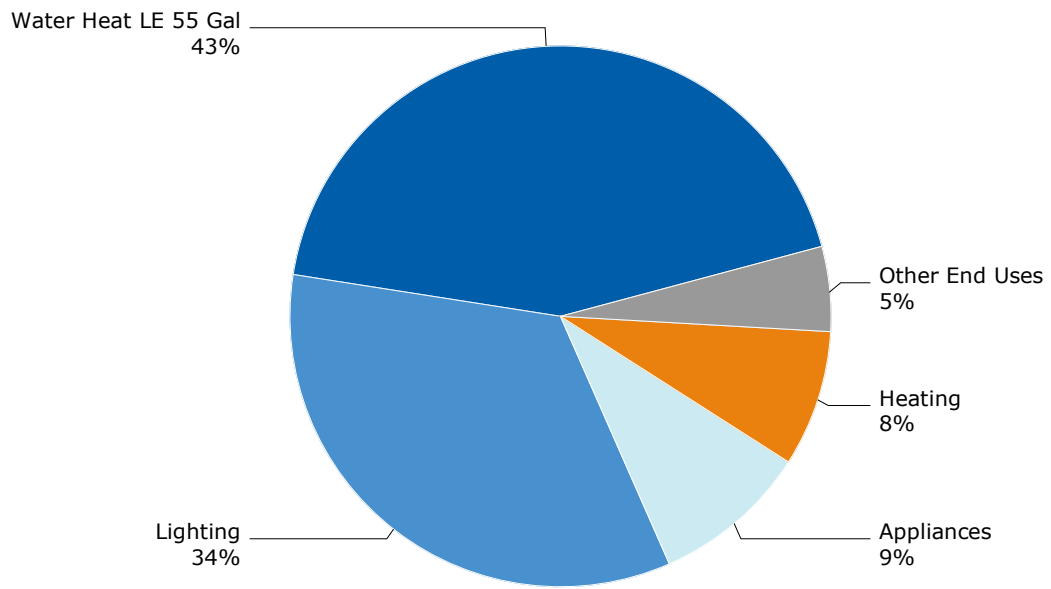
Note: 'Other End Uses' includes:

Fans: 3%, Pumps: 3%, Process Heat: 2%, Process Other: 1%, Lighting - Traffic: <1%, Lighting - Street: <1%



Figure 7. PPL Base Achievable Potential: Residential Low Income Multi-family by End Use

Total: 25,105 MWh

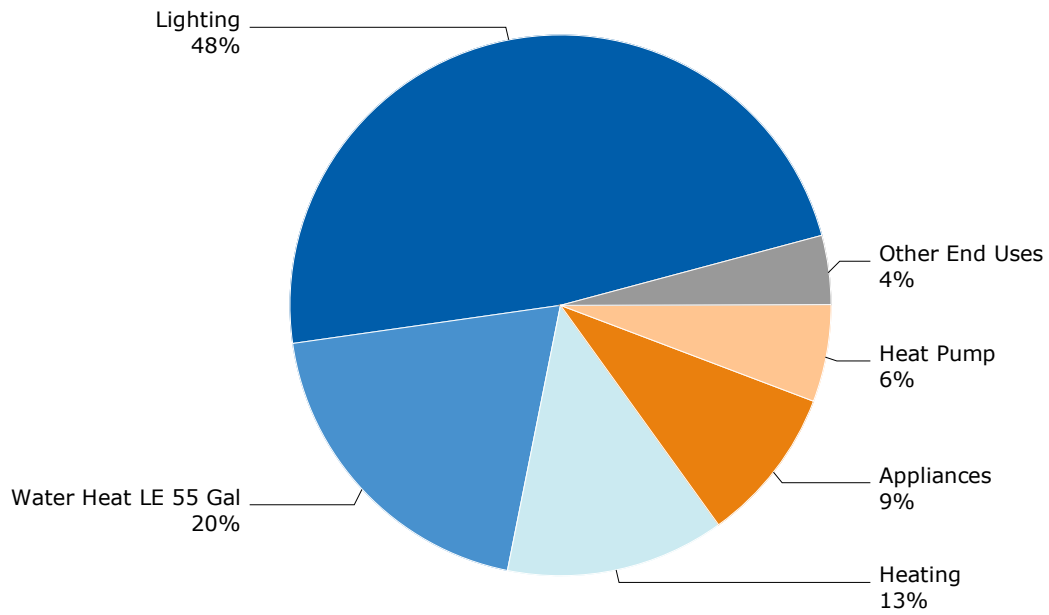


Note: 'Other End Uses' includes:

Ventilation and Circulation: 1%, Plug Load: 1%, Computer Desktop: 1%, Heat Pump: <1%, Cooling: <1%, TV: <1%, Computer Laptop: <1%, TV Bigscreen: <1%

Figure 8. PPL Base Achievable Potential: Residential Low Income Single Family Attached by End Use

Total: 60,361 MWh

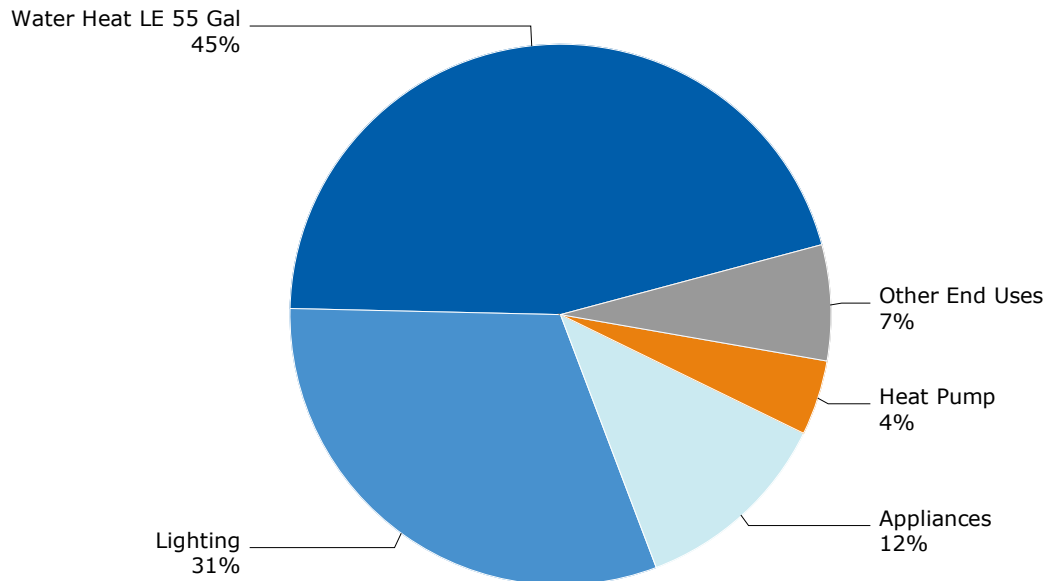


Note: 'Other End Uses' includes:

Plug Load: 1%, Ventilation and Circulation: 1%, Computer Desktop: <1%, Water Heat GT 55 Gal: <1%, Cooling: <1%, TV: <1%, Computer Laptop: <1%, TV Bigscreen: <1%

Figure 9. PPL Base Achievable Potential: Residential Low-Income Manufactured by End Use

Total: 9,147 MWh



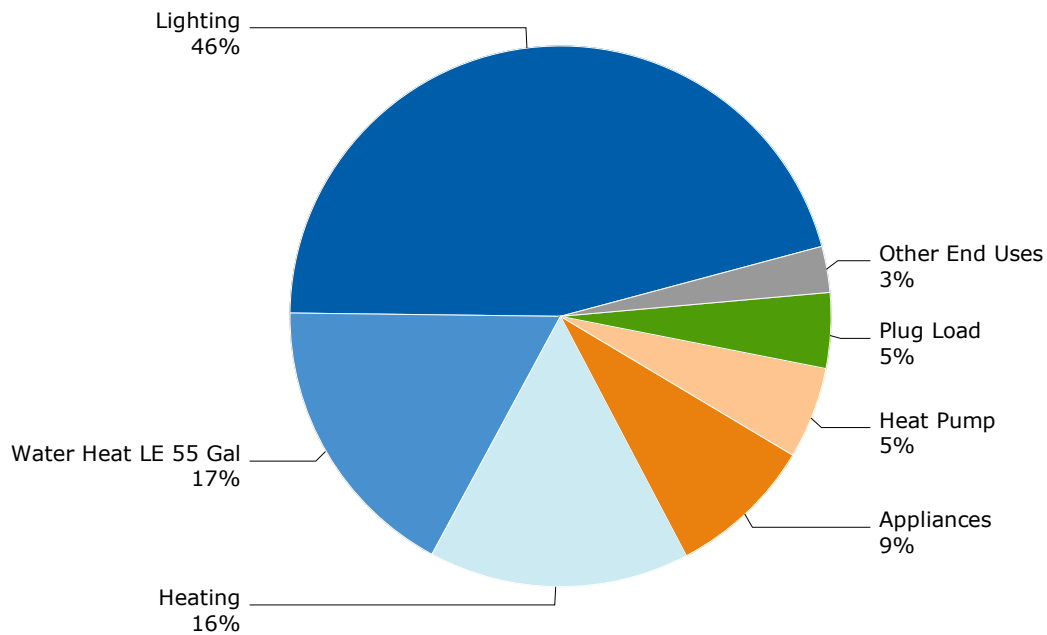
Note: 'Other End Uses' includes:

Heating: 3%, Ventilation and Circulation: 1%, Plug Load: <1%, Computer Desktop: <1%, Cooling: <1%, TV: <1%, TV Bigscreen: <1%, Computer Laptop: <1%



Figure 10. PPL Base Achievable Potential: Residential Low-Income Single Family Detached by End Use

Total: 254,535 MWh

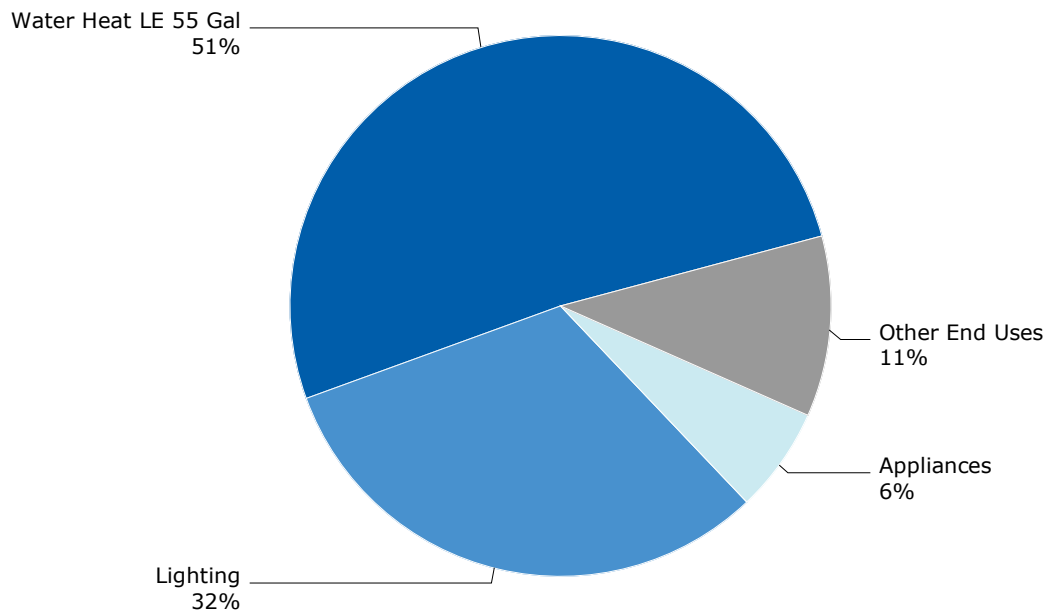


Note: 'Other End Uses' includes:

Ventilation and Circulation: <1%, Computer Desktop: <1%, Water Heat GT 55 Gal: <1%, Cooling: <1%, TV: <1%, Computer Laptop: <1%, TV Bigscreen: <1%

Figure 11. PPL Base Achievable Potential: Residential Manufactured by End Use

Total: 13,569 MWh

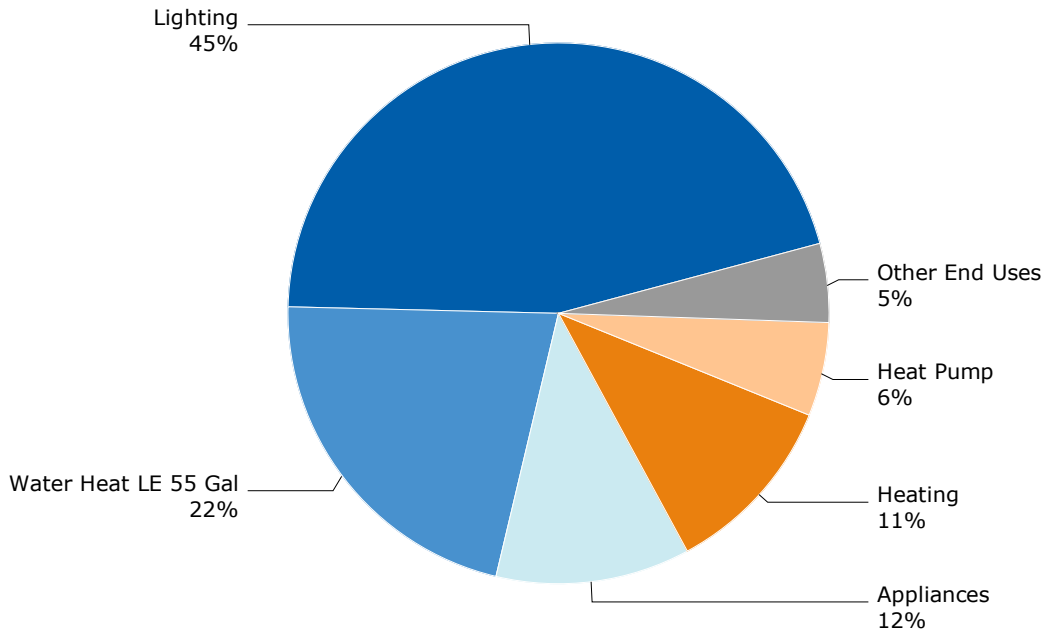


Note: 'Other End Uses' includes:

Heat Pump: 4%, Heating: 2%, Ventilation and Circulation: 1%, Plug Load: 1%, Computer Desktop: 1%, Cooling: <1%, TV: <1%, TV Bigscreen: <1%, Computer Laptop: <1%

Figure 12. PPL Base Achievable Potential: Residential Single Family Attached by End Use

Total: 95,986 MWh

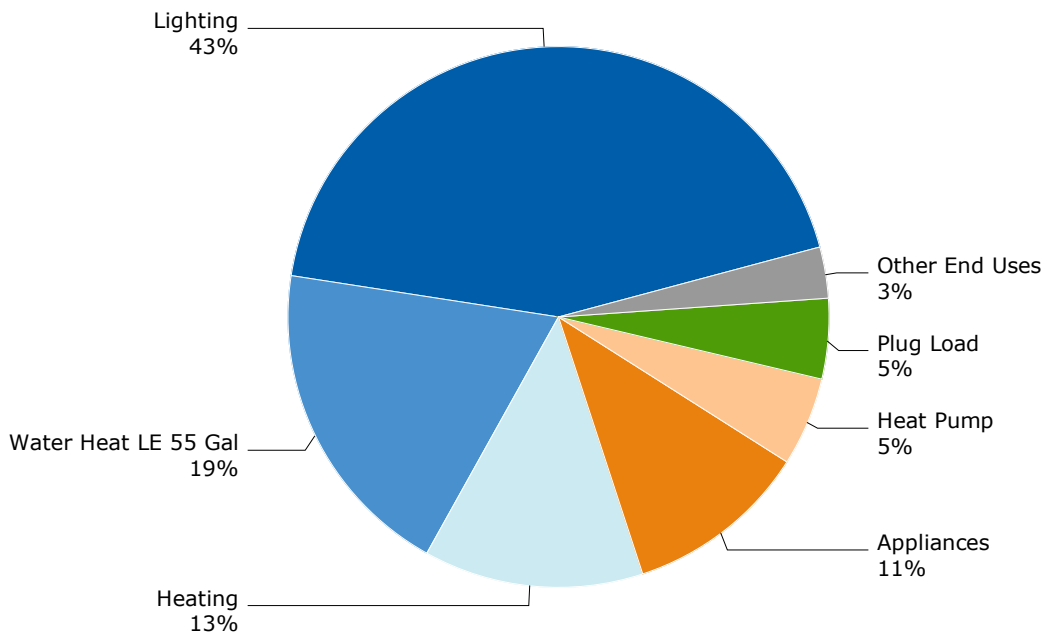


Note: 'Other End Uses' includes:

Plug Load: 1%, Computer Desktop: 1%, Ventilation and Circulation: 1%, Water Heat GT 55 Gal: <1%, Cooling: <1%, TV: <1%, Computer Laptop: <1%, TV Bigscreen: <1%

Figure 13. PPL Base Achievable Potential: Residential Single Family Detached by End Use

Total: 402,334 MWh



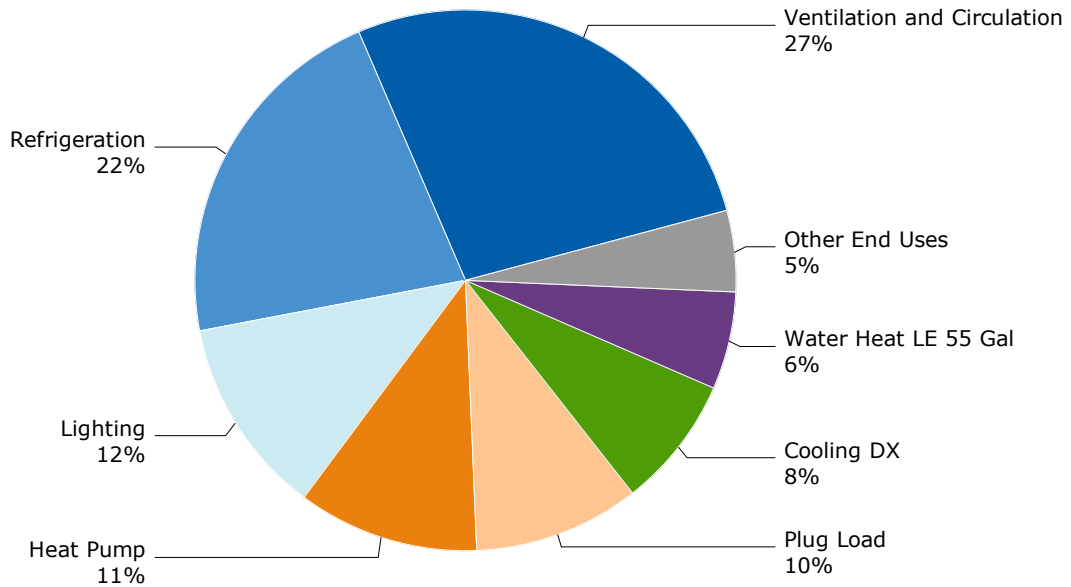
Note: 'Other End Uses' includes:

Computer Desktop: 1%, Ventilation and Circulation: <1%, Water Heat GT 55 Gal: <1%, Cooling: <1%, TV: <1%, Computer Laptop: <1%, TV Bigscreen: <1%



Figure 14. PPL Base Achievable Potential: Commercial Education by End Use

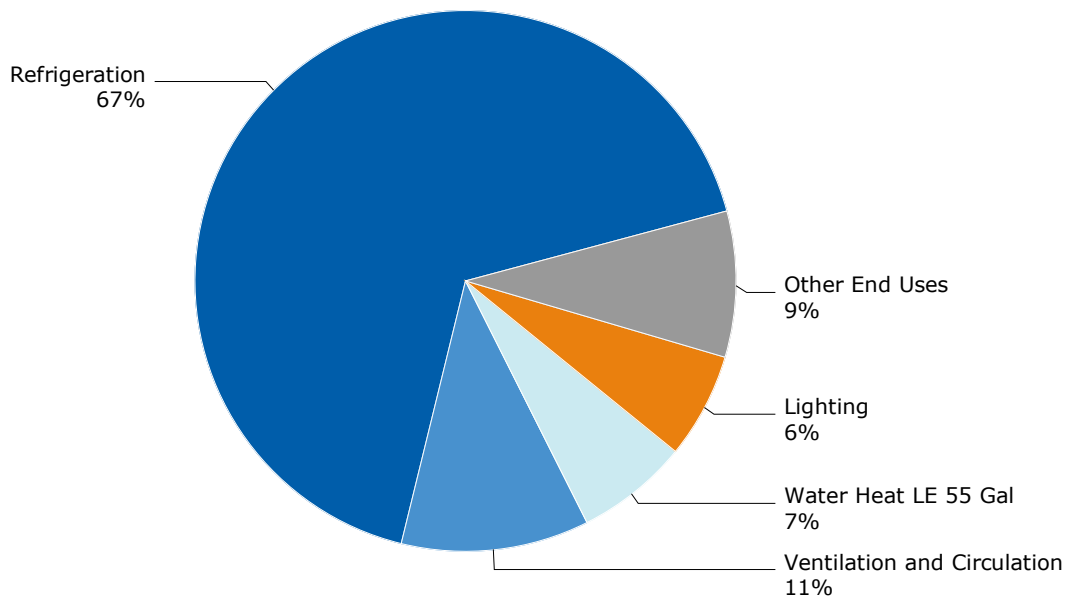
Total: 8,412 MWh



Note: 'Other End Uses' includes:
Water Heat GT 55 Gal: 2%, Cooling: 2%, Room Cooling: <1%, Cooking: <1%, Appliances: <1%, Lighting Interior HID: <1%

Figure 15. PPL Base Achievable Potential: Commercial Grocery by End Use

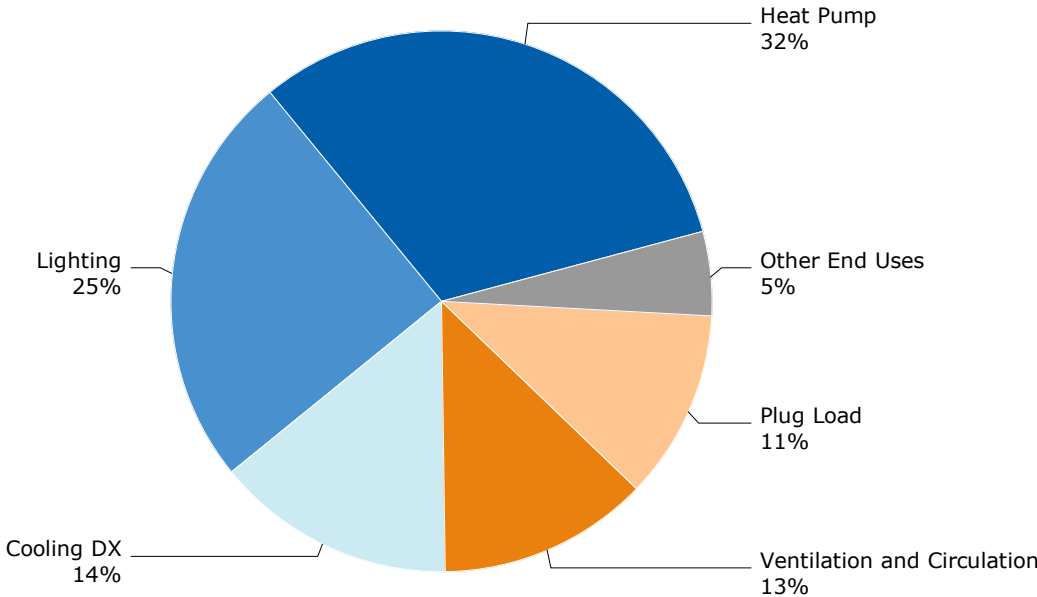
Total: 32,497 MWh



Note: 'Other End Uses' includes:
Heat Pump: 4%, Cooling DX: 1%, Water Heat GT 55 Gal: 1%, Cooking: <1%, Plug Load: <1%, Lighting Interior HID: <1%, Heating: <1%, Appliances: <1%, Room Cooling: <1%

Figure 16. PPL Base Achievable Potential: Commercial Healthcare by End Use

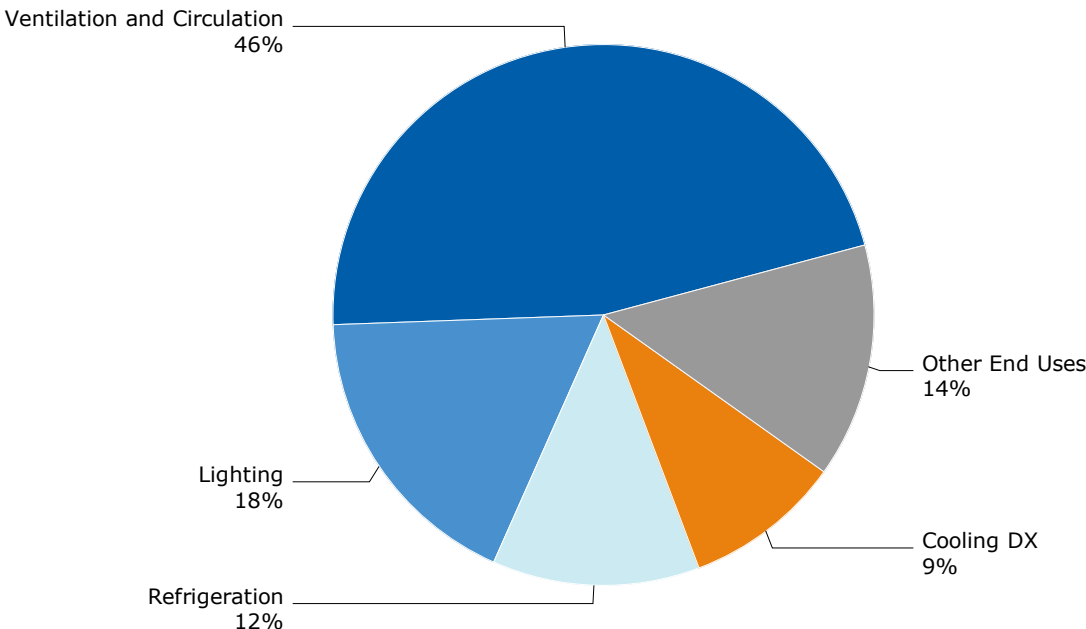
Total: 19,192 MWh



Note: 'Other End Uses' includes:
 Appliances: 2%, Cooling: 2%, Water Heat LE 55 Gal: <1%, Room Cooling: <1%, Lighting Interior HID: <1%, Cooking: <1%, Water Heat GT 55 Gal: <1%

Figure 17. PPL Base Achievable Potential: Commercial Other Commercial by End Use

Total: 66,033 MWh

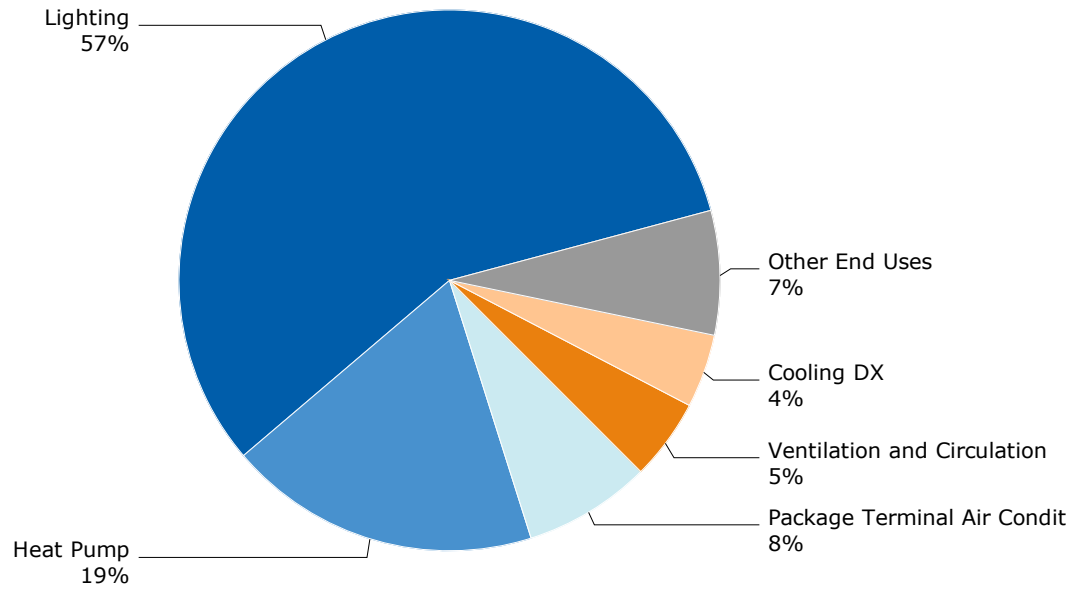


Note: 'Other End Uses' includes:
 Room Cooling: 4%, Plug Load: 3%, Cooling: 2%, Heat Pump: 2%, Compressed Air: 2%, Lighting Interior HID: <1%, Cooking: <1%, Appliances: <1%, Water Heat LE 55 Gal: <1%, Heating: <1%, Water Heat GT 55 Gal: <1%



Figure 18. PPL Base Achievable Potential: Commercial Lodging by End Use

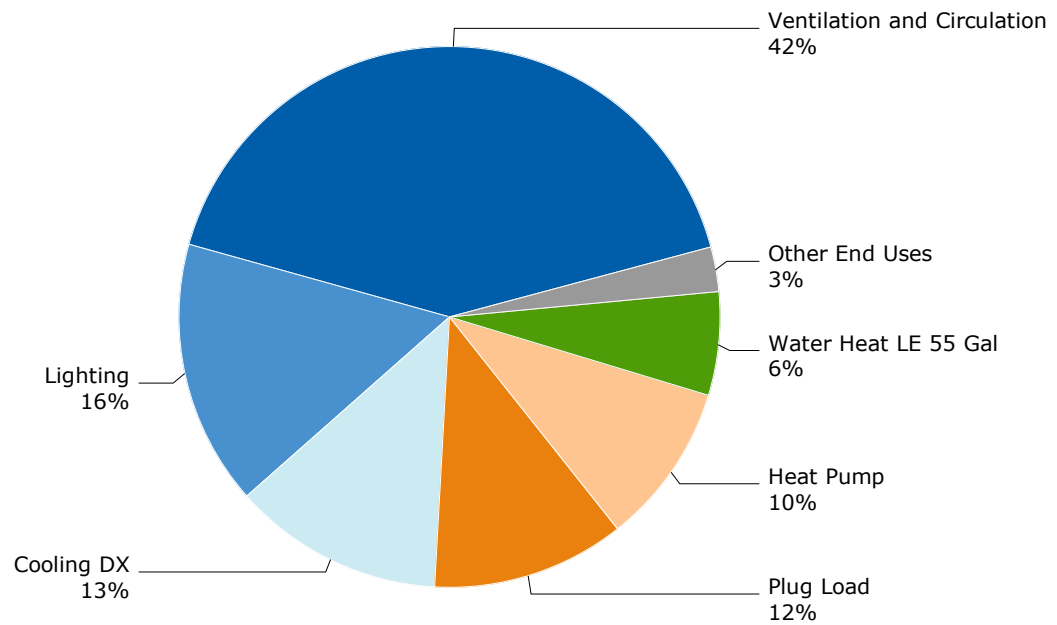
Total: 14,762 MWh



Note: 'Other End Uses' includes:
Refrigeration: 3%, Plug Load: 3%, Cooking: 1%, Appliances: <1%, Lighting Interior HID: <1%

Figure 19. PPL Base Achievable Potential: Commercial Office by End Use

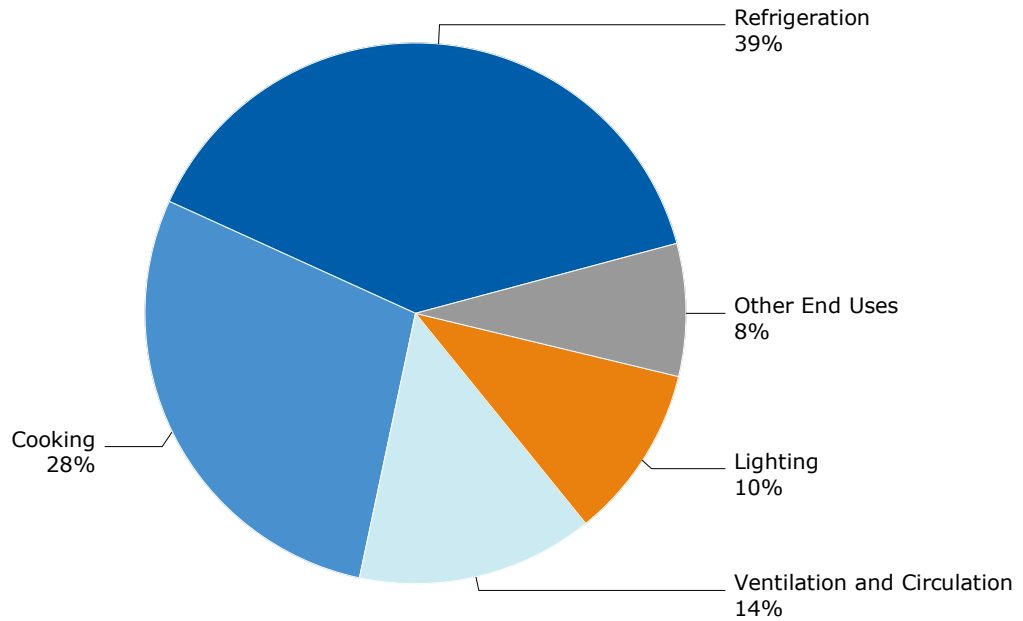
Total: 59,216 MWh



Note: 'Other End Uses' includes:
Heating: <1%, Room Cooling: <1%, Lighting Interior HID: <1%, Appliances: <1%, Water Heat GT 55 Gal: <1%

Figure 20. PPL Base Achievable Potential: Commercial Restaurant by End Use

Total: 28,024 MWh

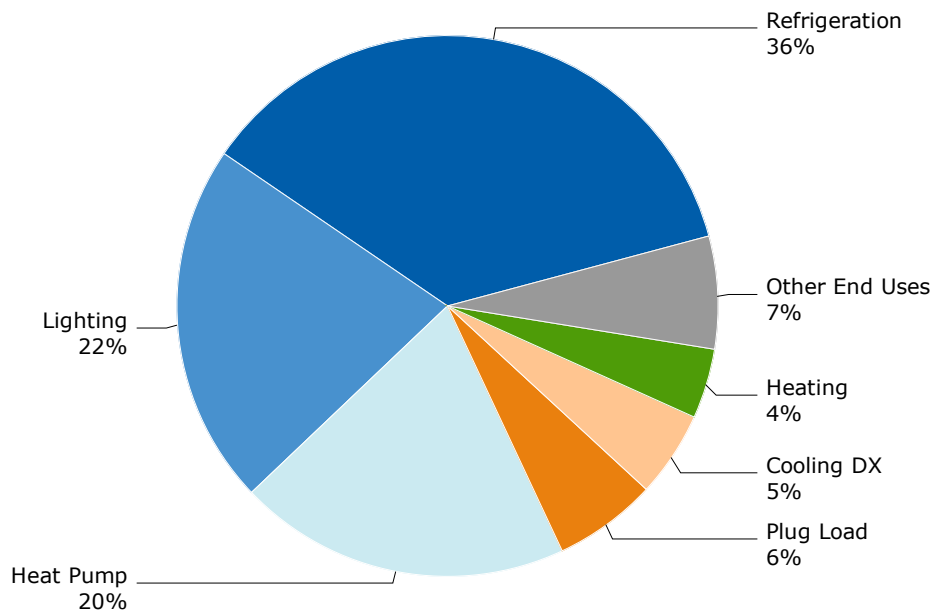


Note: 'Other End Uses' includes:

Heat Pump: 4%, Cooling DX: 1%, Water Heat LE 55 Gal: 1%, Plug Load: <1%, Water Heat GT 55 Gal: <1%, Appliances: <1%, Lighting Interior HID: <1%, Room Cooling: <1%, Heating: <1%

Figure 21. PPL Base Achievable Potential: Commercial Retail by End Use

Total: 46,694 MWh



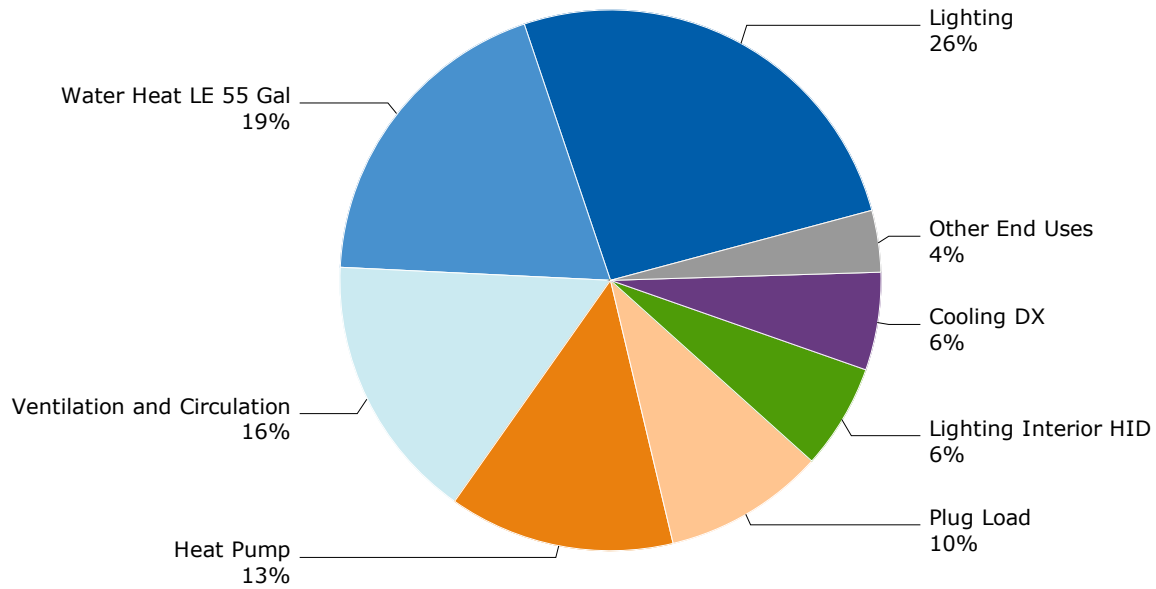
Note: 'Other End Uses' includes:

Ventilation and Circulation: 3%, Water Heat LE 55 Gal: 2%, Room Cooling: 1%, Lighting Interior HID: <1%, Appliances: <1%, Water Heat GT 55 Gal: <1%



Figure 22. PPL Base Achievable Potential: Commercial Warehouse by End Use

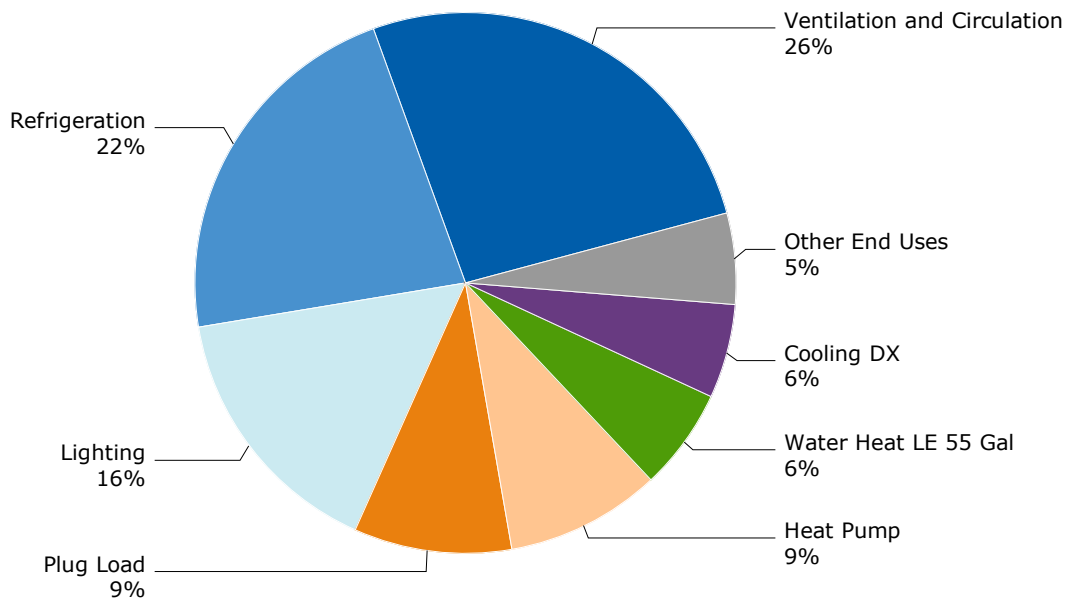
Total: 13,200 MWh



Note: 'Other End Uses' includes:
Cooling: 2%, Water Heat GT 55 Gal: <1%, Appliances: <1%, Heating: <1%

Figure 23. PPL Base Achievable Potential: Institutional Education by End Use

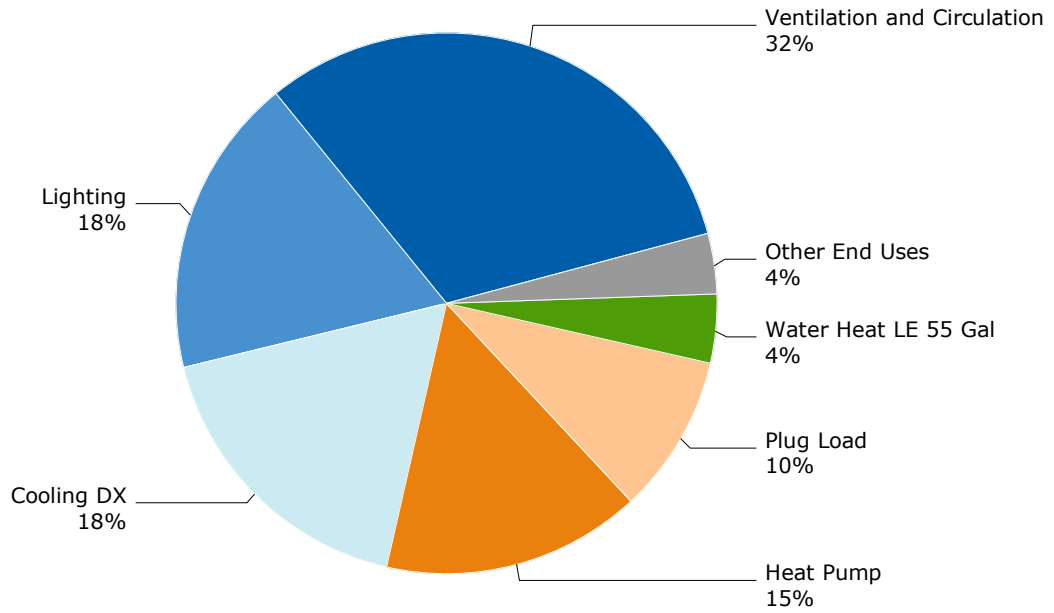
Total: 15,721 MWh



Note: 'Other End Uses' includes:
Water Heat GT 55 Gal: 2%, Cooling: 2%, Room Cooling: <1%, Appliances: <1%, Cooking: <1%, Lighting Interior HID: <1%

Figure 24. PPL Base Achievable Potential: Institutional Government by End Use

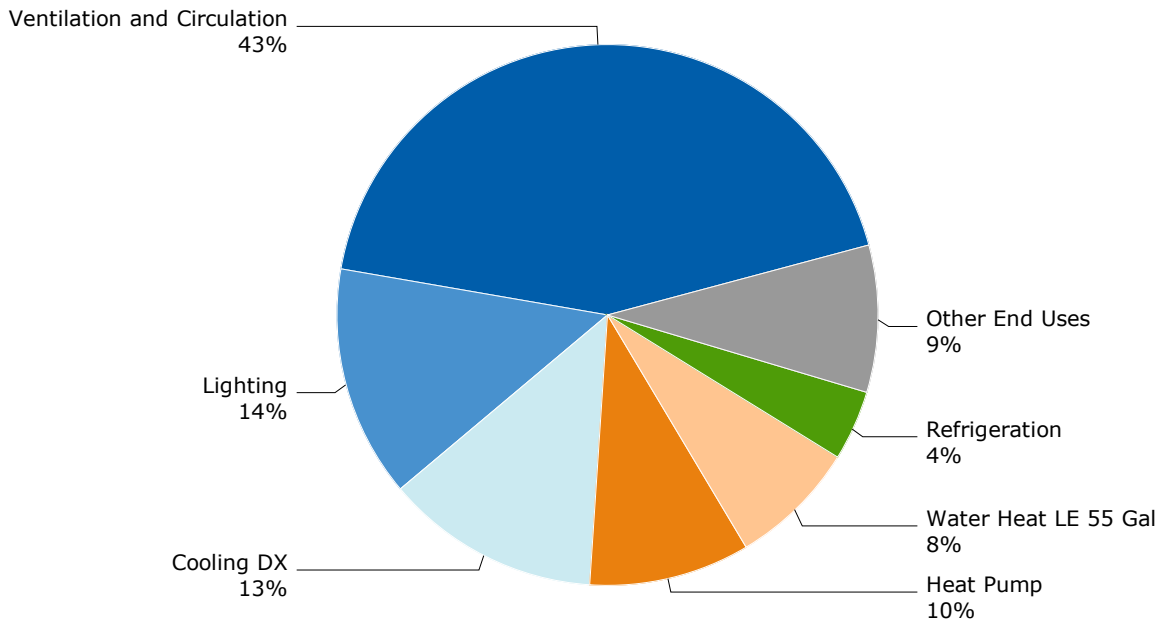
Total: 20,806 MWh



Note: 'Other End Uses' includes:
 Heating: 1%, Appliances: <1%, Room Cooling: <1%, Lighting Interior HID: <1%, Water Heat GT 55 Gal: <1%, Cooking: <1%

Figure 25. PPL Base Achievable Potential: Institutional Healthcare by End Use

Total: 12,110 MWh

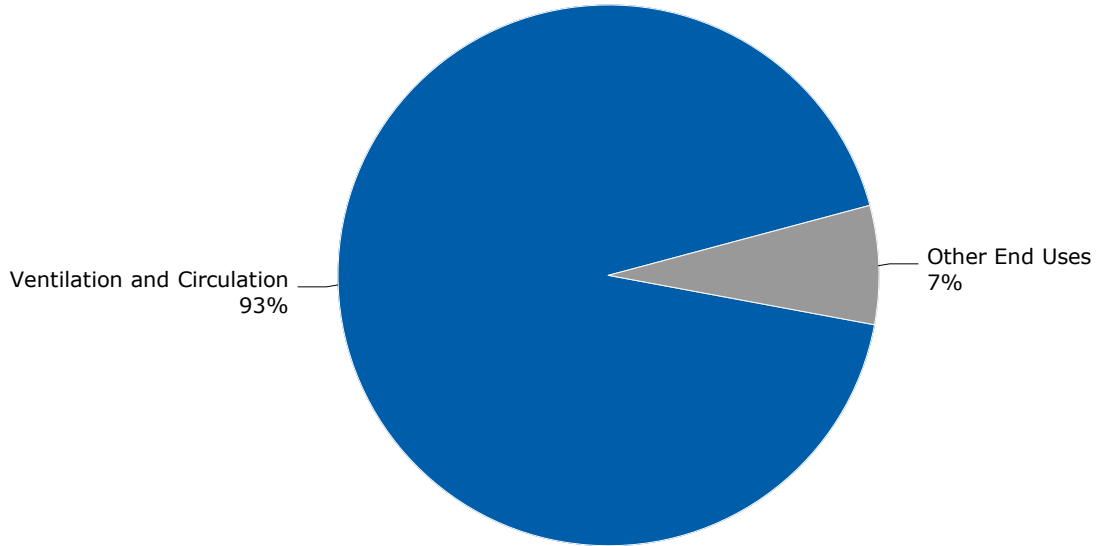


Note: 'Other End Uses' includes:
 Plug Load: 4%, Water Heat GT 55 Gal: 3%, Cooling: 2%, Appliances: <1%, Cooking: <1%, Room Cooling: <1%, Lighting Interior HID: <1%



Figure 26. PPL Base Achievable Potential: Institutional Institutional - Other by End Use

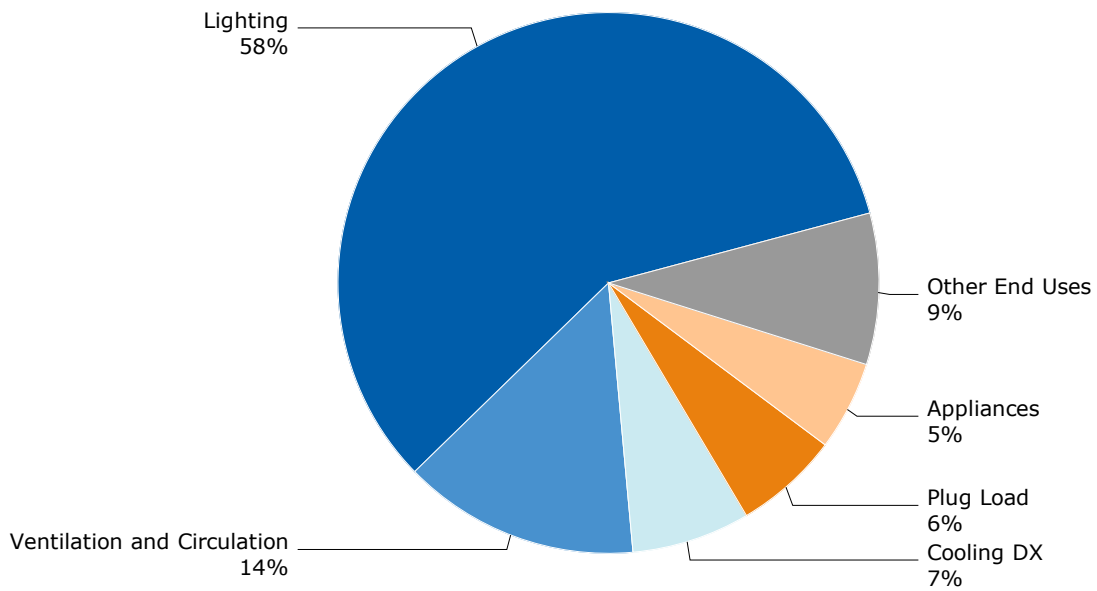
Total: 1,390 MWh



Note: 'Other End Uses' includes:
Plug Load: 4%, Lighting: 2%, Appliances: 1%, Cooking: <1%

Figure 27. PPL Base Achievable Potential: Institutional Religious by End Use

Total: 5,964 MWh



Note: 'Other End Uses' includes:
Heat Pump: 4%, Lighting Interior HID: 3%, Cooling: 1%, Water Heat LE 55 Gal: <1%, Heating: <1%, Room Cooling: <1%, Water Heat GT 55 Gal: <1%, Cooking: <1%

Figure 28. PPL Base Achievable Potential: Industrial Chemical Mfg by End Use

Total: 20,492 MWh

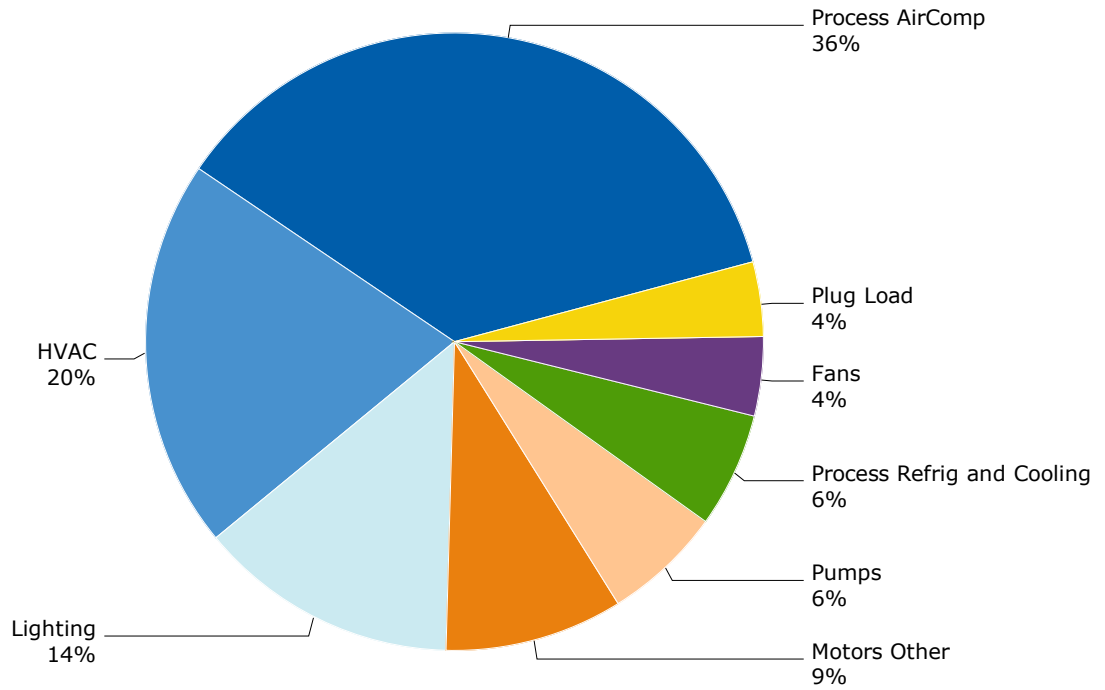
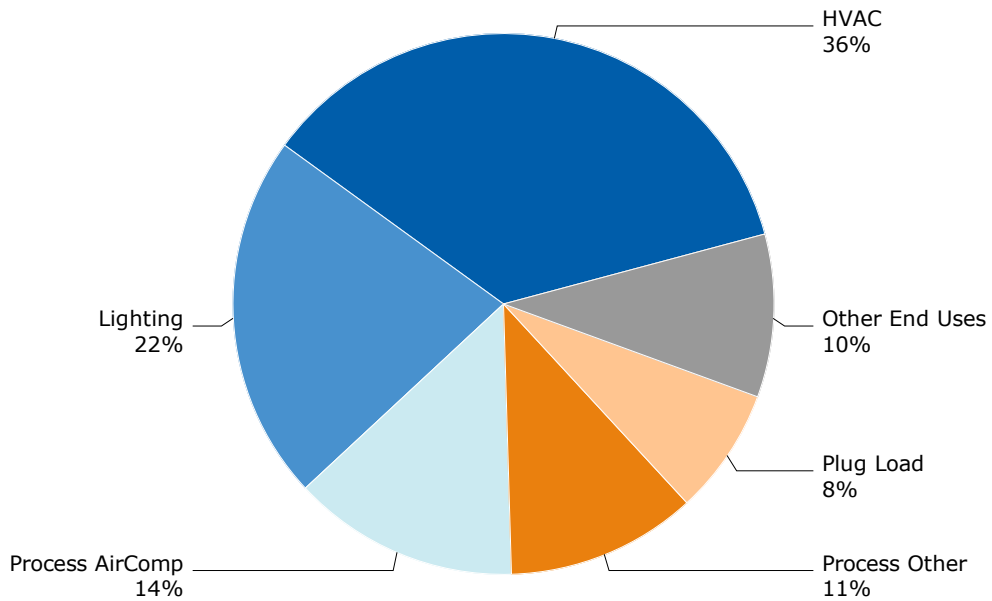


Figure 29. PPL Base Achievable Potential: Industrial Electrical Equipment Mfg by End Use

Total: 7,930 MWh

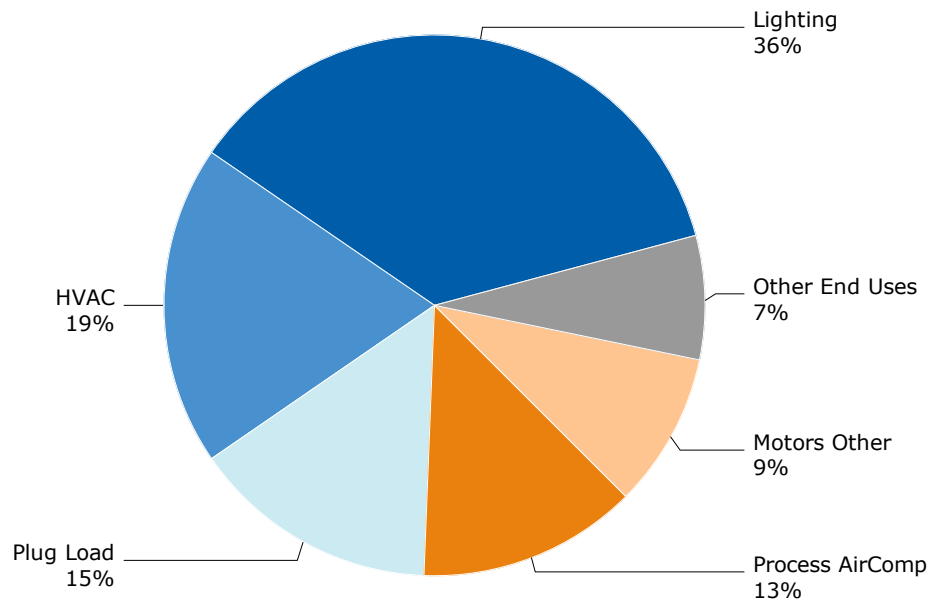


Note: 'Other End Uses' includes:
Motors Other: 4%, Pumps: 2%, Process Refrig and Cooling: 2%, Fans: 2%



Figure 30. PPL Base Achievable Potential: Industrial Fabricated Metal Products by End Use

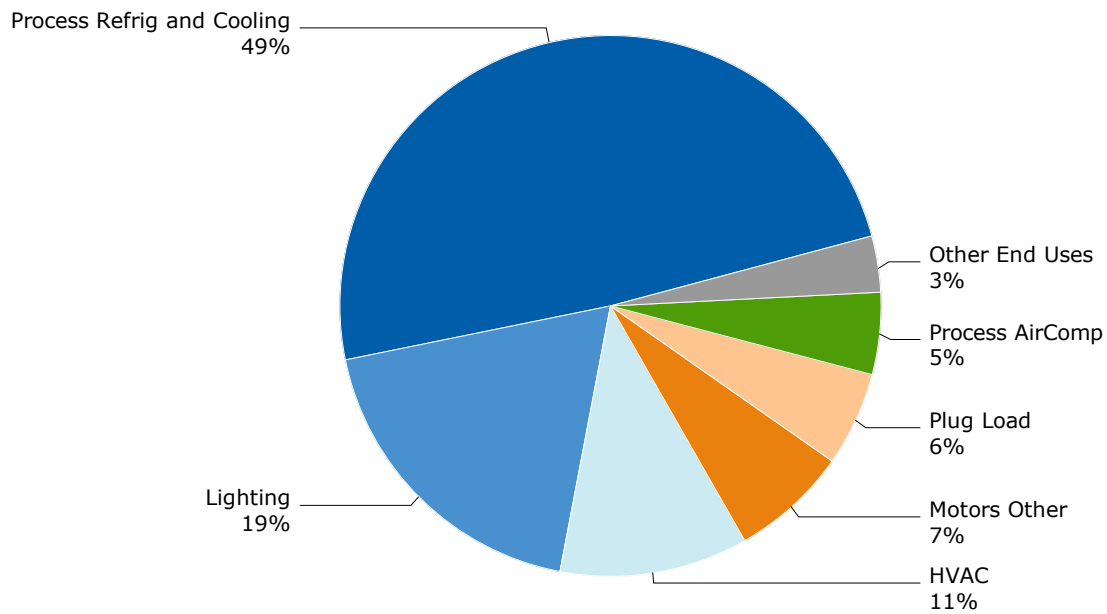
Total: 5,078 MWh



Note: 'Other End Uses' includes:
Pumps: 4%, Fans: 3%, Process Refrig and Cooling: <1%

Figure 31. PPL Base Achievable Potential: Industrial Food Mfg by End Use

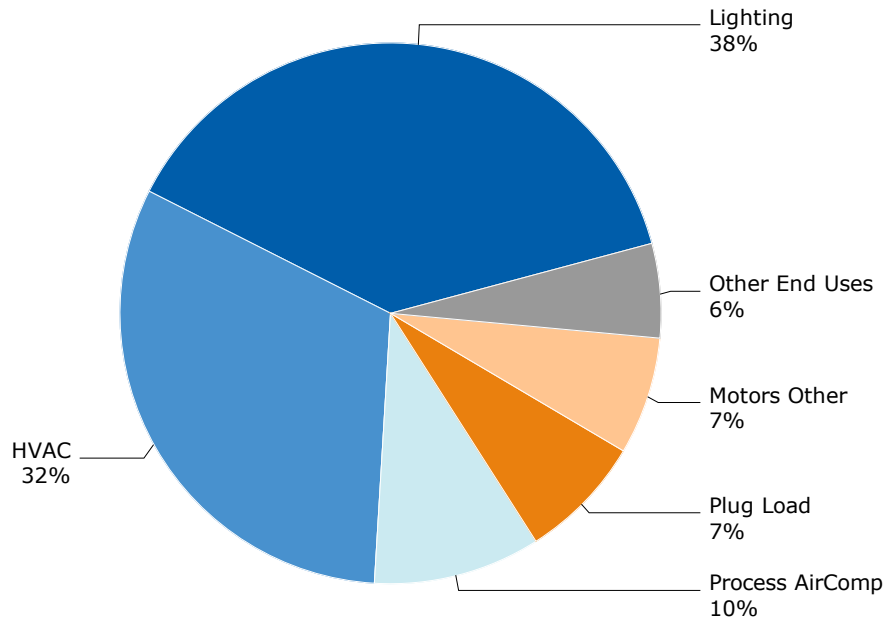
Total: 28,837 MWh



Note: 'Other End Uses' includes:
Pumps: 2%, Fans: 1%

Figure 32. PPL Base Achievable Potential: Industrial Industrial Machinery by End Use

Total: 4,412 MWh



Note: 'Other End Uses' includes:
Pumps: 3%, Fans: 3%, Process Refrig and Cooling: <1%

Figure 33. PPL Base Achievable Potential: Industrial Mining by End Use

Total: 387 MWh

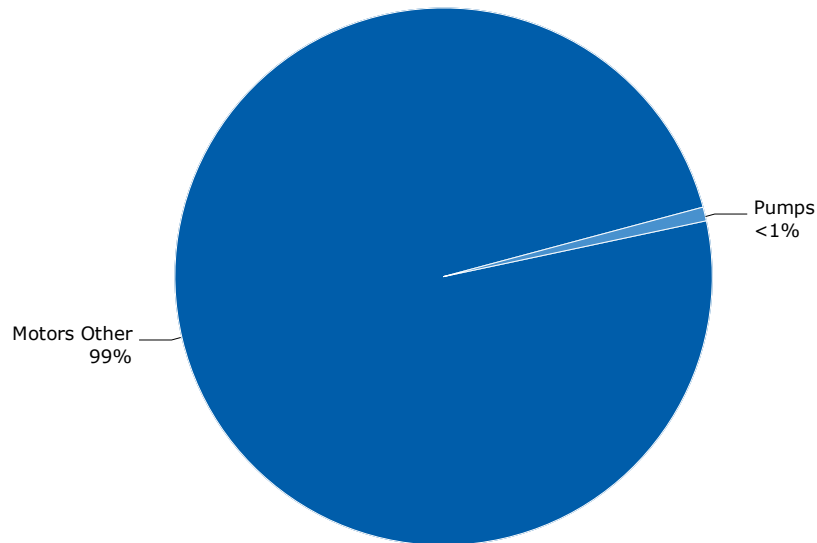
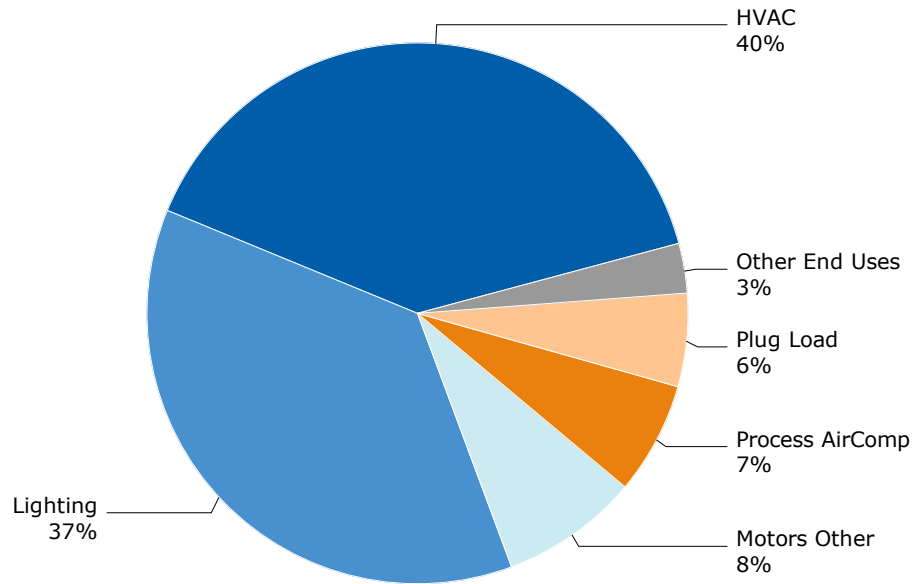




Figure 34. PPL Base Achievable Potential: Industrial Miscellaneous Mfg by End Use

Total: 44,313 MWh



Note: 'Other End Uses' includes:
Fans: 2%, Pumps: <1%, Process Refrig and Cooling: <1%

Figure 35. PPL Base Achievable Potential: Industrial Paper Mfg by End Use

Total: 9,358 MWh

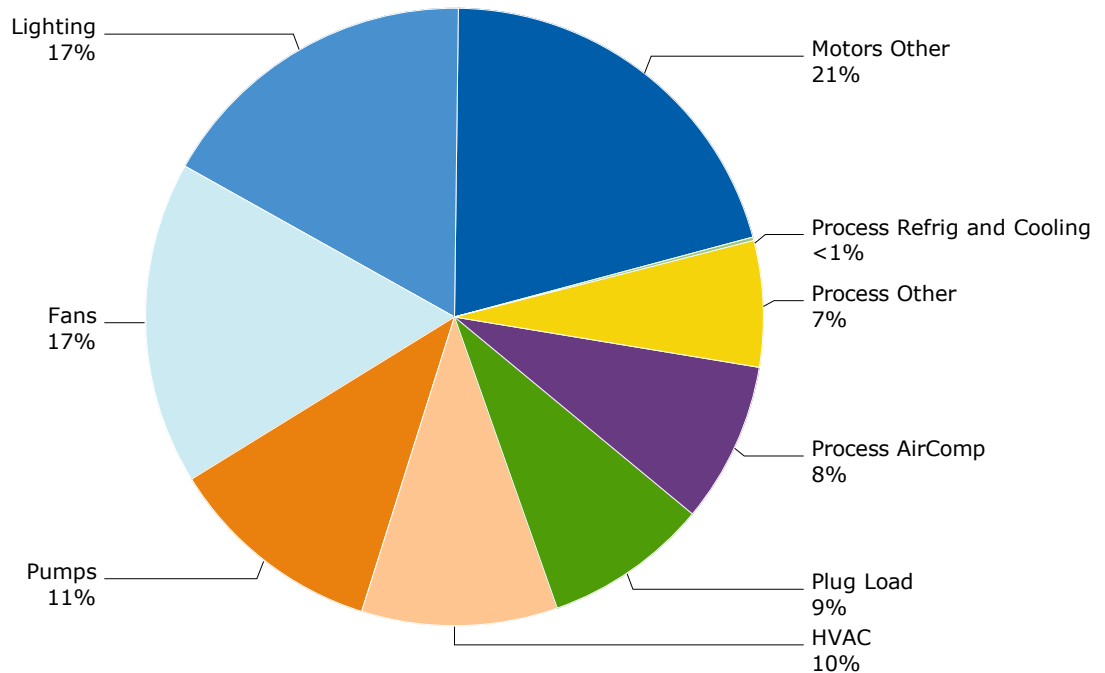
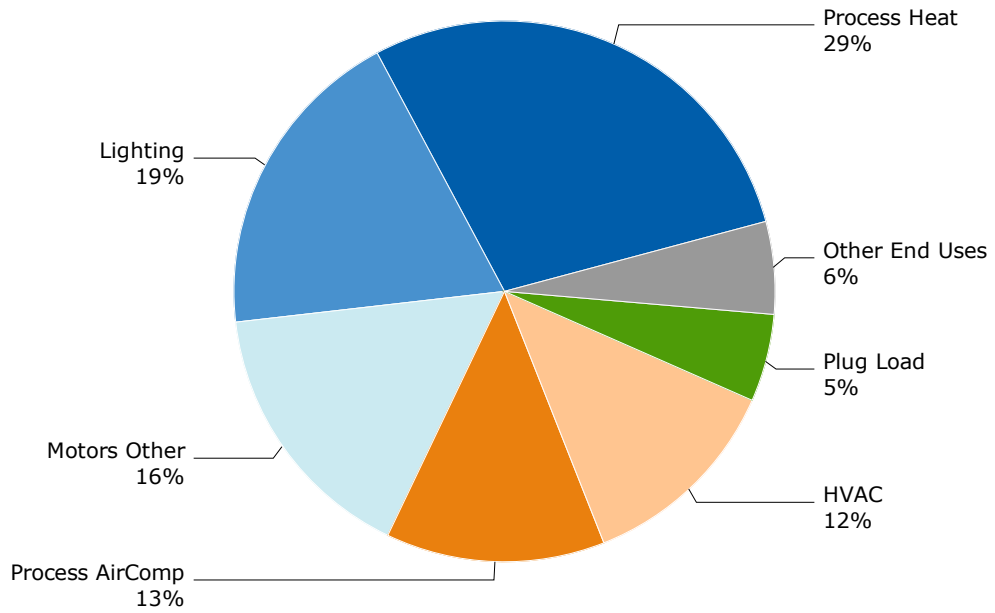


Figure 36. PPL Base Achievable Potential: Industrial Primary Metal Mfg by End Use

Total: 9,659 MWh



Note: 'Other End Uses' includes:
Fans: 4%, Pumps: 1%, Process Refrig and Cooling: <1%



Figure 37. PPL Base Achievable Potential: Industrial Street Lighting by End Use

Total: 2,152 MWh

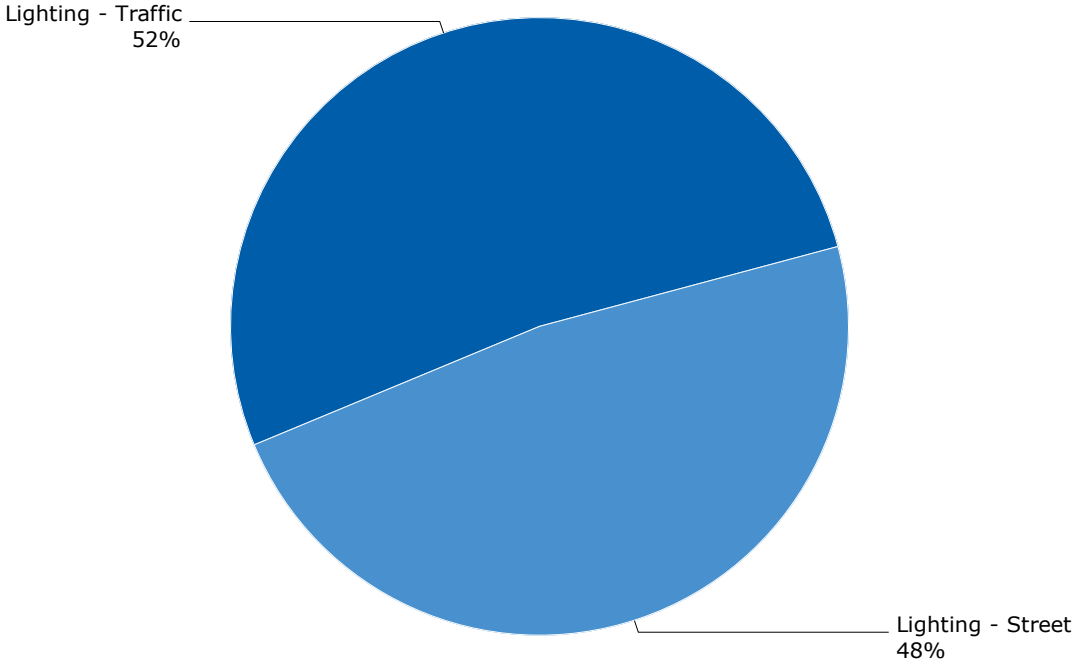
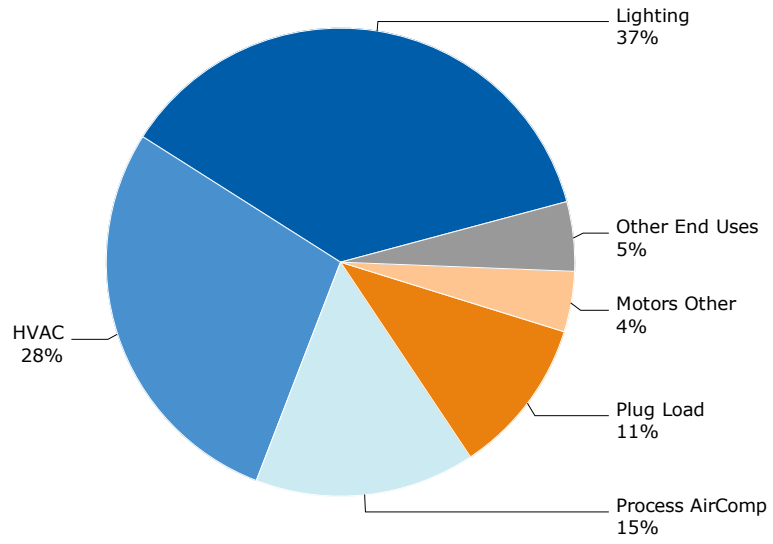


Figure 38. PPL Base Achievable Potential: Industrial Transportation Equipment Mfg by End Use

Total: 1,684 MWh



Note: 'Other End Uses' includes:
Pumps: 3%, Fans: 2%, Process Refrig and Cooling: <1%



Appendix C. Measure Details

Residential Measure Details

Table 5. Residential Measure Details

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Multi-family	Computer Desktop	Existing	ENERGY STAR Computer - Desktop	ENERGY STAR Computer - Desktop	Standard Desktop	Per Installation	70.7	4	1.00	90%	73%	0.01	17.8	247
Low Income Multi-family	Computer Desktop	New	ENERGY STAR Computer - Desktop	ENERGY STAR Computer - Desktop	Standard Desktop	Per Installation	70.7	4	1.00	90%	73%	0.01	17.8	7
Low Income Multi-family	Computer Desktop	Existing	Smart Strip Plug Outlet	Advanced Power Strip - Load Sensing: Computer Desktop	Standard Power Strip	Per Home	40.7	4	32.97	39%	95%	0.29	0.3	0
Low Income Multi-family	Computer Desktop	New	Smart Strip Plug Outlet	Advanced Power Strip - Load Sensing: Computer Desktop	Standard Power Strip	Per Home	40.7	4	32.97	39%	95%	0.14	0.6	0
Low Income Multi-family	Computer Desktop	Existing	Smart Strip Plug Outlet	Advanced Power Strip with Infrared Sensor: Computer Desktop	Standard Power Strip	Per Home	63.7	4	32.97	0%	95%	0.19	0.5	0
Low Income Multi-family	Computer Desktop	New	Smart Strip Plug Outlet	Advanced Power Strip with Infrared Sensor: Computer Desktop	Standard Power Strip	Per Home	63.7	4	32.97	0%	95%	0.09	1.0	0
Low Income Multi-family	Computer Desktop	Existing	Smart Strip Plug Outlet	Advanced Power Strip with Occupancy Sensor: Computer Desktop	Standard Power Strip	Per Home	46.5	4	99.99	100%	95%	0.78	0.1	0
Low Income Multi-family	Computer Desktop	New	Smart Strip Plug Outlet	Advanced Power Strip with Occupancy Sensor: Computer Desktop	Standard Power Strip	Per Home	46.5	4	99.99	100%	95%	0.65	0.1	0
Low Income Multi-family	Computer Laptop	Existing	ENERGY STAR Computer - Laptop	ENERGY STAR Computer - Laptop	Standard Laptop	Per Installation	21.5	4	1.00	90%	25%	0.02	5.4	18

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Multi-family	Computer Laptop	New	ENERGY STAR Computer - Laptop	ENERGY STAR Computer - Laptop	Standard Laptop	Per Installation	21.5	4	1.00	90%	25%	0.02	5.4	1
Low Income Multi-family	Cool Central	Existing	Air Sealing	Air Sealing	No Air Sealing	Per Home	44.6	15	399.94	38%	34%	0.10	1.1	21
Low Income Multi-family	Cool Central	New	Air Sealing	Air Sealing	No Air Sealing	Per Home	44.6	15	399.94	0%	34%	0.10	1.1	0
Low Income Multi-family	Cool Central	Existing	Ceiling / Attic Insulation	R-38 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	23.9	25	1571.36	50%	13%	0.77	0.2	0
Low Income Multi-family	Cool Central	Existing	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	4.2	25	1796.41	15%	100%	0.63	0.2	0
Low Income Multi-family	Cool Central	New	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	4.2	25	1796.41	25%	100%	0.63	0.2	0
Low Income Multi-family	Cool Central	Existing	Central AC Maintenance	Tune-up/Maintenance on Central AC	No Tune-up Maintenance on Central AC	Per Home	289.0	7	100.00	95%	86%	0.08	1.4	0
Low Income Multi-family	Cool Central	Existing	Central Air Conditioner - CEE Tier 3	CEE Tier 3 Central Air Conditioner - SEER/EER 16/13 (Split System)	Federal Standard 2015 Central Air Conditioner - SEER 13 (Split System)	Per Installation	187.9	14	4832.93	90%	100%	1.38	0.1	0
Low Income Multi-family	Cool Central	New	Central Air Conditioner - CEE Tier 3	CEE Tier 3 Central Air Conditioner - SEER/EER 16/13 (Split System)	Federal Standard 2015 Central Air Conditioner - SEER 13 (Split System)	Per Installation	154.8	14	3982.60	90%	100%	1.38	0.1	0
Low Income Multi-family	Cool Central	Existing	Central Air Conditioner - Enhanced	Enhanced Central Air Conditioner - SEER/EER 18/14 (Split System)	Federal Standard 2015 Central Air Conditioner - SEER 13 (Split System)	Per Installation	278.4	14	6014.09	90%	100%	1.56	0.1	0
Low Income Multi-family	Cool Central	New	Central Air Conditioner - Enhanced	Enhanced Central Air Conditioner - SEER/EER 18/14 (Split System)	Federal Standard 2015 Central Air Conditioner - SEER 13 (Split System)	Per Installation	229.4	14	4955.95	90%	100%	1.56	0.1	0
Low Income Multi-family	Cool Central	New	Construction - ICF/SIP	Insulating Concrete Form (ICF) or Structural Insulated Panels (SIP)	Standard Wood Framing	Per Home	134.3	40	5497.83	25%	100%	1.50	0.1	0
Low Income Multi-family	Cool Central	Existing	Duct Insulation	R-6 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	179.4	15	177.25	10%	69%	0.06	1.9	56



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Multi-family	Cool Central	Existing	Duct Sealing	Duct Sealing	No Duct Sealing	Per Home	157.9	20	82.72	10%	34%	0.02	6.5	24
Low Income Multi-family	Cool Central	New	Duct Sealing	Duct Sealing	No Duct Sealing	Per Home	157.9	20	82.72	0%	34%	0.02	6.5	0
Low Income Multi-family	Cool Central	Existing	ENERGY STAR Central Air Conditioner	ENERGY STAR Central Air Conditioner - SEER/EER 14.5/12 (Split System)	Federal Standard 2015 Central Air Conditioner - SEER 13 (Split System)	Per Installation	103.7	14	3947.06	90%	100%	1.25	0.1	0
Low Income Multi-family	Cool Central	New	ENERGY STAR Central Air Conditioner	ENERGY STAR Central Air Conditioner - SEER/EER 14.5/12 (Split System)	Federal Standard 2015 Central Air Conditioner - SEER 13 (Split System)	Per Installation	85.4	14	3252.60	90%	100%	1.25	0.1	0
Low Income Multi-family	Cool Central	Existing	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	2.9	15	5053.33	100%	12%	0.72	0.1	0
Low Income Multi-family	Cool Central	New	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	2.9	15	5053.33	100%	12%	0.72	0.1	0
Low Income Multi-family	Cool Central	Existing	Home Energy Reports	Home Energy Reports (Opower, Aclara, C3 Energy, and Simple Energy)	No report	Per Home	90.7	1	10.37	90%	100%	0.15	0.6	0
Low Income Multi-family	Cool Central	New	Home Energy Reports	Home Energy Reports (Opower, Aclara, C3 Energy, and Simple Energy)	No report	Per Home	90.7	1	10.37	90%	100%	0.15	0.6	0
Low Income Multi-family	Cool Central	Existing	Programmable Thermostat	Programmable Thermostat	Manual Thermostat	Per Home	25.1	11	64.00	0%	77%	0.43	0.3	0
Low Income Multi-family	Cool Central	New	Programmable Thermostat	Programmable Thermostat	Manual Thermostat	Per Home	20.7	11	64.00	0%	77%	0.26	0.5	0
Low Income Multi-family	Cool Central	Existing	Proper Sizing of Central Air Conditioner	Proper Sizing - Central Air Conditioner	Oversized Central Air Conditioner	Per Home	62.7	14	186.50	95%	95%	0.44	0.3	0
Low Income Multi-family	Cool Central	New	Proper Sizing of Central Air Conditioner	Proper Sizing - Central Air Conditioner	Oversized Central Air Conditioner	Per Home	51.7	14	186.50	95%	95%	0.53	0.2	0
Low Income Multi-family	Cool Central	Existing	Smart Thermostat	WiFi Thermostat	Programmable Thermostat	Per Home	94.0	11	261.59	0%	95%	0.36	0.3	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/c Ratio	Achievable Potential (MWh)
Low Income Multi-family	Cool Central	New	Smart Thermostat	WiFi Thermostat	Programmable Thermostat	Per Home	77.5	11	261.59	0%	95%	0.43	0.3	0
Low Income Multi-family	Cool Central	Existing	Wall Insulation	R-13 Wall (Max Fill)	Average Existing Wall Insulation	Per Home	70.6	25	771.96	10%	45%	1.24	0.1	0
Low Income Multi-family	Cool Central	Existing	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	4.5	25	1426.04	5%	14%	9.52	0.0	0
Low Income Multi-family	Cool Central	New	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	4.5	25	1426.04	95%	14%	9.52	0.0	0
Low Income Multi-family	Cool Central	Existing	Window Film	Window Film	No Window Film	Per Home	24.8	20	512.69	20%	95%	2.55	0.1	0
Low Income Multi-family	Cool Central	New	Window Film	Window Film	No Window Film	Per Home	20.5	20	512.69	0%	95%	3.09	0.0	0
Low Income Multi-family	Cool Central	Existing	Windows	U-0.35 (IECC 2009 - Zone 5)	Average Existing Window	Per Home	2.9	15	4530.80	100%	12%	19.95	0.0	0
Low Income Multi-family	Cool Room	Existing	Air Sealing	Air Sealing	No Air Sealing	Per Home	17.0	15	399.94	38%	34%	0.07	1.5	26
Low Income Multi-family	Cool Room	New	Air Sealing	Air Sealing	No Air Sealing	Per Home	17.0	15	399.94	0%	34%	0.07	1.5	0
Low Income Multi-family	Cool Room	Existing	Ceiling / Attic Insulation	R-38 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	12.1	25	1571.36	50%	13%	0.54	0.2	0
Low Income Multi-family	Cool Room	Existing	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	2.1	25	1796.41	15%	100%	0.44	0.3	0
Low Income Multi-family	Cool Room	New	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	2.1	25	1796.41	25%	100%	0.44	0.3	0
Low Income Multi-family	Cool Room	New	Construction - ICF/SIP	Insulating Concrete Form (ICF) or Structural Insulated Panels (SIP)	Standard Wood Framing	Per Home	13.7	40	5497.83	25%	100%	14.61	0.0	0
Low Income Multi-family	Cool Room	Existing	Ductless Mini-Split HP / AC	Ductless Air Conditioner - SEER/EER 18/12.5	Federal Standard 2014 Room AC - CEER/EER 10.9/11.0 (8,000-13,999 Btuh)	Per Installation	37.6	9	1431.72	90%	100%	6.83	0.0	0
Low Income Multi-family	Cool Room	New	Ductless Mini-Split HP / AC	Ductless Air Conditioner - SEER/EER 18/12.5	Federal Standard 2014 Room AC - CEER/EER 10.9/11.0 (8,000-13,999 Btuh)	Per Installation	37.6	9	1431.72	90%	100%	6.83	0.0	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Multi-family	Cool Room	Existing	ENERGY STAR Room Air Conditioner	ENERGY STAR Room AC - CEER/EER 11.2/11.3 (8,000-13,999 Btuh)	Federal Standard 2014 Room AC - CEER/EER 10.9/11.0 (8,000-13,999 Btuh)	Per Installation	2.6	9	220.00	90%	100%	3.02	0.0	0
Low Income Multi-family	Cool Room	New	ENERGY STAR Room Air Conditioner	ENERGY STAR Room AC - CEER/EER 11.2/11.3 (8,000-13,999 Btuh)	Federal Standard 2014 Room AC - CEER/EER 10.9/11.0 (8,000-13,999 Btuh)	Per Installation	2.6	9	220.00	90%	100%	3.02	0.0	0
Low Income Multi-family	Cool Room	Existing	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	2.9	15	5053.33	100%	12%	0.76	0.1	0
Low Income Multi-family	Cool Room	New	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	2.9	15	5053.33	100%	12%	0.76	0.1	0
Low Income Multi-family	Cool Room	Existing	Room AC Retirement	Proper Disposal of Room AC	Existing Non-Efficient Room AC	Per Home	167.9	4	60.00	13%	65%	0.13	0.8	0
Low Income Multi-family	Cool Room	Existing	Wall Insulation	R-13 Wall (Max Fill)	Average Existing Wall Insulation	Per Home	35.6	25	771.96	10%	45%	2.47	0.1	0
Low Income Multi-family	Cool Room	Existing	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	2.3	25	1426.04	5%	14%	18.90	0.0	0
Low Income Multi-family	Cool Room	New	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	2.3	25	1426.04	95%	14%	18.90	0.0	0
Low Income Multi-family	Cool Room	Existing	Window Film	Window Film	No Window Film	Per Home	2.1	20	512.69	20%	95%	30.25	0.0	0
Low Income Multi-family	Cool Room	New	Window Film	Window Film	No Window Film	Per Home	2.1	20	512.69	0%	95%	30.25	0.0	0
Low Income Multi-family	Cool Room	Existing	Windows	U-0.35 (IECC 2009 - Zone 5)	Average Existing Window	Per Home	2.9	15	4530.80	100%	12%	19.95	0.0	0
Low Income Multi-family	Copier	Existing	ENERGY STAR Copier	ENERGY STAR Copier	Standard Office Copier	Per Installation	81.4	6	1.00	90%	20%	0.00	29.3	11
Low Income Multi-family	Copier	New	ENERGY STAR Copier	ENERGY STAR Copier	Standard Office Copier	Per Installation	81.4	6	1.00	90%	20%	0.00	29.3	0
Low Income Multi-family	Dehumidifier	Existing	ENERGY STAR Dehumidifiers	ENERGY STAR Dehumidifier	Federal Standard 2013 Dehumidifier	Per Installation	169.6	12	242.54	90%	100%	0.02	5.4	29

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Multi-family	Dehumidifier	New	ENERGY STAR Dehumidifiers	ENERGY STAR Dehumidifier	Federal Standard 2013 Dehumidifier	Per Installation	169.6	12	242.54	90%	100%	0.02	5.4	1
Low Income Multi-family	Dryer	Existing	ENERGY STAR Dryer - CEF/EF 3.93/4.04	ENERGY STAR Dryer - CEF/EF 3.93/4.04	Federal Standard 2015 Dryer - CEF/EF 3.73/3.83	Per Installation	27.4	13	812.57	90%	100%	0.29	0.4	0
Low Income Multi-family	Dryer	New	ENERGY STAR Dryer - CEF/EF 3.93/4.04	ENERGY STAR Dryer - CEF/EF 3.93/4.04	Federal Standard 2015 Dryer - CEF/EF 3.73/3.83	Per Installation	27.4	13	812.57	90%	100%	0.29	0.4	0
Low Income Multi-family	Dryer	Existing	Heat Pump Dryer	Heat Pump Dryer	Federal Standard 2015 Dryer - CEF/EF 3.73/3.83	Per Installation	277.6	13	1169.99	90%	100%	0.23	0.5	0
Low Income Multi-family	Dryer	New	Heat Pump Dryer	Heat Pump Dryer	Federal Standard 2015 Dryer - CEF/EF 3.73/3.83	Per Installation	277.6	13	1169.99	90%	100%	0.23	0.5	0
Low Income Multi-family	Fax	Existing	ENERGY STAR Fax Machine	ENERGY STAR Fax Machine	Standard Fax Machine	Per Installation	15.6	4	60.00	90%	20%	1.39	0.1	0
Low Income Multi-family	Fax	New	ENERGY STAR Fax Machine	ENERGY STAR Fax Machine	Standard Fax Machine	Per Installation	15.6	4	60.00	90%	20%	1.39	0.1	0
Low Income Multi-family	Freezer	Existing	ENERGY STAR Freezers	ENERGY STAR Freezer	Federal Standard 2015 Freezer	Per Installation	34.6	12	6.61	90%	100%	0.03	3.4	51
Low Income Multi-family	Freezer	New	ENERGY STAR Freezers	ENERGY STAR Freezer	Federal Standard 2015 Freezer	Per Installation	34.6	12	6.61	90%	100%	0.03	3.4	2
Low Income Multi-family	Freezer	Existing	Refrigerator / Freezer Recycling with Replacement	Proper Disposal of Refrigerator/Freezer and Replacing with New Unit	Existing Non-Efficient Refrigerator/Freezer	Per Home	547.7	7	120.00	18%	94%	0.05	1.9	129
Low Income Multi-family	Freezer	Existing	Refrigerator / Freezer Recycling without Replacement	Proper Disposal of Refrigerator/Freezer	Existing Non-Efficient Refrigerator/Freezer	Per Home	1072.9	8	120.00	2%	94%	0.02	4.1	24
Low Income Multi-family	Heat Central	Existing	Air Sealing	Air Sealing	No Air Sealing	Per Home	1981.2	15	399.94	38%	34%	0.03	3.7	437
Low Income Multi-family	Heat Central	New	Air Sealing	Air Sealing	No Air Sealing	Per Home	1981.2	15	399.94	0%	34%	0.03	3.7	0
Low Income Multi-family	Heat Central	Existing	Ceiling / Attic Insulation	R-38 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	798.5	25	1571.36	50%	13%	0.22	0.5	0
Low Income Multi-family	Heat Central	Existing	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	140.4	25	1796.41	15%	100%	0.18	0.6	0
Low Income Multi-family	Heat Central	New	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	140.4	25	1796.41	25%	100%	0.18	0.6	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Multi-family	Heat Central	New	Construction - ICF/SIP	Insulating Concrete Form (ICF) or Structural Insulated Panels (SIP)	Standard Wood Framing	Per Home	619.4	40	5497.83	25%	100%	0.32	0.4	0
Low Income Multi-family	Heat Central	Existing	Duct Insulation	R-6 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	863.3	15	177.25	10%	69%	0.03	3.9	102
Low Income Multi-family	Heat Central	Existing	Duct Sealing	Duct Sealing	No Duct Sealing	Per Home	1561.2	20	82.72	10%	34%	0.01	17.6	91
Low Income Multi-family	Heat Central	New	Duct Sealing	Duct Sealing	No Duct Sealing	Per Home	1561.2	20	82.72	0%	34%	0.01	17.6	0
Low Income Multi-family	Heat Central	Existing	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	381.2	15	5053.33	100%	12%	0.19	0.5	0
Low Income Multi-family	Heat Central	New	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	381.2	15	5053.33	100%	12%	0.19	0.5	0
Low Income Multi-family	Heat Central	Existing	Floor Insulation	R-30 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	818.4	25	1526.72	25%	50%	0.21	0.6	0
Low Income Multi-family	Heat Central	Existing	Floor Insulation	R-38 (Above Code)	R-30 (IECC 2009 - Zone 5)	Per Home	166.7	25	1836.23	25%	50%	0.21	0.6	0
Low Income Multi-family	Heat Central	New	Floor Insulation	R-38 (Above Code)	R-30 (IECC 2009 - Zone 5)	Per Home	166.7	25	1836.23	25%	50%	0.21	0.6	0
Low Income Multi-family	Heat Central	Existing	Programmable Thermostat	Programmable Thermostat	Manual Thermostat	Per Home	208.1	11	64.00	0%	77%	0.05	1.9	0
Low Income Multi-family	Heat Central	New	Programmable Thermostat	Programmable Thermostat	Manual Thermostat	Per Home	171.5	11	64.00	0%	77%	0.03	3.2	0
Low Income Multi-family	Heat Central	Existing	Smart Thermostat	WiFi Thermostat	Programmable Thermostat	Per Home	341.1	11	261.59	0%	95%	0.10	1.0	0
Low Income Multi-family	Heat Central	New	Smart Thermostat	WiFi Thermostat	Programmable Thermostat	Per Home	281.1	11	261.59	0%	95%	0.12	0.8	0
Low Income Multi-family	Heat Central	Existing	Wall Insulation	R-13 Wall (Max Fill)	Average Existing Wall Insulation	Per Home	2352.6	25	771.96	10%	45%	0.04	3.1	171
Low Income Multi-family	Heat Central	Existing	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	149.6	25	1426.04	5%	14%	0.29	0.4	0
Low Income Multi-family	Heat Central	New	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	149.6	25	1426.04	95%	14%	0.29	0.4	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Multi-family	Heat Central	Existing	Windows	U-0.35 (IECC 2009 - Zone 5)	Average Existing Window	Per Home	381.2	15	4530.80	100%	12%	0.15	0.7	0
Low Income Multi-family	Heat Pump	Existing	Air Sealing	Air Sealing	No Air Sealing	Per Home	1203.6	15	399.94	38%	34%	0.05	2.3	44
Low Income Multi-family	Heat Pump	New	Air Sealing	Air Sealing	No Air Sealing	Per Home	1203.6	15	399.94	0%	34%	0.05	2.3	0
Low Income Multi-family	Heat Pump	Existing	Air Source Heat Pump Maintenance	Tune-up/Maintenance on Air Source Heat Pump	No Tune-up Maintenance on Air Source Heat Pump	Per Home	284.2	7	100.00	95%	86%	0.08	1.2	76
Low Income Multi-family	Heat Pump	Existing	Ceiling / Attic Insulation	R-38 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	353.8	25	1571.36	50%	13%	0.51	0.2	0
Low Income Multi-family	Heat Pump	Existing	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	62.2	25	1796.41	15%	100%	0.41	0.3	0
Low Income Multi-family	Heat Pump	New	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	62.2	25	1796.41	25%	100%	0.41	0.3	0
Low Income Multi-family	Heat Pump	Existing	Cold Climate Heat Pump	Cold Climate Heat Pump - SEER/EER 21.5/12 and HSPF 10.3 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	1261.4	12	6953.60	90%	100%	0.26	0.4	0
Low Income Multi-family	Heat Pump	New	Cold Climate Heat Pump	Cold Climate Heat Pump - SEER/EER 21.5/12 and HSPF 10.3 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	1039.4	12	5730.16	90%	100%	0.26	0.4	0
Low Income Multi-family	Heat Pump	New	Construction - ICF/SIP	Insulating Concrete Form (ICF) or Structural Insulated Panels (SIP)	Standard Wood Framing	Per Home	688.9	40	5497.83	25%	100%	0.29	0.4	0
Low Income Multi-family	Heat Pump	Existing	Duct Insulation	R-6 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	1306.9	15	177.25	10%	69%	0.02	5.6	26
Low Income Multi-family	Heat Pump	Existing	Duct Sealing	Duct Sealing	No Duct Sealing	Per Home	807.5	20	82.72	10%	34%	0.01	9.1	8
Low Income Multi-family	Heat Pump	New	Duct Sealing	Duct Sealing	No Duct Sealing	Per Home	807.5	20	82.72	0%	34%	0.01	9.1	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Multi-family	Heat Pump	Existing	ENERGY STAR Air Source Heat Pump	ENERGY STAR Air Source Heat Pump - SEER/EER 14.5/12 and HSPF 8.2 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	32.1	12	5149.86	90%	100%	1.07	0.1	0
Low Income Multi-family	Heat Pump	New	ENERGY STAR Air Source Heat Pump	ENERGY STAR Air Source Heat Pump - SEER/EER 14.5/12 and HSPF 8.2 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	26.4	12	4243.77	90%	100%	1.07	0.1	0
Low Income Multi-family	Heat Pump	Existing	ENERGY STAR Ground Source Heat Pump	ENERGY STAR Ground Source Heat Pump - EER 17.1 and 3.6 COP (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	1697.0	15	13317.96	90%	100%	0.70	0.2	0
Low Income Multi-family	Heat Pump	New	ENERGY STAR Ground Source Heat Pump	ENERGY STAR Ground Source Heat Pump - EER 17.1 and 3.6 COP (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	1398.4	15	10974.75	90%	100%	0.70	0.2	0
Low Income Multi-family	Heat Pump	Existing	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	215.0	15	5053.33	100%	12%	0.34	0.3	0
Low Income Multi-family	Heat Pump	New	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	215.0	15	5053.33	100%	12%	0.34	0.3	0
Low Income Multi-family	Heat Pump	Existing	Floor Insulation	R-30 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	393.6	25	1526.72	25%	50%	0.44	0.3	0
Low Income Multi-family	Heat Pump	Existing	Floor Insulation	R-38 (Above Code)	R-30 (IECC 2009 - Zone 5)	Per Home	80.2	25	1836.23	25%	50%	0.44	0.3	0
Low Income Multi-family	Heat Pump	New	Floor Insulation	R-38 (Above Code)	R-30 (IECC 2009 - Zone 5)	Per Home	80.2	25	1836.23	25%	50%	0.44	0.3	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Multi-family	Heat Pump	Existing	Heat Pump - Air Source CEE Tier 2	CEE Tier 2 Air Source Heat Pump - SEER/EER 15/12.5 and HSPF 8.5 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	224.2	12	5364.88	90%	100%	0.31	0.3	0
Low Income Multi-family	Heat Pump	New	Heat Pump - Air Source CEE Tier 2	CEE Tier 2 Air Source Heat Pump - SEER/EER 15/12.5 and HSPF 8.5 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	184.8	12	4420.96	90%	100%	0.31	0.3	0
Low Income Multi-family	Heat Pump	Existing	Heat Pump - Air Source Enhanced	Enhanced Air Source Heat Pump - SEER/EER 18/14 and HSPF 9.5 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	835.5	12	8160.19	90%	100%	0.62	0.2	0
Low Income Multi-family	Heat Pump	New	Heat Pump - Air Source Enhanced	Enhanced Air Source Heat Pump - SEER/EER 18/14 and HSPF 9.5 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	688.5	12	6724.45	90%	100%	0.62	0.2	0
Low Income Multi-family	Heat Pump	Existing	Heat Pump - Air Source Premium	Premium Air Source Heat Pump - SEER/EER 16/13 and HSPF 9.0 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	524.7	12	5794.93	90%	100%	0.26	0.4	0
Low Income Multi-family	Heat Pump	New	Heat Pump - Air Source Premium	Premium Air Source Heat Pump - SEER/EER 16/13 and HSPF 9.0 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	432.4	12	4775.35	90%	100%	0.26	0.4	0
Low Income Multi-family	Heat Pump	Existing	Programmable Thermostat	Programmable Thermostat	Manual Thermostat	Per Home	211.8	11	64.00	0%	77%	0.05	2.0	0
Low Income Multi-family	Heat Pump	New	Programmable Thermostat	Programmable Thermostat	Manual Thermostat	Per Home	174.5	11	64.00	0%	77%	0.03	3.3	0
Low Income Multi-family	Heat Pump	Existing	Smart Thermostat	WiFi Thermostat	Programmable Thermostat	Per Home	399.1	11	261.59	0%	95%	0.08	1.2	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Multi-family	Heat Pump	New	Smart Thermostat	WiFi Thermostat	Programmable Thermostat	Per Home	328.9	11	261.59	0%	95%	0.10	1.0	0
Low Income Multi-family	Heat Pump	Existing	Wall Insulation	R-13 Wall (Max Fill)	Average Existing Wall Insulation	Per Home	1113.0	25	771.96	10%	45%	0.08	1.5	14
Low Income Multi-family	Heat Pump	Existing	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	70.8	25	1426.04	5%	14%	0.60	0.2	0
Low Income Multi-family	Heat Pump	New	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	70.8	25	1426.04	95%	14%	0.60	0.2	0
Low Income Multi-family	Heat Pump	Existing	Window Film	Window Film	No Window Film	Per Home	24.6	20	512.69	20%	95%	2.57	0.0	0
Low Income Multi-family	Heat Pump	New	Window Film	Window Film	No Window Film	Per Home	20.3	20	512.69	0%	95%	3.12	0.0	0
Low Income Multi-family	Heat Pump	Existing	Windows	U-0.35 (IECC 2009 - Zone 5)	Average Existing Window	Per Home	215.0	15	4530.80	100%	12%	0.27	0.4	0
Low Income Multi-family	Heat Room	Existing	Air Sealing	Air Sealing	No Air Sealing	Per Home	1981.2	15	399.94	38%	34%	0.03	3.7	897
Low Income Multi-family	Heat Room	New	Air Sealing	Air Sealing	No Air Sealing	Per Home	1981.2	15	399.94	0%	34%	0.03	3.7	0
Low Income Multi-family	Heat Room	Existing	Ceiling / Attic Insulation	R-38 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	798.5	25	1571.36	50%	13%	0.22	0.5	0
Low Income Multi-family	Heat Room	Existing	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	140.4	25	1796.41	15%	100%	0.18	0.6	0
Low Income Multi-family	Heat Room	New	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	140.4	25	1796.41	25%	100%	0.18	0.6	0
Low Income Multi-family	Heat Room	New	Construction - ICF/SIP	Insulating Concrete Form (ICF) or Structural Insulated Panels (SIP)	Standard Wood Framing	Per Home	518.4	40	5497.83	25%	100%	0.39	0.3	0
Low Income Multi-family	Heat Room	Existing	Ductless Mini-Split HP / AC	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0	Standard Baseboard Heating - HSPF 3.41	Per Installation	2526.8	15	4095.10	90%	100%	0.21	0.5	0
Low Income Multi-family	Heat Room	New	Ductless Mini-Split HP / AC	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0	Standard Baseboard Heating - HSPF 3.41	Per Installation	2082.3	15	3374.59	90%	100%	0.21	0.5	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Multi-family	Heat Room	Existing	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	215.0	15	5053.33	100%	12%	0.34	0.3	0
Low Income Multi-family	Heat Room	New	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	215.0	15	5053.33	100%	12%	0.34	0.3	0
Low Income Multi-family	Heat Room	Existing	Floor Insulation	R-30 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	418.2	25	1526.72	25%	50%	0.42	0.3	0
Low Income Multi-family	Heat Room	Existing	Floor Insulation	R-38 (Above Code)	R-30 (IECC 2009 - Zone 5)	Per Home	85.2	25	1836.23	25%	50%	0.41	0.3	0
Low Income Multi-family	Heat Room	New	Floor Insulation	R-38 (Above Code)	R-30 (IECC 2009 - Zone 5)	Per Home	85.2	25	1836.23	25%	50%	0.41	0.3	0
Low Income Multi-family	Heat Room	Existing	Wall Insulation	R-13 Wall (Max Fill)	Average Existing Wall Insulation	Per Home	2352.6	25	771.96	10%	45%	0.04	3.1	348
Low Income Multi-family	Heat Room	Existing	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	149.6	25	1426.04	5%	14%	0.29	0.4	0
Low Income Multi-family	Heat Room	New	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	149.6	25	1426.04	95%	14%	0.29	0.4	0
Low Income Multi-family	Heat Room	Existing	Windows	U-0.35 (IECC 2009 - Zone 5)	Average Existing Window	Per Home	215.0	15	4530.80	100%	12%	0.27	0.4	0
Low Income Multi-family	Lighting Exterior	Existing	ENERGY STAR General Service CFL	High Efficiency General Service Lamp -CFL	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	45.9	5	2.73	90%	100%	0.01	13.4	0
Low Income Multi-family	Lighting Exterior	New	ENERGY STAR General Service CFL	High Efficiency General Service Lamp -CFL	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	45.9	5	2.73	90%	100%	0.01	13.4	0
Low Income Multi-family	Lighting Exterior	Existing	ENERGY STAR General Service LED	Premium Efficiency General Service Lamp -LED	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	48.6	15	10.68	90%	100%	0.04	2.8	303
Low Income Multi-family	Lighting Exterior	New	ENERGY STAR General Service LED	Premium Efficiency General Service Lamp -LED	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	48.6	15	10.68	90%	100%	0.04	2.8	6
Low Income Multi-family	Lighting Exterior	Existing	Lighting General Service Lamp - EISA Standard 2020	EISA Standard 2020 General Service Lamp - Incandescent	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	45.9	5	2.73	90%	100%	0.01	13.4	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Multi-family	Lighting Exterior	New	Lighting General Service Lamp - EISA Standard 2020	EISA Standard 2020 General Service Lamp - Incandescent	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	45.9	5	2.73	90%	100%	0.01	13.4	0
Low Income Multi-family	Lighting Exterior	Existing	Residential Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Home	24.6	10	218.15	20%	83%	1.59	0.1	0
Low Income Multi-family	Lighting Exterior	New	Residential Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Home	24.6	10	218.15	20%	83%	1.59	0.1	0
Low Income Multi-family	Lighting Interior Linear Fluorescent	Existing	ENERGY STAR Indoor Fluorescent Fixture	ENERGY STAR Indoor T8 Fluorescent Fixture	Standard Indoor T12 Fixture	Per Installation	13.4	13	57.65	90%	100%	0.60	0.2	0
Low Income Multi-family	Lighting Interior Linear Fluorescent	New	ENERGY STAR Indoor Fluorescent Fixture	ENERGY STAR Indoor T8 Fluorescent Fixture	Standard Indoor T12 Fixture	Per Installation	13.4	13	57.65	90%	100%	0.60	0.2	0
Low Income Multi-family	Lighting Interior Linear Fluorescent	Existing	Residential Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Home	18.9	10	218.15	20%	83%	2.08	0.0	0
Low Income Multi-family	Lighting Interior Linear Fluorescent	New	Residential Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Home	18.9	10	218.15	20%	83%	2.08	0.0	0
Low Income Multi-family	Lighting Interior Specialty	Existing	ENERGY STAR Specialty CFL	High Efficiency Specialty Lamp -CFL	Standard Specialty Lamp - Incandescent	Per Installation	42.5	5	4.85	90%	100%	0.01	10.2	0
Low Income Multi-family	Lighting Interior Specialty	New	ENERGY STAR Specialty CFL	High Efficiency Specialty Lamp -CFL	Standard Specialty Lamp - Incandescent	Per Installation	42.5	5	4.85	90%	100%	0.01	10.2	0
Low Income Multi-family	Lighting Interior Specialty	Existing	ENERGY STAR Specialty LED	Premium Efficiency Specialty Lamp -LED	Standard Specialty Lamp - Incandescent	Per Installation	43.8	15	9.93	90%	100%	0.04	2.7	2,409

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Multi-family	Lighting Interior Specialty	New	ENERGY STAR Specialty LED	Premium Efficiency Specialty Lamp -LED	Standard Specialty Lamp - Incandescent	Per Installation	43.8	15	9.93	90%	100%	0.04	2.7	37
Low Income Multi-family	Lighting Interior Specialty	Existing	Electroluminescent Nightlight	Electroluminescent Nightlight	Incandescent Nightlight	Per Home	30.4	8	4.20	25%	91%	0.03	3.4	86
Low Income Multi-family	Lighting Interior Specialty	New	Electroluminescent Nightlight	Electroluminescent Nightlight	Incandescent Nightlight	Per Home	30.4	8	4.20	25%	91%	0.02	5.3	2
Low Income Multi-family	Lighting Interior Specialty	Existing	Holiday Lights	LED Holiday Lights	Incandescent Holiday Lights	Per Home	10.6	10	12.00	50%	83%	0.20	0.5	0
Low Income Multi-family	Lighting Interior Specialty	New	Holiday Lights	LED Holiday Lights	Incandescent Holiday Lights	Per Home	10.6	10	12.00	50%	83%	0.12	0.9	0
Low Income Multi-family	Lighting Interior Specialty	Existing	LED Nightlight	LED Nightlight	Incandescent Nightlight	Per Home	26.3	10	2.00	25%	60%	0.01	7.4	0
Low Income Multi-family	Lighting Interior Specialty	New	LED Nightlight	LED Nightlight	Incandescent Nightlight	Per Home	26.3	10	2.00	25%	60%	0.00	29.6	0
Low Income Multi-family	Lighting Interior Specialty	Existing	Residential Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Home	15.9	10	218.15	20%	83%	2.47	0.0	0
Low Income Multi-family	Lighting Interior Specialty	New	Residential Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Home	15.9	10	218.15	20%	83%	2.47	0.0	0
Low Income Multi-family	Lighting Interior Standard	Existing	ENERGY STAR General Service CFL	High Efficiency General Service Lamp -CFL	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	29.2	5	2.71	90%	100%	0.01	8.4	0
Low Income Multi-family	Lighting Interior Standard	New	ENERGY STAR General Service CFL	High Efficiency General Service Lamp -CFL	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	29.2	5	2.71	90%	100%	0.01	8.4	0
Low Income Multi-family	Lighting Interior Standard	Existing	ENERGY STAR General Service LED	Premium Efficiency General Service Lamp -LED	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	31.4	15	11.04	90%	100%	0.06	1.7	5,616



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Multi-family	Lighting Interior Standard	New	ENERGY STAR General Service LED	Premium Efficiency General Service Lamp -LED	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	31.4	15	11.04	90%	100%	0.06	1.7	95
Low Income Multi-family	Lighting Interior Standard	Existing	Lighting General Service Lamp - EISA Standard 2020	EISA Standard 2020 General Service Lamp - Incandescent	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	29.2	5	2.71	90%	100%	0.01	8.4	0
Low Income Multi-family	Lighting Interior Standard	New	Lighting General Service Lamp - EISA Standard 2020	EISA Standard 2020 General Service Lamp - Incandescent	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	29.2	5	2.71	90%	100%	0.01	8.4	0
Low Income Multi-family	Lighting Interior Standard	Existing	Residential Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Home	15.7	10	218.15	20%	83%	2.51	0.0	0
Low Income Multi-family	Lighting Interior Standard	New	Residential Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Home	15.7	10	218.15	20%	83%	2.51	0.0	0
Low Income Multi-family	Monitor	Existing	ENERGY STAR Monitor	ENERGY STAR Monitor	Standard Monitor	Per Installation	23.8	4	1.00	90%	24%	0.02	6.0	9
Low Income Multi-family	Monitor	New	ENERGY STAR Monitor	ENERGY STAR Monitor	Standard Monitor	Per Installation	23.8	4	1.00	90%	24%	0.02	6.0	0
Low Income Multi-family	Multifunction Device	Existing	ENERGY STAR Multifunction	ENERGY STAR Multifunction Device "All-In-One" Imaging Equipment	Standard Multifunction Device "All-In-One" Imaging Equipment	Per Installation	109.0	6	1.00	90%	100%	0.00	39.3	32
Low Income Multi-family	Multifunction Device	New	ENERGY STAR Multifunction	ENERGY STAR Multifunction Device "All-In-One" Imaging Equipment	Standard Multifunction Device "All-In-One" Imaging Equipment	Per Installation	109.0	6	1.00	90%	100%	0.00	39.3	1
Low Income Multi-family	Plug Load Other	Existing	ENERGY STAR Air Purifier/Cleaner	ENERGY STAR Air Purifier/Cleaner	Standard Air Purifier/Cleaner	Per Home	31.3	9	0.08	100%	30%	0.00	195.8	182
Low Income Multi-family	Plug Load Other	New	ENERGY STAR Air Purifier/Cleaner	ENERGY STAR Air Purifier/Cleaner	Standard Air Purifier/Cleaner	Per Home	31.3	9	0.08	100%	30%	0.00	195.8	5
Low Income Multi-family	Plug Load Other	Existing	ENERGY STAR Water Cooler	ENERGY STAR Water Cooler	Standard Water Cooler	Per Home	2.6	10	0.96	95%	58%	0.00	287.1	28

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/c Ratio	Achievable Potential (MWh)
Low Income Multi-family	Plug Load Other	New	ENERGY STAR Water Cooler	ENERGY STAR Water Cooler	Standard Water Cooler	Per Home	2.6	10	0.96	95%	58%	0.00	287.1	1
Low Income Multi-family	Refrigerator	Existing	ENERGY STAR Refrigerators	ENERGY STAR Refrigerator	Federal Standard 2015 Refrigerator	Per Installation	38.2	12	625.25	90%	100%	0.11	1.0	0
Low Income Multi-family	Refrigerator	New	ENERGY STAR Refrigerators	ENERGY STAR Refrigerator	Federal Standard 2015 Refrigerator	Per Installation	38.2	12	625.25	90%	100%	0.11	1.0	0
Low Income Multi-family	Refrigerator	Existing	Refrigerator - CEE Tier 2	CEE Tier 2 Refrigerator	Federal Standard 2015 Refrigerator	Per Installation	75.4	12	648.46	90%	100%	0.10	1.0	0
Low Income Multi-family	Refrigerator	New	Refrigerator - CEE Tier 2	CEE Tier 2 Refrigerator	Federal Standard 2015 Refrigerator	Per Installation	75.4	12	648.46	90%	100%	0.10	1.0	0
Low Income Multi-family	Refrigerator	Existing	Refrigerator - CEE Tier 3	CEE Tier 3 Refrigerator	Federal Standard 2015 Refrigerator	Per Installation	99.9	12	664.20	90%	100%	0.10	1.0	0
Low Income Multi-family	Refrigerator	New	Refrigerator - CEE Tier 3	CEE Tier 3 Refrigerator	Federal Standard 2015 Refrigerator	Per Installation	99.9	12	664.20	90%	100%	0.10	1.0	0
Low Income Multi-family	Refrigerator	Existing	Refrigerator / Freezer Recycling with Replacement	Proper Disposal of Refrigerator/Freezer and Replacing with New Unit	Existing Non-Efficient Refrigerator/Freezer	Per Home	547.7	7	120.00	18%	94%	0.05	1.9	1,810
Low Income Multi-family	Refrigerator	Existing	Refrigerator / Freezer Recycling without Replacement	Proper Disposal of Refrigerator/Freezer	Existing Non-Efficient Refrigerator/Freezer	Per Home	1072.9	8	120.00	2%	94%	0.02	4.1	334
Low Income Multi-family	TV	Existing	ENERGY STAR Televisions < 50"	ENERGY STAR Televisions < 50"	Standard Television < 50"	Per Installation	19.2	6	1.00	90%	15%	0.01	6.9	10
Low Income Multi-family	TV	New	ENERGY STAR Televisions < 50"	ENERGY STAR Televisions < 50"	Standard Television < 50"	Per Installation	19.2	6	1.00	90%	15%	0.01	6.9	0
Low Income Multi-family	TV	Existing	Smart Strip Plug Outlet	Advanced Power Strip - Load Sensing: TV	Standard Power Strip	Per Home	40.7	4	32.97	57%	95%	0.29	0.3	0
Low Income Multi-family	TV	New	Smart Strip Plug Outlet	Advanced Power Strip - Load Sensing: TV	Standard Power Strip	Per Home	40.7	4	32.97	57%	95%	0.14	0.6	0
Low Income Multi-family	TV	Existing	Smart Strip Plug Outlet	Advanced Power Strip with Infrared Sensor: TV	Standard Power Strip	Per Home	63.7	4	32.97	93%	95%	0.19	0.5	0
Low Income Multi-family	TV	New	Smart Strip Plug Outlet	Advanced Power Strip with Infrared Sensor: TV	Standard Power Strip	Per Home	63.7	4	32.97	93%	95%	0.09	1.0	39



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Multi-family	TV	Existing	Smart Strip Plug Outlet	Advanced Power Strip with Occupancy Sensor: TV	Standard Power Strip	Per Home	46.5	4	99.99	0%	95%	0.78	0.1	0
Low Income Multi-family	TV	New	Smart Strip Plug Outlet	Advanced Power Strip with Occupancy Sensor: TV	Standard Power Strip	Per Home	46.5	4	99.99	0%	95%	0.65	0.1	0
Low Income Multi-family	TV Bigscreen	Existing	ENERGY STAR Televisions > 50"	ENERGY STAR Televisions > 50"	Standard Television > 50"	Per Installation	22.8	6	1.00	90%	44%	0.01	8.2	11
Low Income Multi-family	TV Bigscreen	New	ENERGY STAR Televisions > 50"	ENERGY STAR Televisions > 50"	Standard Television > 50"	Per Installation	22.8	6	1.00	90%	44%	0.01	8.2	0
Low Income Multi-family	TV Bigscreen	Existing	Smart Strip Plug Outlet	Advanced Power Strip - Load Sensing: TV Bigscreen	Standard Power Strip	Per Home	40.7	4	32.97	4%	95%	0.29	0.3	0
Low Income Multi-family	TV Bigscreen	New	Smart Strip Plug Outlet	Advanced Power Strip - Load Sensing: TV Bigscreen	Standard Power Strip	Per Home	40.7	4	32.97	4%	95%	0.14	0.6	0
Low Income Multi-family	TV Bigscreen	Existing	Smart Strip Plug Outlet	Advanced Power Strip with Infrared Sensor: TV Bigscreen	Standard Power Strip	Per Home	63.7	4	32.97	7%	95%	0.19	0.5	0
Low Income Multi-family	TV Bigscreen	New	Smart Strip Plug Outlet	Advanced Power Strip with Infrared Sensor: TV Bigscreen	Standard Power Strip	Per Home	63.7	4	32.97	7%	95%	0.09	1.0	0
Low Income Multi-family	TV Bigscreen	Existing	Smart Strip Plug Outlet	Advanced Power Strip with Occupancy Sensor: TV Bigscreen	Standard Power Strip	Per Home	46.5	4	99.99	0%	95%	0.78	0.1	0
Low Income Multi-family	TV Bigscreen	New	Smart Strip Plug Outlet	Advanced Power Strip with Occupancy Sensor: TV Bigscreen	Standard Power Strip	Per Home	46.5	4	99.99	0%	95%	0.65	0.1	0
Low Income Multi-family	Ventilation And Circulation	Existing	Brushless Fan Motor	Brushless Fan Motor	Standard Motor	Per Home	306.9	18	360.00	75%	90%	0.15	0.8	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Multi-family	Ventilation And Circulation	New	Brushless Fan Motor	Brushless Fan Motor	Standard Motor	Per Home	252.9	18	360.00	100%	90%	0.08	1.6	12
Low Income Multi-family	Ventilation And Circulation	Existing	Furnace Whistle	Furnace Whistle	No Furnace Whistle	Per Home	87.6	14	3.99	80%	90%	0.01	17.6	335
Low Income Multi-family	Ventilation And Circulation	Existing	High Efficiency Furnace Fan (on existing furnace)	High Efficiency Furnace Fan	Existing Furnace Motor	Per Home	306.9	15	360.00	75%	90%	0.17	0.7	0
Low Income Multi-family	Water Heat GT 55 Gal	Existing	CO2 Heat Pump Water Heater	CO2 Heat Pump Water Heater	Federal Standard 2015 Heat Pump Water Heater > 55 GAL - EF 1.97	Per Installation	1298.5	14	6650.00	90%	100%	0.57	0.2	0
Low Income Multi-family	Water Heat GT 55 Gal	New	CO2 Heat Pump Water Heater	CO2 Heat Pump Water Heater	Federal Standard 2015 Heat Pump Water Heater > 55 GAL - EF 1.97	Per Installation	1298.5	14	6650.00	90%	100%	0.57	0.2	0
Low Income Multi-family	Water Heat GT 55 Gal	Existing	Desuperheater (on existing GSHP)	Desuperheater (on existing GSHP)	No Desuperheater	Per Home	567.5	30	250.00	2%	79%	0.05	2.6	0
Low Income Multi-family	Water Heat GT 55 Gal	Existing	Drain Water Heat Recovery Device	Drain Water Heat Recovery	No Heat Exchanger	Per Home	250.1	25	463.82	5%	90%	0.21	0.6	0
Low Income Multi-family	Water Heat GT 55 Gal	New	Drain Water Heat Recovery Device	Drain Water Heat Recovery	No Heat Exchanger	Per Home	250.1	25	463.82	5%	90%	0.21	0.6	0
Low Income Multi-family	Water Heat GT 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Federal Standard 2011 Clothes Washer - MEF 1.26 and WF 9.5 (Electric DHW & Dryer)	Per Home	113.8	11	357.61	55%	72%	0.53	0.2	0
Low Income Multi-family	Water Heat GT 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Federal Standard 2011 Clothes Washer - MEF 1.26 and WF 9.5 (Electric DHW & Dryer)	Per Home	113.8	11	357.61	55%	72%	0.15	0.7	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Multi-family	Water Heat GT 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Federal Standard 2016 Clothes Washer - MEF 1.72 and WF 8.0 (Electric DHW & Dryer)	Per Home	32.6	11	357.61	55%	72%	1.86	0.1	0
Low Income Multi-family	Water Heat GT 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Federal Standard 2016 Clothes Washer - MEF 1.72 and WF 8.0 (Electric DHW & Dryer)	Per Home	32.6	11	357.61	55%	72%	0.19	0.5	0
Low Income Multi-family	Water Heat GT 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2011 Clothes Washer - MEF 1.26 and WF 9.5 (Electric DHW & Dryer)	Per Home	145.4	11	410.93	55%	5%	0.48	0.2	0
Low Income Multi-family	Water Heat GT 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2011 Clothes Washer - MEF 1.26 and WF 9.5 (Electric DHW & Dryer)	Per Home	145.4	11	410.93	55%	5%	0.18	0.6	0
Low Income Multi-family	Water Heat GT 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2016 Clothes Washer - MEF 1.72 and WF 8.0 (Electric DHW & Dryer)	Per Home	64.2	11	410.93	55%	5%	1.08	0.1	0
Low Income Multi-family	Water Heat GT 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2016 Clothes Washer - MEF 1.72 and WF 8.0 (Electric DHW & Dryer)	Per Home	64.2	11	410.93	55%	5%	0.24	0.4	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Multi-family	Water Heat GT 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2018 Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Per Home	33.1	11	410.93	55%	5%	2.10	0.0	0
Low Income Multi-family	Water Heat GT 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2018 Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Per Home	33.1	11	410.93	55%	5%	0.27	0.4	0
Low Income Multi-family	Water Heat GT 55 Gal	Existing	ENERGY STAR Dishwashers (Electric Water Heating)	ENERGY STAR Dishwasher - 295 kWh/yr and 4.25 gal/cycle	Federal Standard 2014 Dishwasher - 307 kWh/yr and 5.0 gal/cycle	Per Home	4.4	10	77.59	40%	56%	3.15	0.0	0
Low Income Multi-family	Water Heat GT 55 Gal	New	ENERGY STAR Dishwashers (Electric Water Heating)	ENERGY STAR Dishwasher - 295 kWh/yr and 4.25 gal/cycle	Federal Standard 2014 Dishwasher - 307 kWh/yr and 5.0 gal/cycle	Per Home	4.4	10	77.59	40%	56%	0.15	0.7	0
Low Income Multi-family	Water Heat GT 55 Gal	Existing	ENERGY STAR Dishwashers (Gas Water Heating)	ENERGY STAR Dishwasher - 295 kWh/yr and 4.25 gal/cycle	Federal Standard 2014 Dishwasher - 307 kWh/yr and 5.0 gal/cycle	Per Home	4.4	10	77.59	0%	56%	3.15	0.0	0
Low Income Multi-family	Water Heat GT 55 Gal	New	ENERGY STAR Dishwashers (Gas Water Heating)	ENERGY STAR Dishwasher - 295 kWh/yr and 4.25 gal/cycle	Federal Standard 2014 Dishwasher - 307 kWh/yr and 5.0 gal/cycle	Per Home	4.4	10	77.59	0%	56%	0.15	0.7	0
Low Income Multi-family	Water Heat GT 55 Gal	Existing	Heat Pump Water Heater	Heat Pump Water Heater	Federal Standard 2015 Heat Pump Water Heater > 55 GAL - EF 1.97	Per Installation	36.0	14	1730.00	90%	100%	0.41	0.3	0
Low Income Multi-family	Water Heat GT 55 Gal	New	Heat Pump Water Heater	Heat Pump Water Heater	Federal Standard 2015 Heat Pump Water Heater > 55 GAL - EF 1.97	Per Installation	36.0	14	1730.00	90%	100%	0.41	0.3	0
Low Income Multi-family	Water Heat GT 55 Gal	Existing	Heater Pipe Insulation	R-4 Wrap	No insulation	Per Home	30.0	13	9.00	95%	80%	0.05	2.3	0
Low Income Multi-family	Water Heat GT 55 Gal	Existing	Low Flow Faucet Aerator (Bathroom/Kitchen)	0.5 GPM	2.2 GPM	Per Home	387.8	12	4.54	95%	95%	0.00	54.2	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Multi-family	Water Heat GT 55 Gal	New	Low Flow Faucet Aerator (Bathroom/Kitchen)	0.5 GPM	2.2 GPM	Per Home	387.8	12	4.54	95%	95%	0.00	344.8	0
Low Income Multi-family	Water Heat GT 55 Gal	Existing	Low Flow Faucet Aerator (Bathroom/Kitchen)	1.0 GPM	2.2 GPM	Per Home	273.7	12	4.30	95%	80%	0.00	40.3	0
Low Income Multi-family	Water Heat GT 55 Gal	New	Low Flow Faucet Aerator (Bathroom/Kitchen)	1.0 GPM	2.2 GPM	Per Home	273.7	12	4.30	95%	80%	0.00	365.1	0
Low Income Multi-family	Water Heat GT 55 Gal	Existing	Low Flow Faucet Aerator (Bathroom/Kitchen)	1.5 GPM	2.2 GPM	Per Home	159.7	12	4.06	95%	64%	0.00	24.9	0
Low Income Multi-family	Water Heat GT 55 Gal	New	Low Flow Faucet Aerator (Bathroom/Kitchen)	1.5 GPM	2.2 GPM	Per Home	159.7	12	4.06	95%	65%	0.00	426.0	0
Low Income Multi-family	Water Heat GT 55 Gal	Existing	Low Flow Faucet Aerator (Bathroom/Kitchen)	2.2 GPM	Existing Faucet Aerator (3.0 GPM)	Per Home	182.5	12	3.82	95%	15%	0.00	30.2	0
Low Income Multi-family	Water Heat GT 55 Gal	Existing	Low Flow Showerhead	1.5 GPM	2.5 GPM	Per Home	270.0	9	6.00	95%	42%	0.00	33.4	0
Low Income Multi-family	Water Heat GT 55 Gal	New	Low Flow Showerhead	1.5 GPM	2.5 GPM	Per Home	270.0	9	6.00	95%	42%	0.00	33.4	0
Low Income Multi-family	Water Heat GT 55 Gal	Existing	Low Flow Showerhead	1.75 GPM	2.5 GPM	Per Home	202.5	9	5.00	95%	65%	0.00	33.4	0
Low Income Multi-family	Water Heat GT 55 Gal	New	Low Flow Showerhead	1.75 GPM	2.5 GPM	Per Home	202.5	9	5.00	95%	75%	0.00	33.4	0
Low Income Multi-family	Water Heat GT 55 Gal	Existing	Low Flow Showerhead	2.0 GPM	2.5 GPM	Per Home	135.0	9	4.00	95%	45%	0.00	33.4	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Multi-family	Water Heat GT 55 Gal	New	Low Flow Showerhead	2.0 GPM	2.5 GPM	Per Home	135.0	9	4.00	95%	65%	0.00	33.4	0
Low Income Multi-family	Water Heat GT 55 Gal	Existing	Low Flow Showerhead	2.5 GPM	Existing Showerhead (3.0 GPM)	Per Home	135.0	9	2.00	95%	25%	0.00	33.4	0
Low Income Multi-family	Water Heat GT 55 Gal	Existing	Showerstart	Add Thermostatic Shower Restriction Valve	No Thermostatic Shower Restriction Valve	Per Home	99.3	10	25.00	90%	100%	0.05	2.2	0
Low Income Multi-family	Water Heat GT 55 Gal	New	Showerstart	Add Thermostatic Shower Restriction Valve	No Thermostatic Shower Restriction Valve	Per Home	99.3	10	25.00	90%	100%	0.05	2.2	0
Low Income Multi-family	Water Heat GT 55 Gal	Existing	Solar Water Heaters	Solar Water Heaters	Federal Standard 2015 Heat Pump Water Heater > 55 GAL - EF 1.97	Per Installation	164.6	15	8164.00	90%	100%	5.61	0.0	0
Low Income Multi-family	Water Heat GT 55 Gal	New	Solar Water Heaters	Solar Water Heaters	Federal Standard 2015 Heat Pump Water Heater > 55 GAL - EF 1.97	Per Installation	164.6	15	8164.00	90%	100%	5.61	0.0	0
Low Income Multi-family	Water Heat GT 55 Gal	Existing	Water Heater Tank Wrap	Install Insulation (R-10)	No Tank Insulation	Per Home	231.0	7	50.00	95%	92%	0.05	1.9	0
Low Income Multi-family	Water Heat GT 55 Gal	New	Water Heater Tank Wrap	Install Insulation (R-10)	No Tank Insulation	Per Home	231.0	7	50.00	75%	92%	0.05	1.9	0
Low Income Multi-family	Water Heat GT 55 Gal	Existing	Water Heater Temperature Setback	120 degrees	130 degrees	Per Home	105.9	4	1.00	95%	15%	0.00	26.3	0
Low Income Multi-family	Water Heat GT 55 Gal	New	Water Heater Temperature Setback	120 degrees	130 degrees	Per Home	105.9	4	1.00	95%	15%	0.00	26.3	0
Low Income Multi-family	Water Heat LE 55 Gal	Existing	CO2 Heat Pump Water Heater	CO2 Heat Pump Water Heater	Federal Standard 2015 Storage Water Heater = 55 GAL - EF 0.95	Per Installation	2362.0	14	6650.00	90%	100%	0.37	0.3	0
Low Income Multi-family	Water Heat LE 55 Gal	New	CO2 Heat Pump Water Heater	CO2 Heat Pump Water Heater	Federal Standard 2015 Storage Water Heater = 55 GAL - EF 0.95	Per Installation	2362.0	14	6650.00	90%	100%	0.37	0.3	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Multi-family	Water Heat LE 55 Gal	Existing	Desuperheater (on existing GSHP)	Desuperheater (on existing GSHP)	No Desuperheater	Per Home	567.5	30	250.00	2%	79%	0.05	2.6	72
Low Income Multi-family	Water Heat LE 55 Gal	Existing	Drain Water Heat Recovery Device	Drain Water Heat Recovery	No Heat Exchanger	Per Home	250.1	25	463.82	5%	90%	0.21	0.6	0
Low Income Multi-family	Water Heat LE 55 Gal	New	Drain Water Heat Recovery Device	Drain Water Heat Recovery	No Heat Exchanger	Per Home	250.1	25	463.82	5%	90%	0.21	0.6	0
Low Income Multi-family	Water Heat LE 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Federal Standard 2011 Clothes Washer - MEF 1.26 and WF 9.5 (Electric DHW & Dryer)	Per Home	113.8	11	357.61	55%	72%	0.53	0.2	0
Low Income Multi-family	Water Heat LE 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Federal Standard 2011 Clothes Washer - MEF 1.26 and WF 9.5 (Electric DHW & Dryer)	Per Home	113.8	11	357.61	55%	72%	0.15	0.7	0
Low Income Multi-family	Water Heat LE 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Federal Standard 2016 Clothes Washer - MEF 1.72 and WF 8.0 (Electric DHW & Dryer)	Per Home	32.6	11	357.61	55%	72%	1.86	0.1	0
Low Income Multi-family	Water Heat LE 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Federal Standard 2016 Clothes Washer - MEF 1.72 and WF 8.0 (Electric DHW & Dryer)	Per Home	32.6	11	357.61	55%	72%	0.19	0.5	0
Low Income Multi-family	Water Heat LE 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2011 Clothes Washer - MEF 1.26 and WF 9.5 (Electric DHW & Dryer)	Per Home	145.4	11	410.93	55%	5%	0.48	0.2	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Multi-family	Water Heat LE 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2011 Clothes Washer - MEF 1.26 and WF 9.5 (Electric DHW & Dryer)	Per Home	145.4	11	410.93	55%	5%	0.18	0.6	0
Low Income Multi-family	Water Heat LE 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2016 Clothes Washer - MEF 1.72 and WF 8.0 (Electric DHW & Dryer)	Per Home	64.2	11	410.93	55%	5%	1.08	0.1	0
Low Income Multi-family	Water Heat LE 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2016 Clothes Washer - MEF 1.72 and WF 8.0 (Electric DHW & Dryer)	Per Home	64.2	11	410.93	55%	5%	0.24	0.4	0
Low Income Multi-family	Water Heat LE 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2018 Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Per Home	33.1	11	410.93	55%	5%	2.10	0.0	0
Low Income Multi-family	Water Heat LE 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2018 Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Per Home	33.1	11	410.93	55%	5%	0.27	0.4	0
Low Income Multi-family	Water Heat LE 55 Gal	Existing	ENERGY STAR Dishwashers (Electric Water Heating)	ENERGY STAR Dishwasher - 295 kWh/yr and 4.25 gal/cycle	Federal Standard 2014 Dishwasher - 307 kWh/yr and 5.0 gal/cycle	Per Home	4.4	10	77.59	40%	56%	3.15	0.0	0
Low Income Multi-family	Water Heat LE 55 Gal	New	ENERGY STAR Dishwashers (Electric Water Heating)	ENERGY STAR Dishwasher - 295 kWh/yr and 4.25 gal/cycle	Federal Standard 2014 Dishwasher - 307 kWh/yr and 5.0 gal/cycle	Per Home	4.4	10	77.59	40%	56%	0.15	0.7	0
Low Income Multi-family	Water Heat LE 55 Gal	Existing	ENERGY STAR Dishwashers (Gas Water Heating)	ENERGY STAR Dishwasher - 295 kWh/yr and 4.25 gal/cycle	Federal Standard 2014 Dishwasher - 307 kWh/yr and 5.0 gal/cycle	Per Home	4.4	10	77.59	0%	56%	3.15	0.0	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Multi-family	Water Heat LE 55 Gal	New	ENERGY STAR Dishwashers (Gas Water Heating)	ENERGY STAR Dishwasher - 295 kWh/yr and 4.25 gal/cycle	Federal Standard 2014 Dishwasher - 307 kWh/yr and 5.0 gal/cycle	Per Home	4.4	10	77.59	0%	56%	0.15	0.7	0
Low Income Multi-family	Water Heat LE 55 Gal	Existing	Efficient Electric Water Heaters	Efficient Electric Water Heaters	Federal Standard 2015 Storage Water Heater = 55 GAL - EF 0.95	Per Installation	65.5	14	866.00	90%	100%	0.26	0.4	0
Low Income Multi-family	Water Heat LE 55 Gal	New	Efficient Electric Water Heaters	Efficient Electric Water Heaters	Federal Standard 2015 Storage Water Heater = 55 GAL - EF 0.95	Per Installation	65.5	14	866.00	90%	100%	0.26	0.4	0
Low Income Multi-family	Water Heat LE 55 Gal	Existing	Heat Pump Water Heater	Heat Pump Water Heater	Federal Standard 2015 Storage Water Heater = 55 GAL - EF 0.95	Per Installation	1442.3	14	1695.00	90%	100%	0.10	1.1	3,065
Low Income Multi-family	Water Heat LE 55 Gal	New	Heat Pump Water Heater	Heat Pump Water Heater	Federal Standard 2015 Storage Water Heater = 55 GAL - EF 0.95	Per Installation	1442.3	14	1695.00	90%	100%	0.10	1.1	80
Low Income Multi-family	Water Heat LE 55 Gal	Existing	Heater Pipe Insulation	R-4 Wrap	No insulation	Per Home	30.0	13	9.00	95%	80%	0.05	2.3	164
Low Income Multi-family	Water Heat LE 55 Gal	Existing	Low Flow Faucet Aerator (Bathroom/Kitchen)	0.5 GPM	2.2 GPM	Per Home	387.8	12	4.54	95%	95%	0.00	54.2	3,571
Low Income Multi-family	Water Heat LE 55 Gal	New	Low Flow Faucet Aerator (Bathroom/Kitchen)	0.5 GPM	2.2 GPM	Per Home	387.8	12	4.54	95%	95%	0.00	344.8	90
Low Income Multi-family	Water Heat LE 55 Gal	Existing	Low Flow Faucet Aerator (Bathroom/Kitchen)	1.0 GPM	2.2 GPM	Per Home	273.7	12	4.30	95%	80%	0.00	40.3	0
Low Income Multi-family	Water Heat LE 55 Gal	New	Low Flow Faucet Aerator (Bathroom/Kitchen)	1.0 GPM	2.2 GPM	Per Home	273.7	12	4.30	95%	80%	0.00	365.1	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Multi-family	Water Heat LE 55 Gal	Existing	Low Flow Faucet Aerator (Bathroom/Kitchen)	1.5 GPM	2.2 GPM	Per Home	159.7	12	4.06	95%	64%	0.00	24.9	0
Low Income Multi-family	Water Heat LE 55 Gal	New	Low Flow Faucet Aerator (Bathroom/Kitchen)	1.5 GPM	2.2 GPM	Per Home	159.7	12	4.06	95%	65%	0.00	426.0	0
Low Income Multi-family	Water Heat LE 55 Gal	Existing	Low Flow Faucet Aerator (Bathroom/Kitchen)	2.2 GPM	Existing Faucet Aerator (3.0 GPM)	Per Home	182.5	12	3.82	95%	15%	0.00	30.2	265
Low Income Multi-family	Water Heat LE 55 Gal	Existing	Low Flow Showerhead	1.5 GPM	2.5 GPM	Per Home	270.0	9	6.00	95%	42%	0.00	33.4	1,109
Low Income Multi-family	Water Heat LE 55 Gal	New	Low Flow Showerhead	1.5 GPM	2.5 GPM	Per Home	270.0	9	6.00	95%	42%	0.00	33.4	28
Low Income Multi-family	Water Heat LE 55 Gal	Existing	Low Flow Showerhead	1.75 GPM	2.5 GPM	Per Home	202.5	9	5.00	95%	65%	0.00	33.4	0
Low Income Multi-family	Water Heat LE 55 Gal	New	Low Flow Showerhead	1.75 GPM	2.5 GPM	Per Home	202.5	9	5.00	95%	75%	0.00	33.4	0
Low Income Multi-family	Water Heat LE 55 Gal	Existing	Low Flow Showerhead	2.0 GPM	2.5 GPM	Per Home	135.0	9	4.00	95%	45%	0.00	33.4	0
Low Income Multi-family	Water Heat LE 55 Gal	New	Low Flow Showerhead	2.0 GPM	2.5 GPM	Per Home	135.0	9	4.00	95%	65%	0.00	33.4	0
Low Income Multi-family	Water Heat LE 55 Gal	Existing	Low Flow Showerhead	2.5 GPM	Existing Showerhead (3.0 GPM)	Per Home	135.0	9	2.00	95%	25%	0.00	33.4	327
Low Income Multi-family	Water Heat LE 55 Gal	Existing	Showerstart	Add Thermostatic Shower Restriction Valve	No Thermostatic Shower Restriction Valve	Per Home	99.3	10	25.00	90%	100%	0.05	2.2	241
Low Income Multi-family	Water Heat LE 55 Gal	New	Showerstart	Add Thermostatic Shower Restriction Valve	No Thermostatic Shower Restriction Valve	Per Home	99.3	10	25.00	90%	100%	0.05	2.2	6



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Multi-family	Water Heat LE 55 Gal	Existing	Solar Water Heaters	Solar Water Heaters	Federal Standard 2015 Storage Water Heater = 55 GAL - EF 0.95	Per Installation	1536.6	15	5986.93	90%	100%	0.48	0.2	0
Low Income Multi-family	Water Heat LE 55 Gal	New	Solar Water Heaters	Solar Water Heaters	Federal Standard 2015 Storage Water Heater = 55 GAL - EF 0.95	Per Installation	1536.6	15	5986.93	90%	100%	0.48	0.2	0
Low Income Multi-family	Water Heat LE 55 Gal	Existing	Water Heater Tank Wrap	Install Insulation (R-10)	No Tank Insulation	Per Home	296.7	7	50.00	95%	92%	0.04	2.4	1,698
Low Income Multi-family	Water Heat LE 55 Gal	New	Water Heater Tank Wrap	Install Insulation (R-10)	No Tank Insulation	Per Home	296.7	7	50.00	75%	92%	0.04	2.4	23
Low Income Multi-family	Water Heat LE 55 Gal	Existing	Water Heater Temperature Setback	120 degrees	130 degrees	Per Home	105.9	4	1.00	95%	15%	0.00	26.3	144
Low Income Multi-family	Water Heat LE 55 Gal	New	Water Heater Temperature Setback	120 degrees	130 degrees	Per Home	105.9	4	1.00	95%	15%	0.00	26.3	3
Low Income Single Family Attached	Computer Desktop	Existing	ENERGY STAR Computer - Desktop	ENERGY STAR Computer - Desktop	Standard Desktop	Per Installation	70.7	4	1.00	90%	73%	0.01	17.7	501
Low Income Single Family Attached	Computer Desktop	New	ENERGY STAR Computer - Desktop	ENERGY STAR Computer - Desktop	Standard Desktop	Per Installation	70.7	4	1.00	90%	73%	0.01	17.7	14
Low Income Single Family Attached	Computer Desktop	Existing	Smart Strip Plug Outlet	Advanced Power Strip - Load Sensing: Computer Desktop	Standard Power Strip	Per Home	40.7	4	32.97	39%	95%	0.29	0.3	0
Low Income Single Family Attached	Computer Desktop	New	Smart Strip Plug Outlet	Advanced Power Strip - Load Sensing: Computer Desktop	Standard Power Strip	Per Home	40.7	4	32.97	39%	95%	0.14	0.6	0
Low Income Single Family Attached	Computer Desktop	Existing	Smart Strip Plug Outlet	Advanced Power Strip with Infrared Sensor: Computer Desktop	Standard Power Strip	Per Home	63.7	4	32.97	0%	95%	0.19	0.5	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Single Family Attached	Computer Desktop	New	Smart Strip Plug Outlet	Advanced Power Strip with Infrared Sensor: Computer Desktop	Standard Power Strip	Per Home	63.7	4	32.97	0%	95%	0.09	1.0	0
Low Income Single Family Attached	Computer Desktop	Existing	Smart Strip Plug Outlet	Advanced Power Strip with Occupancy Sensor: Computer Desktop	Standard Power Strip	Per Home	46.5	4	99.99	100%	95%	0.78	0.1	0
Low Income Single Family Attached	Computer Desktop	New	Smart Strip Plug Outlet	Advanced Power Strip with Occupancy Sensor: Computer Desktop	Standard Power Strip	Per Home	46.5	4	99.99	100%	95%	0.65	0.1	0
Low Income Single Family Attached	Computer Laptop	Existing	ENERGY STAR Computer - Laptop	ENERGY STAR Computer - Laptop	Standard Laptop	Per Installation	21.5	4	1.00	90%	25%	0.02	5.4	27
Low Income Single Family Attached	Computer Laptop	New	ENERGY STAR Computer - Laptop	ENERGY STAR Computer - Laptop	Standard Laptop	Per Installation	21.5	4	1.00	90%	25%	0.02	5.4	1
Low Income Single Family Attached	Cool Central	Existing	Air Sealing	Air Sealing	No Air Sealing	Per Home	104.2	15	911.48	56%	21%	0.45	0.3	0
Low Income Single Family Attached	Cool Central	New	Air Sealing	Air Sealing	No Air Sealing	Per Home	104.2	15	911.48	0%	21%	0.45	0.3	0
Low Income Single Family Attached	Cool Central	Existing	Ceiling / Attic Insulation	R-38 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	22.9	25	2831.44	85%	13%	6.02	0.0	0
Low Income Single Family Attached	Cool Central	Existing	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	7.6	25	3236.96	75%	55%	2.61	0.0	0
Low Income Single Family Attached	Cool Central	New	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	7.6	25	3236.96	90%	55%	2.61	0.0	0
Low Income Single Family Attached	Cool Central	Existing	Central AC Maintenance	Tune-up/Maintenance on Central AC	No Tune-up Maintenance on Central AC	Per Home	364.5	7	100.00	95%	84%	0.06	1.8	0
Low Income Single Family Attached	Cool Central	Existing	Central Air Conditioner - CEE Tier 3	CEE Tier 3 Central Air Conditioner - SEER/EER 16/13 (Split System)	Federal Standard 2015 Central Air Conditioner - SEER 13 (Split System)	Per Installation	237.0	14	6096.81	90%	100%	1.38	0.1	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Single Family Attached	Cool Central	New	Central Air Conditioner - CEE Tier 3	CEE Tier 3 Central Air Conditioner - SEER/EER 16/13 (Split System)	Federal Standard 2015 Central Air Conditioner - SEER 13 (Split System)	Per Installation	195.3	14	5024.12	90%	100%	1.38	0.1	0
Low Income Single Family Attached	Cool Central	Existing	Central Air Conditioner - Enhanced	Enhanced Central Air Conditioner - SEER/EER 18/14 (Split System)	Federal Standard 2015 Central Air Conditioner - SEER 13 (Split System)	Per Installation	351.1	14	7586.86	90%	100%	1.56	0.1	0
Low Income Single Family Attached	Cool Central	New	Central Air Conditioner - Enhanced	Enhanced Central Air Conditioner - SEER/EER 18/14 (Split System)	Federal Standard 2015 Central Air Conditioner - SEER 13 (Split System)	Per Installation	289.4	14	6252.00	90%	100%	1.56	0.1	0
Low Income Single Family Attached	Cool Central	New	Construction - ICF/SIP	Insulating Concrete Form (ICF) or Structural Insulated Panels (SIP)	Standard Wood Framing	Per Home	169.4	40	12529.81	25%	100%	2.70	0.1	0
Low Income Single Family Attached	Cool Central	Existing	Duct Insulation	R-6 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	32.9	15	403.95	50%	69%	0.97	0.1	0
Low Income Single Family Attached	Cool Central	Existing	Duct Sealing	Duct Sealing	No Duct Sealing	Per Home	157.9	20	188.51	50%	34%	0.11	1.2	164
Low Income Single Family Attached	Cool Central	New	Duct Sealing	Duct Sealing	No Duct Sealing	Per Home	157.9	20	188.51	0%	34%	0.11	1.2	0
Low Income Single Family Attached	Cool Central	Existing	ENERGY STAR Central Air Conditioner	ENERGY STAR Central Air Conditioner - SEER/EER 14.5/12 (Split System)	Federal Standard 2015 Central Air Conditioner - SEER 13 (Split System)	Per Installation	130.8	14	4979.28	90%	100%	1.25	0.1	0
Low Income Single Family Attached	Cool Central	New	ENERGY STAR Central Air Conditioner	ENERGY STAR Central Air Conditioner - SEER/EER 14.5/12 (Split System)	Federal Standard 2015 Central Air Conditioner - SEER 13 (Split System)	Per Installation	107.8	14	4103.20	90%	100%	1.25	0.1	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Single Family Attached	Cool Central	Existing	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	5.3	15	9237.06	100%	12%	4.08	0.0	0
Low Income Single Family Attached	Cool Central	New	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	5.3	15	9237.06	100%	12%	4.08	0.0	0
Low Income Single Family Attached	Cool Central	Existing	Home Energy Reports	Home Energy Reports (Opower, Aclara, C3 Energy, and Simple Energy)	No report	Per Home	146.8	1	10.37	90%	100%	0.09	0.9	0
Low Income Single Family Attached	Cool Central	New	Home Energy Reports	Home Energy Reports (Opower, Aclara, C3 Energy, and Simple Energy)	No report	Per Home	146.8	1	10.37	90%	100%	0.09	0.9	0
Low Income Single Family Attached	Cool Central	Existing	Programmable Thermostat	Programmable Thermostat	Manual Thermostat	Per Home	31.6	11	64.00	95%	71%	0.34	0.3	0
Low Income Single Family Attached	Cool Central	New	Programmable Thermostat	Programmable Thermostat	Manual Thermostat	Per Home	26.1	11	64.00	95%	71%	0.20	0.6	0
Low Income Single Family Attached	Cool Central	Existing	Proper Sizing of Central Air Conditioner	Proper Sizing - Central Air Conditioner	Oversized Central Air Conditioner	Per Home	79.1	14	186.50	95%	95%	0.35	0.4	0
Low Income Single Family Attached	Cool Central	New	Proper Sizing of Central Air Conditioner	Proper Sizing - Central Air Conditioner	Oversized Central Air Conditioner	Per Home	65.2	14	186.50	95%	95%	0.42	0.3	0
Low Income Single Family Attached	Cool Central	Existing	Smart Thermostat	WiFi Thermostat	Programmable Thermostat	Per Home	118.6	11	261.59	25%	95%	0.28	0.4	0
Low Income Single Family Attached	Cool Central	New	Smart Thermostat	WiFi Thermostat	Programmable Thermostat	Per Home	97.8	11	261.59	95%	95%	0.34	0.3	0
Low Income Single Family Attached	Cool Central	Existing	Wall Insulation	R-13 Wall (Max Fill)	Average Existing Wall Insulation	Per Home	78.8	25	2218.89	50%	62%	3.20	0.0	0
Low Income Single Family Attached	Cool Central	Existing	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	12.9	25	4098.96	20%	14%	9.52	0.0	0
Low Income Single Family Attached	Cool Central	New	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	12.9	25	4098.96	95%	14%	9.52	0.0	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Single Family Attached	Cool Central	Existing	Window Film	Window Film	No Window Film	Per Home	19.8	20	937.15	38%	95%	5.84	0.0	0
Low Income Single Family Attached	Cool Central	New	Window Film	Window Film	No Window Film	Per Home	16.3	20	937.15	0%	95%	7.09	0.0	0
Low Income Single Family Attached	Cool Central	Existing	Windows	U-0.35 (IECC 2009 - Zone 5)	Average Existing Window	Per Home	5.3	15	8281.93	100%	12%	19.95	0.0	0
Low Income Single Family Attached	Cool Room	Existing	Air Sealing	Air Sealing	No Air Sealing	Per Home	39.6	15	911.48	56%	21%	0.06	1.8	72
Low Income Single Family Attached	Cool Room	New	Air Sealing	Air Sealing	No Air Sealing	Per Home	39.6	15	911.48	0%	21%	0.06	1.8	0
Low Income Single Family Attached	Cool Room	Existing	Ceiling / Attic Insulation	R-38 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	11.6	25	2831.44	85%	13%	0.87	0.1	0
Low Income Single Family Attached	Cool Room	Existing	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	3.8	25	3236.96	75%	55%	0.37	0.3	0
Low Income Single Family Attached	Cool Room	New	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	3.8	25	3236.96	90%	55%	0.37	0.3	0
Low Income Single Family Attached	Cool Room	New	Construction - ICF/SIP	Insulating Concrete Form (ICF) or Structural Insulated Panels (SIP)	Standard Wood Framing	Per Home	18.3	40	12529.81	25%	100%	24.95	0.0	0
Low Income Single Family Attached	Cool Room	Existing	Ductless Mini-Split HP / AC	Ductless Air Conditioner - SEER/EER 18/12.5	Federal Standard 2014 Room AC - CEER/EER 10.9/11.0 (8,000-13,999 Btuh)	Per Installation	50.0	9	1904.17	90%	100%	6.83	0.0	0
Low Income Single Family Attached	Cool Room	New	Ductless Mini-Split HP / AC	Ductless Air Conditioner - SEER/EER 18/12.5	Federal Standard 2014 Room AC - CEER/EER 10.9/11.0 (8,000-13,999 Btuh)	Per Installation	50.0	9	1904.17	90%	100%	6.83	0.0	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Single Family Attached	Cool Room	Existing	ENERGY STAR Room Air Conditioner	ENERGY STAR Room AC - CEER/EER 11.2/11.3 (8,000-13,999 Btuh)	Federal Standard 2014 Room AC - CEER/EER 10.9/11.0 (8,000-13,999 Btuh)	Per Installation	3.4	9	220.00	90%	100%	2.27	0.0	0
Low Income Single Family Attached	Cool Room	New	ENERGY STAR Room Air Conditioner	ENERGY STAR Room AC - CEER/EER 11.2/11.3 (8,000-13,999 Btuh)	Federal Standard 2014 Room AC - CEER/EER 10.9/11.0 (8,000-13,999 Btuh)	Per Installation	3.4	9	220.00	90%	100%	2.27	0.0	0
Low Income Single Family Attached	Cool Room	Existing	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	5.3	15	9237.06	100%	12%	0.66	0.2	0
Low Income Single Family Attached	Cool Room	New	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	5.3	15	9237.06	100%	12%	0.66	0.2	0
Low Income Single Family Attached	Cool Room	Existing	Room AC Retirement	Proper Disposal of Room AC	Existing Non-Efficient Room AC	Per Home	167.9	4	60.00	8%	65%	0.13	0.8	0
Low Income Single Family Attached	Cool Room	Existing	Wall Insulation	R-13 Wall (Max Fill)	Average Existing Wall Insulation	Per Home	39.7	25	2218.89	50%	62%	6.35	0.0	0
Low Income Single Family Attached	Cool Room	Existing	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	6.5	25	4098.96	20%	14%	18.90	0.0	0
Low Income Single Family Attached	Cool Room	New	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	6.5	25	4098.96	95%	14%	18.90	0.0	0
Low Income Single Family Attached	Cool Room	Existing	Window Film	Window Film	No Window Film	Per Home	1.8	20	937.15	38%	95%	65.49	0.0	0
Low Income Single Family Attached	Cool Room	New	Window Film	Window Film	No Window Film	Per Home	1.8	20	937.15	0%	95%	65.49	0.0	0
Low Income Single Family Attached	Cool Room	Existing	Windows	U-0.35 (IECC 2009 - Zone 5)	Average Existing Window	Per Home	5.3	15	8281.93	100%	12%	19.95	0.0	0
Low Income Single Family Attached	Copier	Existing	ENERGY STAR Copier	ENERGY STAR Copier	Standard Office Copier	Per Installation	81.4	6	1.00	90%	20%	0.00	29.2	22



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Single Family Attached	Copier	New	ENERGY STAR Copier	ENERGY STAR Copier	Standard Office Copier	Per Installation	81.4	6	1.00	90%	20%	0.00	29.2	1
Low Income Single Family Attached	Dehumidifier	Existing	ENERGY STAR Dehumidifiers	ENERGY STAR Dehumidifier	Federal Standard 2013 Dehumidifier	Per Installation	169.6	12	242.54	90%	100%	0.02	5.4	168
Low Income Single Family Attached	Dehumidifier	New	ENERGY STAR Dehumidifiers	ENERGY STAR Dehumidifier	Federal Standard 2013 Dehumidifier	Per Installation	169.6	12	242.54	90%	100%	0.02	5.4	8
Low Income Single Family Attached	Dryer	Existing	ENERGY STAR Dryer - CEF/EF 3.93/4.04	ENERGY STAR Dryer - CEF/EF 3.93/4.04	Federal Standard 2015 Dryer - CEF/EF 3.73/3.83	Per Installation	27.4	13	812.57	90%	100%	0.29	0.4	0
Low Income Single Family Attached	Dryer	New	ENERGY STAR Dryer - CEF/EF 3.93/4.04	ENERGY STAR Dryer - CEF/EF 3.93/4.04	Federal Standard 2015 Dryer - CEF/EF 3.73/3.83	Per Installation	27.4	13	812.57	90%	100%	0.29	0.4	0
Low Income Single Family Attached	Dryer	Existing	Heat Pump Dryer	Heat Pump Dryer	Federal Standard 2015 Dryer - CEF/EF 3.73/3.83	Per Installation	277.6	13	1169.99	90%	100%	0.23	0.5	0
Low Income Single Family Attached	Dryer	New	Heat Pump Dryer	Heat Pump Dryer	Federal Standard 2015 Dryer - CEF/EF 3.73/3.83	Per Installation	277.6	13	1169.99	90%	100%	0.23	0.5	0
Low Income Single Family Attached	Fax	Existing	ENERGY STAR Fax Machine	ENERGY STAR Fax Machine	Standard Fax Machine	Per Installation	15.6	4	60.00	90%	20%	1.39	0.1	0
Low Income Single Family Attached	Fax	New	ENERGY STAR Fax Machine	ENERGY STAR Fax Machine	Standard Fax Machine	Per Installation	15.6	4	60.00	90%	20%	1.39	0.1	0
Low Income Single Family Attached	Freezer	Existing	ENERGY STAR Freezers	ENERGY STAR Freezer	Federal Standard 2015 Freezer	Per Installation	34.3	12	6.61	90%	100%	0.03	3.3	189
Low Income Single Family Attached	Freezer	New	ENERGY STAR Freezers	ENERGY STAR Freezer	Federal Standard 2015 Freezer	Per Installation	34.3	12	6.61	90%	100%	0.03	3.3	8
Low Income Single Family Attached	Freezer	Existing	Refrigerator / Freezer Recycling with Replacement	Proper Disposal of Refrigerator/Freezer and Replacing with New Unit	Existing Non-Efficient Refrigerator/Freezer	Per Home	547.7	7	120.00	18%	94%	0.05	1.9	835

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Single Family Attached	Freezer	Existing	Refrigerator / Freezer Recycling without Replacement	Proper Disposal of Refrigerator/Freezer	Existing Non-Efficient Refrigerator/Freezer	Per Home	1072.9	8	120.00	2%	94%	0.02	4.1	154
Low Income Single Family Attached	Heat Central	Existing	Air Sealing	Air Sealing	No Air Sealing	Per Home	4629.2	15	911.48	56%	21%	0.03	3.8	83
Low Income Single Family Attached	Heat Central	New	Air Sealing	Air Sealing	No Air Sealing	Per Home	4629.2	15	911.48	0%	21%	0.03	3.8	0
Low Income Single Family Attached	Heat Central	Existing	Basement / Crawlspace Wall Insulation	R-13 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	1226.1	25	1259.55	60%	35%	0.12	1.0	3
Low Income Single Family Attached	Heat Central	Existing	Basement / Crawlspace Wall Insulation	R-21 (Above Code)	R-13 (IECC 2009 - Zone 5)	Per Home	707.7	25	1714.00	45%	77%	0.07	1.6	3
Low Income Single Family Attached	Heat Central	New	Basement / Crawlspace Wall Insulation	R-21 (Above Code)	R-13 (IECC 2009 - Zone 5)	Per Home	707.7	25	1714.00	60%	77%	0.07	1.6	0
Low Income Single Family Attached	Heat Central	Existing	Ceiling / Attic Insulation	R-38 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	764.6	25	2831.44	85%	13%	0.42	0.3	0
Low Income Single Family Attached	Heat Central	Existing	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	252.9	25	3236.96	75%	55%	0.18	0.6	0
Low Income Single Family Attached	Heat Central	New	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	252.9	25	3236.96	90%	55%	0.18	0.6	0
Low Income Single Family Attached	Heat Central	New	Construction - ICF/SIP	Insulating Concrete Form (ICF) or Structural Insulated Panels (SIP)	Standard Wood Framing	Per Home	1411.6	40	12529.81	25%	100%	0.32	0.4	0
Low Income Single Family Attached	Heat Central	Existing	Duct Insulation	R-6 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	646.7	15	403.95	50%	69%	0.09	1.2	29
Low Income Single Family Attached	Heat Central	Existing	Duct Sealing	Duct Sealing	No Duct Sealing	Per Home	1561.2	20	188.51	50%	34%	0.01	7.6	41
Low Income Single Family Attached	Heat Central	New	Duct Sealing	Duct Sealing	No Duct Sealing	Per Home	1561.2	20	188.51	0%	34%	0.01	7.6	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Single Family Attached	Heat Central	Existing	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	696.7	15	9237.06	100%	12%	0.19	0.5	0
Low Income Single Family Attached	Heat Central	New	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	696.7	15	9237.06	100%	12%	0.19	0.5	0
Low Income Single Family Attached	Heat Central	Existing	Floor Insulation	R-30 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	872.3	25	2751.01	35%	50%	0.36	0.3	0
Low Income Single Family Attached	Heat Central	Existing	Floor Insulation	R-38 (Above Code)	R-30 (IECC 2009 - Zone 5)	Per Home	300.4	25	3308.71	35%	50%	0.21	0.6	0
Low Income Single Family Attached	Heat Central	New	Floor Insulation	R-38 (Above Code)	R-30 (IECC 2009 - Zone 5)	Per Home	300.4	25	3308.71	35%	50%	0.21	0.6	0
Low Income Single Family Attached	Heat Central	Existing	Programmable Thermostat	Programmable Thermostat	Manual Thermostat	Per Home	474.4	11	64.00	95%	71%	0.02	4.3	58
Low Income Single Family Attached	Heat Central	New	Programmable Thermostat	Programmable Thermostat	Manual Thermostat	Per Home	390.9	11	64.00	95%	71%	0.01	7.3	1
Low Income Single Family Attached	Heat Central	Existing	Smart Thermostat	WiFi Thermostat	Programmable Thermostat	Per Home	777.4	11	261.59	25%	95%	0.04	2.3	35
Low Income Single Family Attached	Heat Central	New	Smart Thermostat	WiFi Thermostat	Programmable Thermostat	Per Home	640.6	11	261.59	95%	95%	0.05	1.9	3
Low Income Single Family Attached	Heat Central	Existing	Wall Insulation	R-13 Wall (Max Fill)	Average Existing Wall Insulation	Per Home	2628.9	25	2218.89	50%	62%	0.10	1.2	114
Low Income Single Family Attached	Heat Central	Existing	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	429.9	25	4098.96	20%	14%	0.29	0.4	0
Low Income Single Family Attached	Heat Central	New	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	429.9	25	4098.96	95%	14%	0.29	0.4	0
Low Income Single Family Attached	Heat Central	Existing	Windows	U-0.35 (IECC 2009 - Zone 5)	Average Existing Window	Per Home	696.7	15	8281.93	100%	12%	0.15	0.7	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Single Family Attached	Heat Pump	Existing	Air Sealing	Air Sealing	No Air Sealing	Per Home	2812.4	15	911.48	56%	21%	0.05	2.4	994
Low Income Single Family Attached	Heat Pump	New	Air Sealing	Air Sealing	No Air Sealing	Per Home	2812.4	15	911.48	0%	21%	0.05	2.4	0
Low Income Single Family Attached	Heat Pump	Existing	Air Source Heat Pump Maintenance	Tune-up/Maintenance on Air Source Heat Pump	No Tune-up Maintenance on Air Source Heat Pump	Per Home	358.6	7	100.00	95%	84%	0.06	1.5	954
Low Income Single Family Attached	Heat Pump	Existing	Basement / Crawlspace Wall Insulation	R-13 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	543.3	25	1259.55	60%	35%	0.26	0.5	0
Low Income Single Family Attached	Heat Pump	Existing	Basement / Crawlspace Wall Insulation	R-21 (Above Code)	R-13 (IECC 2009 - Zone 5)	Per Home	313.6	25	1714.00	45%	77%	0.16	0.7	0
Low Income Single Family Attached	Heat Pump	New	Basement / Crawlspace Wall Insulation	R-21 (Above Code)	R-13 (IECC 2009 - Zone 5)	Per Home	313.6	25	1714.00	60%	77%	0.16	0.7	0
Low Income Single Family Attached	Heat Pump	Existing	Ceiling / Attic Insulation	R-38 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	338.8	25	2831.44	85%	13%	0.95	0.1	0
Low Income Single Family Attached	Heat Pump	Existing	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	112.1	25	3236.96	75%	55%	0.41	0.3	0
Low Income Single Family Attached	Heat Pump	New	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	112.1	25	3236.96	90%	55%	0.41	0.3	0
Low Income Single Family Attached	Heat Pump	Existing	Cold Climate Heat Pump	Cold Climate Heat Pump - SEER/EER 21.5/12 and HSPF 10.3 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	1591.2	12	8772.08	90%	100%	0.26	0.4	0
Low Income Single Family Attached	Heat Pump	New	Cold Climate Heat Pump	Cold Climate Heat Pump - SEER/EER 21.5/12 and HSPF 10.3 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	1311.3	12	7228.69	90%	100%	0.26	0.4	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Single Family Attached	Heat Pump	New	Construction - ICF/SIP	Insulating Concrete Form (ICF) or Structural Insulated Panels (SIP)	Standard Wood Framing	Per Home	869.1	40	12529.81	25%	100%	0.53	0.2	0
Low Income Single Family Attached	Heat Pump	Existing	Duct Insulation	R-6 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	354.0	15	403.95	50%	69%	0.16	0.7	0
Low Income Single Family Attached	Heat Pump	Existing	Duct Sealing	Duct Sealing	No Duct Sealing	Per Home	807.5	20	188.51	50%	34%	0.03	4.0	420
Low Income Single Family Attached	Heat Pump	New	Duct Sealing	Duct Sealing	No Duct Sealing	Per Home	807.5	20	188.51	0%	34%	0.03	4.0	0
Low Income Single Family Attached	Heat Pump	Existing	ENERGY STAR Air Source Heat Pump	ENERGY STAR Air Source Heat Pump - SEER/EER 14.5/12 and HSPF 8.2 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	40.5	12	6496.62	90%	100%	1.07	0.1	0
Low Income Single Family Attached	Heat Pump	New	ENERGY STAR Air Source Heat Pump	ENERGY STAR Air Source Heat Pump - SEER/EER 14.5/12 and HSPF 8.2 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	33.4	12	5353.59	90%	100%	1.07	0.1	0
Low Income Single Family Attached	Heat Pump	Existing	ENERGY STAR Ground Source Heat Pump	ENERGY STAR Ground Source Heat Pump - EER 17.1 and 3.6 COP (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	2140.8	15	16800.82	90%	100%	0.70	0.2	0
Low Income Single Family Attached	Heat Pump	New	ENERGY STAR Ground Source Heat Pump	ENERGY STAR Ground Source Heat Pump - EER 17.1 and 3.6 COP (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	1764.1	15	13844.83	90%	100%	0.70	0.2	0
Low Income Single Family Attached	Heat Pump	Existing	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	393.0	15	9237.06	100%	12%	0.34	0.3	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Single Family Attached	Heat Pump	New	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	393.0	15	9237.06	100%	12%	0.34	0.3	0
Low Income Single Family Attached	Heat Pump	Existing	Floor Insulation	R-30 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	419.6	25	2751.01	35%	50%	0.75	0.2	0
Low Income Single Family Attached	Heat Pump	Existing	Floor Insulation	R-38 (Above Code)	R-30 (IECC 2009 - Zone 5)	Per Home	144.5	25	3308.71	35%	50%	0.44	0.3	0
Low Income Single Family Attached	Heat Pump	New	Floor Insulation	R-38 (Above Code)	R-30 (IECC 2009 - Zone 5)	Per Home	144.5	25	3308.71	35%	50%	0.44	0.3	0
Low Income Single Family Attached	Heat Pump	Existing	Heat Pump - Air Source CEE Tier 2	CEE Tier 2 Air Source Heat Pump - SEER/EER 15/12.5 and HSPF 8.5 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	282.8	12	6767.88	90%	100%	0.31	0.3	0
Low Income Single Family Attached	Heat Pump	New	Heat Pump - Air Source CEE Tier 2	CEE Tier 2 Air Source Heat Pump - SEER/EER 15/12.5 and HSPF 8.5 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	233.1	12	5577.12	90%	100%	0.31	0.3	0
Low Income Single Family Attached	Heat Pump	Existing	Heat Pump - Air Source Enhanced	Enhanced Air Source Heat Pump - SEER/EER 18/14 and HSPF 9.5 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	1054.0	12	10294.20	90%	100%	0.62	0.2	0
Low Income Single Family Attached	Heat Pump	New	Heat Pump - Air Source Enhanced	Enhanced Air Source Heat Pump - SEER/EER 18/14 and HSPF 9.5 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	868.6	12	8483.01	90%	100%	0.62	0.2	0
Low Income Single Family Attached	Heat Pump	Existing	Heat Pump - Air Source Premium	Premium Air Source Heat Pump - SEER/EER 16/13 and HSPF 9.0 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	662.0	12	7310.39	90%	100%	0.26	0.4	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Single Family Attached	Heat Pump	New	Heat Pump - Air Source Premium	Premium Air Source Heat Pump - SEER/EER 16/13 and HSPF 9.0 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	545.5	12	6024.18	90%	100%	0.26	0.4	0
Low Income Single Family Attached	Heat Pump	Existing	Programmable Thermostat	Programmable Thermostat	Manual Thermostat	Per Home	267.2	11	64.00	95%	71%	0.04	2.5	647
Low Income Single Family Attached	Heat Pump	New	Programmable Thermostat	Programmable Thermostat	Manual Thermostat	Per Home	221.7	11	64.00	95%	71%	0.02	4.2	11
Low Income Single Family Attached	Heat Pump	Existing	Smart Thermostat	WiFi Thermostat	Programmable Thermostat	Per Home	503.5	11	261.59	25%	95%	0.07	1.5	446
Low Income Single Family Attached	Heat Pump	New	Smart Thermostat	WiFi Thermostat	Programmable Thermostat	Per Home	413.4	11	261.59	95%	95%	0.08	1.2	37
Low Income Single Family Attached	Heat Pump	Existing	Wall Insulation	R-13 Wall (Max Fill)	Average Existing Wall Insulation	Per Home	1243.7	25	2218.89	50%	62%	0.20	0.6	0
Low Income Single Family Attached	Heat Pump	Existing	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	203.4	25	4098.96	20%	14%	0.60	0.2	0
Low Income Single Family Attached	Heat Pump	New	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	203.4	25	4098.96	95%	14%	0.60	0.2	0
Low Income Single Family Attached	Heat Pump	Existing	Window Film	Window Film	No Window Film	Per Home	19.6	20	937.15	38%	95%	5.90	0.0	0
Low Income Single Family Attached	Heat Pump	New	Window Film	Window Film	No Window Film	Per Home	16.2	20	937.15	0%	95%	7.16	0.0	0
Low Income Single Family Attached	Heat Pump	Existing	Windows	U-0.35 (IECC 2009 - Zone 5)	Average Existing Window	Per Home	393.0	15	8281.93	100%	12%	0.27	0.4	0
Low Income Single Family Attached	Heat Room	Existing	Air Sealing	Air Sealing	No Air Sealing	Per Home	4629.2	15	911.48	56%	21%	0.03	3.8	3,117

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Single Family Attached	Heat Room	New	Air Sealing	Air Sealing	No Air Sealing	Per Home	4629.2	15	911.48	0%	21%	0.03	3.8	0
Low Income Single Family Attached	Heat Room	Existing	Basement / Crawlspace Wall Insulation	R-13 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	1226.1	25	1259.55	60%	35%	0.12	1.0	111
Low Income Single Family Attached	Heat Room	Existing	Basement / Crawlspace Wall Insulation	R-21 (Above Code)	R-13 (IECC 2009 - Zone 5)	Per Home	707.7	25	1714.00	45%	77%	0.07	1.6	123
Low Income Single Family Attached	Heat Room	New	Basement / Crawlspace Wall Insulation	R-21 (Above Code)	R-13 (IECC 2009 - Zone 5)	Per Home	707.7	25	1714.00	60%	77%	0.07	1.6	16
Low Income Single Family Attached	Heat Room	Existing	Ceiling / Attic Insulation	R-38 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	764.6	25	2831.44	85%	13%	0.42	0.3	0
Low Income Single Family Attached	Heat Room	Existing	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	252.9	25	3236.96	75%	55%	0.18	0.6	0
Low Income Single Family Attached	Heat Room	New	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	252.9	25	3236.96	90%	55%	0.18	0.6	0
Low Income Single Family Attached	Heat Room	New	Construction - ICF/SIP	Insulating Concrete Form (ICF) or Structural Insulated Panels (SIP)	Standard Wood Framing	Per Home	819.4	40	12529.81	25%	100%	0.56	0.2	0
Low Income Single Family Attached	Heat Room	Existing	Ductless Mini-Split HP / AC	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0	Standard Baseboard Heating - HSPF 3.41	Per Installation	3994.0	15	6472.91	90%	100%	0.21	0.5	0
Low Income Single Family Attached	Heat Room	New	Ductless Mini-Split HP / AC	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0	Standard Baseboard Heating - HSPF 3.41	Per Installation	3291.3	15	5334.04	90%	100%	0.21	0.5	0
Low Income Single Family Attached	Heat Room	Existing	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	393.0	15	9237.06	100%	12%	0.34	0.3	0
Low Income Single Family Attached	Heat Room	New	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	393.0	15	9237.06	100%	12%	0.34	0.3	0
Low Income Single Family Attached	Heat Room	Existing	Floor Insulation	R-30 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	445.7	25	2751.01	35%	50%	0.70	0.2	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Single Family Attached	Heat Room	Existing	Floor Insulation	R-38 (Above Code)	R-30 (IECC 2009 - Zone 5)	Per Home	153.5	25	3308.71	35%	50%	0.41	0.3	0
Low Income Single Family Attached	Heat Room	New	Floor Insulation	R-38 (Above Code)	R-30 (IECC 2009 - Zone 5)	Per Home	153.5	25	3308.71	35%	50%	0.41	0.3	0
Low Income Single Family Attached	Heat Room	Existing	Wall Insulation	R-13 Wall (Max Fill)	Average Existing Wall Insulation	Per Home	2628.9	25	2218.89	50%	62%	0.10	1.2	4,154
Low Income Single Family Attached	Heat Room	Existing	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	429.9	25	4098.96	20%	14%	0.29	0.4	0
Low Income Single Family Attached	Heat Room	New	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	429.9	25	4098.96	95%	14%	0.29	0.4	0
Low Income Single Family Attached	Heat Room	Existing	Windows	U-0.35 (IECC 2009 - Zone 5)	Average Existing Window	Per Home	393.0	15	8281.93	100%	12%	0.27	0.4	0
Low Income Single Family Attached	Lighting Exterior	Existing	ENERGY STAR General Service CFL	High Efficiency General Service Lamp -CFL	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	48.5	5	2.97	90%	100%	0.01	10.9	0
Low Income Single Family Attached	Lighting Exterior	New	ENERGY STAR General Service CFL	High Efficiency General Service Lamp -CFL	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	48.5	5	2.97	90%	100%	0.01	10.9	0
Low Income Single Family Attached	Lighting Exterior	Existing	ENERGY STAR General Service LED	Premium Efficiency General Service Lamp -LED	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	51.8	15	12.76	90%	100%	0.05	2.5	2,038
Low Income Single Family Attached	Lighting Exterior	New	ENERGY STAR General Service LED	Premium Efficiency General Service Lamp -LED	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	51.8	15	12.76	90%	100%	0.05	2.5	39
Low Income Single Family Attached	Lighting Exterior	Existing	Lighting General Service Lamp - EISA Standard 2020	EISA Standard 2020 General Service Lamp - Incandescent	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	48.5	5	2.97	90%	100%	0.01	10.9	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Single Family Attached	Lighting Exterior	New	Lighting General Service Lamp - EISA Standard 2020	EISA Standard 2020 General Service Lamp - Incandescent	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	48.5	5	2.97	90%	100%	0.01	10.9	0
Low Income Single Family Attached	Lighting Exterior	Existing	Residential Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Home	26.2	10	497.17	20%	83%	3.42	0.0	0
Low Income Single Family Attached	Lighting Exterior	New	Residential Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Home	26.2	10	497.17	20%	83%	3.42	0.0	0
Low Income Single Family Attached	Lighting Interior Linear Fluorescent	Existing	ENERGY STAR Indoor Fluorescent Fixture	ENERGY STAR Indoor T8 Fluorescent Fixture	Standard Indoor T12 Fixture	Per Installation	13.4	13	57.65	90%	100%	0.60	0.2	0
Low Income Single Family Attached	Lighting Interior Linear Fluorescent	New	ENERGY STAR Indoor Fluorescent Fixture	ENERGY STAR Indoor T8 Fluorescent Fixture	Standard Indoor T12 Fixture	Per Installation	13.4	13	57.65	90%	100%	0.60	0.2	0
Low Income Single Family Attached	Lighting Interior Linear Fluorescent	Existing	Residential Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Home	18.9	10	497.17	20%	83%	4.74	0.0	0
Low Income Single Family Attached	Lighting Interior Linear Fluorescent	New	Residential Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Home	18.9	10	497.17	20%	83%	4.74	0.0	0
Low Income Single Family Attached	Lighting Interior Specialty	Existing	ENERGY STAR Specialty CFL	High Efficiency Specialty Lamp -CFL	Standard Specialty Lamp - Incandescent	Per Installation	35.4	5	4.83	90%	100%	0.01	7.4	0
Low Income Single Family Attached	Lighting Interior Specialty	New	ENERGY STAR Specialty CFL	High Efficiency Specialty Lamp -CFL	Standard Specialty Lamp - Incandescent	Per Installation	35.4	5	4.83	90%	100%	0.01	7.4	0
Low Income Single Family Attached	Lighting Interior Specialty	Existing	ENERGY STAR Specialty LED	Premium Efficiency Specialty Lamp -LED	Standard Specialty Lamp - Incandescent	Per Installation	36.8	15	9.08	90%	100%	0.05	2.4	9,971
Low Income Single Family Attached	Lighting Interior Specialty	New	ENERGY STAR Specialty LED	Premium Efficiency Specialty Lamp -LED	Standard Specialty Lamp - Incandescent	Per Installation	36.8	15	9.08	90%	100%	0.05	2.4	146



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Single Family Attached	Lighting Interior Specialty	Existing	Electroluminescent Nightlight	Electroluminescent Nightlight	Incandescent Nightlight	Per Home	30.4	8	4.20	27%	91%	0.03	3.4	533
Low Income Single Family Attached	Lighting Interior Specialty	New	Electroluminescent Nightlight	Electroluminescent Nightlight	Incandescent Nightlight	Per Home	30.4	8	4.20	27%	91%	0.02	5.3	10
Low Income Single Family Attached	Lighting Interior Specialty	Existing	Holiday Lights	LED Holiday Lights	Incandescent Holiday Lights	Per Home	10.6	10	12.00	50%	83%	0.20	0.5	0
Low Income Single Family Attached	Lighting Interior Specialty	New	Holiday Lights	LED Holiday Lights	Incandescent Holiday Lights	Per Home	10.6	10	12.00	50%	83%	0.12	0.9	0
Low Income Single Family Attached	Lighting Interior Specialty	Existing	LED Nightlight	LED Nightlight	Incandescent Nightlight	Per Home	26.3	10	2.00	27%	60%	0.01	7.4	0
Low Income Single Family Attached	Lighting Interior Specialty	New	LED Nightlight	LED Nightlight	Incandescent Nightlight	Per Home	26.3	10	2.00	27%	60%	0.00	29.6	0
Low Income Single Family Attached	Lighting Interior Specialty	Existing	Residential Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Home	13.3	10	497.17	20%	83%	6.75	0.0	0
Low Income Single Family Attached	Lighting Interior Specialty	New	Residential Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Home	13.3	10	497.17	20%	83%	6.75	0.0	0
Low Income Single Family Attached	Lighting Interior Standard	Existing	ENERGY STAR General Service CFL	High Efficiency General Service Lamp -CFL	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	27.3	5	2.72	90%	100%	0.01	7.8	0
Low Income Single Family Attached	Lighting Interior Standard	New	ENERGY STAR General Service CFL	High Efficiency General Service Lamp -CFL	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	27.3	5	2.72	90%	100%	0.01	7.8	0
Low Income Single Family Attached	Lighting Interior Standard	Existing	ENERGY STAR General Service LED	Premium Efficiency General Service Lamp -LED	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	29.3	15	10.47	90%	100%	0.07	1.7	16,014
Low Income Single Family Attached	Lighting Interior Standard	New	ENERGY STAR General Service LED	Premium Efficiency General Service Lamp -LED	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	29.3	15	10.47	90%	100%	0.07	1.7	273

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Single Family Attached	Lighting Interior Standard	Existing	Lighting General Service Lamp - EISA Standard 2020	EISA Standard 2020 General Service Lamp - Incandescent	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	27.3	5	2.72	90%	100%	0.01	7.8	0
Low Income Single Family Attached	Lighting Interior Standard	New	Lighting General Service Lamp - EISA Standard 2020	EISA Standard 2020 General Service Lamp - Incandescent	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	27.3	5	2.72	90%	100%	0.01	7.8	0
Low Income Single Family Attached	Lighting Interior Standard	Existing	Residential Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Home	14.7	10	497.17	20%	83%	6.11	0.0	0
Low Income Single Family Attached	Lighting Interior Standard	New	Residential Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Home	14.7	10	497.17	20%	83%	6.11	0.0	0
Low Income Single Family Attached	Monitor	Existing	ENERGY STAR Monitor	ENERGY STAR Monitor	Standard Monitor	Per Installation	23.8	4	1.00	90%	24%	0.02	6.0	18
Low Income Single Family Attached	Monitor	New	ENERGY STAR Monitor	ENERGY STAR Monitor	Standard Monitor	Per Installation	23.8	4	1.00	90%	24%	0.02	6.0	1
Low Income Single Family Attached	Multifunction Device	Existing	ENERGY STAR Multifunction	ENERGY STAR Multifunction Device "All-In-One" Imaging Equipment	Standard Multifunction Device "All-In-One" Imaging Equipment	Per Installation	109.0	6	1.00	90%	100%	0.00	39.1	63
Low Income Single Family Attached	Multifunction Device	New	ENERGY STAR Multifunction	ENERGY STAR Multifunction Device "All-In-One" Imaging Equipment	Standard Multifunction Device "All-In-One" Imaging Equipment	Per Installation	109.0	6	1.00	90%	100%	0.00	39.1	2
Low Income Single Family Attached	Plug Load Other	Existing	ENERGY STAR Air Purifier/Cleaner	ENERGY STAR Air Purifier/Cleaner	Standard Air Purifier/Cleaner	Per Home	52.2	9	0.13	100%	30%	0.00	194.7	367
Low Income Single Family Attached	Plug Load Other	New	ENERGY STAR Air Purifier/Cleaner	ENERGY STAR Air Purifier/Cleaner	Standard Air Purifier/Cleaner	Per Home	52.2	9	0.13	100%	30%	0.00	194.7	9
Low Income Single Family Attached	Plug Load Other	Existing	ENERGY STAR Water Cooler	ENERGY STAR Water Cooler	Standard Water Cooler	Per Home	2.6	10	0.96	95%	58%	0.00	285.5	34
Low Income Single Family Attached	Plug Load Other	New	ENERGY STAR Water Cooler	ENERGY STAR Water Cooler	Standard Water Cooler	Per Home	2.6	10	0.96	95%	58%	0.00	285.5	1



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Single Family Attached	Refrigerator	Existing	ENERGY STAR Refrigerators	ENERGY STAR Refrigerator	Federal Standard 2015 Refrigerator	Per Installation	42.6	12	625.25	90%	100%	0.10	1.1	0
Low Income Single Family Attached	Refrigerator	New	ENERGY STAR Refrigerators	ENERGY STAR Refrigerator	Federal Standard 2015 Refrigerator	Per Installation	42.6	12	625.25	90%	100%	0.10	1.1	0
Low Income Single Family Attached	Refrigerator	Existing	Refrigerator - CEE Tier 2	CEE Tier 2 Refrigerator	Federal Standard 2015 Refrigerator	Per Installation	81.8	12	648.46	90%	100%	0.10	1.1	0
Low Income Single Family Attached	Refrigerator	New	Refrigerator - CEE Tier 2	CEE Tier 2 Refrigerator	Federal Standard 2015 Refrigerator	Per Installation	81.8	12	648.46	90%	100%	0.10	1.1	0
Low Income Single Family Attached	Refrigerator	Existing	Refrigerator - CEE Tier 3	CEE Tier 3 Refrigerator	Federal Standard 2015 Refrigerator	Per Installation	108.3	12	664.20	90%	100%	0.10	1.1	1,832
Low Income Single Family Attached	Refrigerator	New	Refrigerator - CEE Tier 3	CEE Tier 3 Refrigerator	Federal Standard 2015 Refrigerator	Per Installation	108.3	12	664.20	90%	100%	0.10	1.1	78
Low Income Single Family Attached	Refrigerator	Existing	Refrigerator / Freezer Recycling with Replacement	Proper Disposal of Refrigerator/Freezer and Replacing with New Unit	Existing Non-Efficient Refrigerator/Freezer	Per Home	547.7	7	120.00	18%	94%	0.05	1.9	2,126
Low Income Single Family Attached	Refrigerator	Existing	Refrigerator / Freezer Recycling without Replacement	Proper Disposal of Refrigerator/Freezer	Existing Non-Efficient Refrigerator/Freezer	Per Home	1072.9	8	120.00	2%	94%	0.02	4.1	392
Low Income Single Family Attached	TV	Existing	ENERGY STAR Televisions < 50"	ENERGY STAR Televisions < 50"	Standard Television < 50"	Per Installation	19.2	6	1.00	90%	15%	0.01	6.9	20
Low Income Single Family Attached	TV	New	ENERGY STAR Televisions < 50"	ENERGY STAR Televisions < 50"	Standard Television < 50"	Per Installation	19.2	6	1.00	90%	15%	0.01	6.9	0
Low Income Single Family Attached	TV	Existing	Smart Strip Plug Outlet	Advanced Power Strip - Load Sensing: TV	Standard Power Strip	Per Home	40.7	4	32.97	57%	95%	0.29	0.3	0
Low Income Single Family Attached	TV	New	Smart Strip Plug Outlet	Advanced Power Strip - Load Sensing: TV	Standard Power Strip	Per Home	40.7	4	32.97	57%	95%	0.14	0.6	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Single Family Attached	TV	Existing	Smart Strip Plug Outlet	Advanced Power Strip with Infrared Sensor: TV	Standard Power Strip	Per Home	63.7	4	32.97	93%	95%	0.19	0.5	0
Low Income Single Family Attached	TV	New	Smart Strip Plug Outlet	Advanced Power Strip with Infrared Sensor: TV	Standard Power Strip	Per Home	63.7	4	32.97	93%	95%	0.09	1.0	77
Low Income Single Family Attached	TV	Existing	Smart Strip Plug Outlet	Advanced Power Strip with Occupancy Sensor: TV	Standard Power Strip	Per Home	46.5	4	99.99	0%	95%	0.78	0.1	0
Low Income Single Family Attached	TV	New	Smart Strip Plug Outlet	Advanced Power Strip with Occupancy Sensor: TV	Standard Power Strip	Per Home	46.5	4	99.99	0%	95%	0.65	0.1	0
Low Income Single Family Attached	TV Bigscreen	Existing	ENERGY STAR Televisions > 50"	ENERGY STAR Televisions > 50"	Standard Television > 50"	Per Installation	22.8	6	1.00	90%	44%	0.01	8.2	16
Low Income Single Family Attached	TV Bigscreen	New	ENERGY STAR Televisions > 50"	ENERGY STAR Televisions > 50"	Standard Television > 50"	Per Installation	22.8	6	1.00	90%	44%	0.01	8.2	1
Low Income Single Family Attached	TV Bigscreen	Existing	Smart Strip Plug Outlet	Advanced Power Strip - Load Sensing: TV Bigscreen	Standard Power Strip	Per Home	40.7	4	32.97	4%	95%	0.29	0.3	0
Low Income Single Family Attached	TV Bigscreen	New	Smart Strip Plug Outlet	Advanced Power Strip - Load Sensing: TV Bigscreen	Standard Power Strip	Per Home	40.7	4	32.97	4%	95%	0.14	0.6	0
Low Income Single Family Attached	TV Bigscreen	Existing	Smart Strip Plug Outlet	Advanced Power Strip with Infrared Sensor: TV Bigscreen	Standard Power Strip	Per Home	63.7	4	32.97	7%	95%	0.19	0.5	0
Low Income Single Family Attached	TV Bigscreen	New	Smart Strip Plug Outlet	Advanced Power Strip with Infrared Sensor: TV Bigscreen	Standard Power Strip	Per Home	63.7	4	32.97	7%	95%	0.09	1.0	0
Low Income Single Family Attached	TV Bigscreen	Existing	Smart Strip Plug Outlet	Advanced Power Strip with Occupancy Sensor: TV Bigscreen	Standard Power Strip	Per Home	46.5	4	99.99	0%	95%	0.78	0.1	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Single Family Attached	TV Bigscreen	New	Smart Strip Plug Outlet	Advanced Power Strip with Occupancy Sensor: TV Bigscreen	Standard Power Strip	Per Home	46.5	4	99.99	0%	95%	0.65	0.1	0
Low Income Single Family Attached	Ventilation And Circulation	Existing	Brushless Fan Motor	Brushless Fan Motor	Standard Motor	Per Home	387.1	18	360.00	75%	90%	0.12	1.1	0
Low Income Single Family Attached	Ventilation And Circulation	New	Brushless Fan Motor	Brushless Fan Motor	Standard Motor	Per Home	319.0	18	360.00	100%	90%	0.06	2.1	21
Low Income Single Family Attached	Ventilation And Circulation	Existing	Furnace Whistle	Furnace Whistle	No Furnace Whistle	Per Home	110.5	14	3.99	80%	90%	0.01	23.0	593
Low Income Single Family Attached	Ventilation And Circulation	Existing	High Efficiency Furnace Fan (on existing furnace)	High Efficiency Furnace Fan	Existing Furnace Motor	Per Home	387.1	15	360.00	75%	90%	0.13	0.9	0
Low Income Single Family Attached	Ventilation And Circulation	Existing	Residential Whole House Fan	Whole House Fan	No Whole House Fan	Per Home	199.1	15	1153.72	50%	91%	0.82	0.2	0
Low Income Single Family Attached	Ventilation And Circulation	New	Residential Whole House Fan	Whole House Fan	No Whole House Fan	Per Home	199.1	15	1153.72	50%	91%	0.82	0.2	0
Low Income Single Family Attached	Water Heat GT 55 Gal	Existing	CO2 Heat Pump Water Heater	CO2 Heat Pump Water Heater	Federal Standard 2015 Heat Pump Water Heater > 55 GAL - EF 1.97	Per Installation	1298.5	14	6650.00	90%	100%	0.57	0.2	0
Low Income Single Family Attached	Water Heat GT 55 Gal	New	CO2 Heat Pump Water Heater	CO2 Heat Pump Water Heater	Federal Standard 2015 Heat Pump Water Heater > 55 GAL - EF 1.97	Per Installation	1298.5	14	6650.00	90%	100%	0.57	0.2	0
Low Income Single Family Attached	Water Heat GT 55 Gal	Existing	Desuperheater (on existing GSHP)	Desuperheater (on existing GSHP)	No Desuperheater	Per Home	567.5	30	250.00	20%	79%	0.05	2.6	16

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Single Family Attached	Water Heat GT 55 Gal	Existing	Drain Water Heat Recovery Device	Drain Water Heat Recovery	No Heat Exchanger	Per Home	375.1	25	463.82	30%	90%	0.14	0.9	0
Low Income Single Family Attached	Water Heat GT 55 Gal	New	Drain Water Heat Recovery Device	Drain Water Heat Recovery	No Heat Exchanger	Per Home	375.1	25	463.82	60%	90%	0.14	0.9	0
Low Income Single Family Attached	Water Heat GT 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Federal Standard 2011 Clothes Washer - MEF 1.26 and WF 9.5 (Electric DHW & Dryer)	Per Home	232.9	11	731.86	99%	72%	0.53	0.2	0
Low Income Single Family Attached	Water Heat GT 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Federal Standard 2011 Clothes Washer - MEF 1.26 and WF 9.5 (Electric DHW & Dryer)	Per Home	232.9	11	731.86	99%	72%	0.15	0.7	0
Low Income Single Family Attached	Water Heat GT 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Federal Standard 2016 Clothes Washer - MEF 1.72 and WF 8.0 (Electric DHW & Dryer)	Per Home	66.7	11	731.86	99%	72%	1.86	0.1	0
Low Income Single Family Attached	Water Heat GT 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Federal Standard 2016 Clothes Washer - MEF 1.72 and WF 8.0 (Electric DHW & Dryer)	Per Home	66.7	11	731.86	99%	72%	0.19	0.5	0
Low Income Single Family Attached	Water Heat GT 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2011 Clothes Washer - MEF 1.26 and WF 9.5 (Electric DHW & Dryer)	Per Home	297.7	11	840.98	99%	5%	0.48	0.2	0
Low Income Single Family Attached	Water Heat GT 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2011 Clothes Washer - MEF 1.26 and WF 9.5 (Electric DHW & Dryer)	Per Home	297.7	11	840.98	99%	5%	0.18	0.6	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Single Family Attached	Water Heat GT 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2016 Clothes Washer - MEF 1.72 and WF 8.0 (Electric DHW & Dryer)	Per Home	131.5	11	840.98	99%	5%	1.08	0.1	0
Low Income Single Family Attached	Water Heat GT 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2016 Clothes Washer - MEF 1.72 and WF 8.0 (Electric DHW & Dryer)	Per Home	131.5	11	840.98	99%	5%	0.24	0.4	0
Low Income Single Family Attached	Water Heat GT 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2018 Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Per Home	67.8	11	840.98	99%	5%	2.10	0.0	0
Low Income Single Family Attached	Water Heat GT 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2018 Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Per Home	67.8	11	840.98	99%	5%	0.27	0.4	0
Low Income Single Family Attached	Water Heat GT 55 Gal	Existing	ENERGY STAR Dishwashers (Electric Water Heating)	ENERGY STAR Dishwasher - 295 kWh/yr and 4.25 gal/cycle	Federal Standard 2014 Dishwasher - 307 kWh/yr and 5.0 gal/cycle	Per Home	9.5	10	166.40	76%	56%	3.15	0.0	0
Low Income Single Family Attached	Water Heat GT 55 Gal	New	ENERGY STAR Dishwashers (Electric Water Heating)	ENERGY STAR Dishwasher - 295 kWh/yr and 4.25 gal/cycle	Federal Standard 2014 Dishwasher - 307 kWh/yr and 5.0 gal/cycle	Per Home	9.5	10	166.40	76%	56%	0.15	0.7	0
Low Income Single Family Attached	Water Heat GT 55 Gal	Existing	ENERGY STAR Dishwashers (Gas Water Heating)	ENERGY STAR Dishwasher - 295 kWh/yr and 4.25 gal/cycle	Federal Standard 2014 Dishwasher - 307 kWh/yr and 5.0 gal/cycle	Per Home	9.5	10	166.40	0%	56%	3.15	0.0	0
Low Income Single Family Attached	Water Heat GT 55 Gal	New	ENERGY STAR Dishwashers (Gas Water Heating)	ENERGY STAR Dishwasher - 295 kWh/yr and 4.25 gal/cycle	Federal Standard 2014 Dishwasher - 307 kWh/yr and 5.0 gal/cycle	Per Home	9.5	10	166.40	0%	56%	0.15	0.7	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Single Family Attached	Water Heat GT 55 Gal	Existing	Heat Pump Water Heater	Heat Pump Water Heater	Federal Standard 2015 Heat Pump Water Heater > 55 GAL - EF 1.97	Per Installation	36.0	14	1730.00	90%	100%	0.41	0.3	0
Low Income Single Family Attached	Water Heat GT 55 Gal	New	Heat Pump Water Heater	Heat Pump Water Heater	Federal Standard 2015 Heat Pump Water Heater > 55 GAL - EF 1.97	Per Installation	36.0	14	1730.00	90%	100%	0.41	0.3	0
Low Income Single Family Attached	Water Heat GT 55 Gal	Existing	Heater Pipe Insulation	R-4 Wrap	No insulation	Per Home	30.0	13	9.00	95%	80%	0.05	2.3	4
Low Income Single Family Attached	Water Heat GT 55 Gal	Existing	Low Flow Faucet Aerator (Bathroom/Kitchen)	0.5 GPM	2.2 GPM	Per Home	581.9	12	6.63	95%	95%	0.00	55.6	137
Low Income Single Family Attached	Water Heat GT 55 Gal	New	Low Flow Faucet Aerator (Bathroom/Kitchen)	0.5 GPM	2.2 GPM	Per Home	581.9	12	6.63	95%	95%	0.00	353.9	3
Low Income Single Family Attached	Water Heat GT 55 Gal	Existing	Low Flow Faucet Aerator (Bathroom/Kitchen)	1.0 GPM	2.2 GPM	Per Home	410.8	12	6.29	95%	80%	0.00	41.4	0
Low Income Single Family Attached	Water Heat GT 55 Gal	New	Low Flow Faucet Aerator (Bathroom/Kitchen)	1.0 GPM	2.2 GPM	Per Home	410.8	12	6.29	95%	80%	0.00	374.7	0
Low Income Single Family Attached	Water Heat GT 55 Gal	Existing	Low Flow Faucet Aerator (Bathroom/Kitchen)	1.5 GPM	2.2 GPM	Per Home	239.6	12	5.94	95%	65%	0.00	25.6	0
Low Income Single Family Attached	Water Heat GT 55 Gal	New	Low Flow Faucet Aerator (Bathroom/Kitchen)	1.5 GPM	2.2 GPM	Per Home	239.6	12	5.94	95%	65%	0.00	437.2	0
Low Income Single Family Attached	Water Heat GT 55 Gal	Existing	Low Flow Faucet Aerator (Bathroom/Kitchen)	2.2 GPM	Existing Faucet Aerator (3.0 GPM)	Per Home	273.9	12	5.59	95%	15%	0.00	31.0	10
Low Income Single Family Attached	Water Heat GT 55 Gal	Existing	Low Flow Showerhead	1.5 GPM	2.5 GPM	Per Home	501.1	9	9.71	95%	42%	0.00	38.3	52



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Single Family Attached	Water Heat GT 55 Gal	New	Low Flow Showerhead	1.5 GPM	2.5 GPM	Per Home	501.1	9	9.71	95%	42%	0.00	38.3	1
Low Income Single Family Attached	Water Heat GT 55 Gal	Existing	Low Flow Showerhead	1.75 GPM	2.5 GPM	Per Home	375.9	9	8.09	95%	65%	0.00	38.3	0
Low Income Single Family Attached	Water Heat GT 55 Gal	New	Low Flow Showerhead	1.75 GPM	2.5 GPM	Per Home	375.9	9	8.09	95%	75%	0.00	38.3	0
Low Income Single Family Attached	Water Heat GT 55 Gal	Existing	Low Flow Showerhead	2.0 GPM	2.5 GPM	Per Home	250.6	9	6.47	95%	45%	0.00	38.3	0
Low Income Single Family Attached	Water Heat GT 55 Gal	New	Low Flow Showerhead	2.0 GPM	2.5 GPM	Per Home	250.6	9	6.47	95%	65%	0.00	38.3	0
Low Income Single Family Attached	Water Heat GT 55 Gal	Existing	Low Flow Showerhead	2.5 GPM	Existing Showerhead (3.0 GPM)	Per Home	250.6	9	3.24	95%	25%	0.00	38.3	15
Low Income Single Family Attached	Water Heat GT 55 Gal	Existing	Showerstart	Add Thermostatic Shower Restriction Valve	No Thermostatic Shower Restriction Valve	Per Home	186.1	10	40.46	90%	100%	0.04	2.5	11
Low Income Single Family Attached	Water Heat GT 55 Gal	New	Showerstart	Add Thermostatic Shower Restriction Valve	No Thermostatic Shower Restriction Valve	Per Home	186.1	10	40.46	90%	100%	0.04	2.5	0
Low Income Single Family Attached	Water Heat GT 55 Gal	Existing	Solar Water Heaters	Solar Water Heaters	Federal Standard 2015 Heat Pump Water Heater > 55 GAL - EF 1.97	Per Installation	164.6	15	8164.00	90%	100%	5.61	0.0	0
Low Income Single Family Attached	Water Heat GT 55 Gal	New	Solar Water Heaters	Solar Water Heaters	Federal Standard 2015 Heat Pump Water Heater > 55 GAL - EF 1.97	Per Installation	164.6	15	8164.00	90%	100%	5.61	0.0	0
Low Income Single Family Attached	Water Heat GT 55 Gal	Existing	Water Heater Tank Wrap	Install Insulation (R-10)	No Tank Insulation	Per Home	231.0	7	50.00	95%	92%	0.05	1.9	32
Low Income Single Family Attached	Water Heat GT 55 Gal	New	Water Heater Tank Wrap	Install Insulation (R-10)	No Tank Insulation	Per Home	231.0	7	50.00	75%	92%	0.05	1.9	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/c Ratio	Achievable Potential (MWh)
Low Income Single Family Attached	Water Heat GT 55 Gal	Existing	Water Heater Temperature Setback	120 degrees	130 degrees	Per Home	105.9	4	1.00	95%	15%	0.00	26.3	4
Low Income Single Family Attached	Water Heat GT 55 Gal	New	Water Heater Temperature Setback	120 degrees	130 degrees	Per Home	105.9	4	1.00	95%	15%	0.00	26.3	0
Low Income Single Family Attached	Water Heat LE 55 Gal	Existing	CO2 Heat Pump Water Heater	CO2 Heat Pump Water Heater	Federal Standard 2015 Storage Water Heater = 55 GAL - EF 0.95	Per Installation	2362.0	14	6650.00	90%	100%	0.37	0.3	0
Low Income Single Family Attached	Water Heat LE 55 Gal	New	CO2 Heat Pump Water Heater	CO2 Heat Pump Water Heater	Federal Standard 2015 Storage Water Heater = 55 GAL - EF 0.95	Per Installation	2362.0	14	6650.00	90%	100%	0.37	0.3	0
Low Income Single Family Attached	Water Heat LE 55 Gal	Existing	Desuperheater (on existing GSHP)	Desuperheater (on existing GSHP)	No Desuperheater	Per Home	567.5	30	250.00	20%	79%	0.05	2.6	362
Low Income Single Family Attached	Water Heat LE 55 Gal	Existing	Drain Water Heat Recovery Device	Drain Water Heat Recovery	No Heat Exchanger	Per Home	375.1	25	463.82	30%	90%	0.14	0.9	0
Low Income Single Family Attached	Water Heat LE 55 Gal	New	Drain Water Heat Recovery Device	Drain Water Heat Recovery	No Heat Exchanger	Per Home	375.1	25	463.82	60%	90%	0.14	0.9	0
Low Income Single Family Attached	Water Heat LE 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Federal Standard 2011 Clothes Washer - MEF 1.26 and WF 9.5 (Electric DHW & Dryer)	Per Home	232.9	11	731.86	99%	72%	0.53	0.2	0
Low Income Single Family Attached	Water Heat LE 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Federal Standard 2011 Clothes Washer - MEF 1.26 and WF 9.5 (Electric DHW & Dryer)	Per Home	232.9	11	731.86	99%	72%	0.15	0.7	0
Low Income Single Family Attached	Water Heat LE 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Federal Standard 2016 Clothes Washer - MEF 1.72 and WF 8.0 (Electric DHW & Dryer)	Per Home	66.7	11	731.86	99%	72%	1.86	0.1	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Single Family Attached	Water Heat LE 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Federal Standard 2016 Clothes Washer - MEF 1.72 and WF 8.0 (Electric DHW & Dryer)	Per Home	66.7	11	731.86	99%	72%	0.19	0.5	0
Low Income Single Family Attached	Water Heat LE 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2011 Clothes Washer - MEF 1.26 and WF 9.5 (Electric DHW & Dryer)	Per Home	297.7	11	840.98	99%	5%	0.48	0.2	0
Low Income Single Family Attached	Water Heat LE 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2011 Clothes Washer - MEF 1.26 and WF 9.5 (Electric DHW & Dryer)	Per Home	297.7	11	840.98	99%	5%	0.18	0.6	0
Low Income Single Family Attached	Water Heat LE 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2016 Clothes Washer - MEF 1.72 and WF 8.0 (Electric DHW & Dryer)	Per Home	131.5	11	840.98	99%	5%	1.08	0.1	0
Low Income Single Family Attached	Water Heat LE 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2016 Clothes Washer - MEF 1.72 and WF 8.0 (Electric DHW & Dryer)	Per Home	131.5	11	840.98	99%	5%	0.24	0.4	0
Low Income Single Family Attached	Water Heat LE 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2018 Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Per Home	67.8	11	840.98	99%	5%	2.10	0.0	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Single Family Attached	Water Heat LE 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2018 Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Per Home	67.8	11	840.98	99%	5%	0.27	0.4	0
Low Income Single Family Attached	Water Heat LE 55 Gal	Existing	ENERGY STAR Dishwashers (Electric Water Heating)	ENERGY STAR Dishwasher - 295 kWh/yr and 4.25 gal/cycle	Federal Standard 2014 Dishwasher - 307 kWh/yr and 5.0 gal/cycle	Per Home	9.5	10	166.40	76%	56%	3.15	0.0	0
Low Income Single Family Attached	Water Heat LE 55 Gal	New	ENERGY STAR Dishwashers (Electric Water Heating)	ENERGY STAR Dishwasher - 295 kWh/yr and 4.25 gal/cycle	Federal Standard 2014 Dishwasher - 307 kWh/yr and 5.0 gal/cycle	Per Home	9.5	10	166.40	76%	56%	0.15	0.7	0
Low Income Single Family Attached	Water Heat LE 55 Gal	Existing	ENERGY STAR Dishwashers (Gas Water Heating)	ENERGY STAR Dishwasher - 295 kWh/yr and 4.25 gal/cycle	Federal Standard 2014 Dishwasher - 307 kWh/yr and 5.0 gal/cycle	Per Home	9.5	10	166.40	0%	56%	3.15	0.0	0
Low Income Single Family Attached	Water Heat LE 55 Gal	New	ENERGY STAR Dishwashers (Gas Water Heating)	ENERGY STAR Dishwasher - 295 kWh/yr and 4.25 gal/cycle	Federal Standard 2014 Dishwasher - 307 kWh/yr and 5.0 gal/cycle	Per Home	9.5	10	166.40	0%	56%	0.15	0.7	0
Low Income Single Family Attached	Water Heat LE 55 Gal	Existing	Efficient Electric Water Heaters	Efficient Electric Water Heaters	Federal Standard 2015 Storage Water Heater = 55 GAL - EF 0.95	Per Installation	65.5	14	866.00	90%	100%	0.26	0.4	0
Low Income Single Family Attached	Water Heat LE 55 Gal	New	Efficient Electric Water Heaters	Efficient Electric Water Heaters	Federal Standard 2015 Storage Water Heater = 55 GAL - EF 0.95	Per Installation	65.5	14	866.00	90%	100%	0.26	0.4	0
Low Income Single Family Attached	Water Heat LE 55 Gal	Existing	Heat Pump Water Heater	Heat Pump Water Heater	Federal Standard 2015 Storage Water Heater = 55 GAL - EF 0.95	Per Installation	1442.3	14	1695.00	90%	100%	0.10	1.1	4,492
Low Income Single Family Attached	Water Heat LE 55 Gal	New	Heat Pump Water Heater	Heat Pump Water Heater	Federal Standard 2015 Storage Water Heater = 55 GAL - EF 0.95	Per Installation	1442.3	14	1695.00	90%	100%	0.10	1.1	108
Low Income Single Family Attached	Water Heat LE 55 Gal	Existing	Heater Pipe Insulation	R-4 Wrap	No insulation	Per Home	30.0	13	9.00	95%	80%	0.05	2.3	89



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Single Family Attached	Water Heat LE 55 Gal	Existing	Low Flow Faucet Aerator (Bathroom/Kitchen)	0.5 GPM	2.2 GPM	Per Home	581.9	12	6.63	95%	95%	0.00	55.6	3,399
Low Income Single Family Attached	Water Heat LE 55 Gal	New	Low Flow Faucet Aerator (Bathroom/Kitchen)	0.5 GPM	2.2 GPM	Per Home	581.9	12	6.63	95%	95%	0.00	353.9	85
Low Income Single Family Attached	Water Heat LE 55 Gal	Existing	Low Flow Faucet Aerator (Bathroom/Kitchen)	1.0 GPM	2.2 GPM	Per Home	410.8	12	6.29	95%	80%	0.00	41.4	0
Low Income Single Family Attached	Water Heat LE 55 Gal	New	Low Flow Faucet Aerator (Bathroom/Kitchen)	1.0 GPM	2.2 GPM	Per Home	410.8	12	6.29	95%	80%	0.00	374.7	0
Low Income Single Family Attached	Water Heat LE 55 Gal	Existing	Low Flow Faucet Aerator (Bathroom/Kitchen)	1.5 GPM	2.2 GPM	Per Home	239.6	12	5.94	95%	65%	0.00	25.6	0
Low Income Single Family Attached	Water Heat LE 55 Gal	New	Low Flow Faucet Aerator (Bathroom/Kitchen)	1.5 GPM	2.2 GPM	Per Home	239.6	12	5.94	95%	65%	0.00	437.2	0
Low Income Single Family Attached	Water Heat LE 55 Gal	Existing	Low Flow Faucet Aerator (Bathroom/Kitchen)	2.2 GPM	Existing Faucet Aerator (3.0 GPM)	Per Home	273.9	12	5.59	95%	15%	0.00	31.0	253
Low Income Single Family Attached	Water Heat LE 55 Gal	Existing	Low Flow Showerhead	1.5 GPM	2.5 GPM	Per Home	501.1	9	9.71	95%	42%	0.00	38.3	1,306
Low Income Single Family Attached	Water Heat LE 55 Gal	New	Low Flow Showerhead	1.5 GPM	2.5 GPM	Per Home	501.1	9	9.71	95%	42%	0.00	38.3	33
Low Income Single Family Attached	Water Heat LE 55 Gal	Existing	Low Flow Showerhead	1.75 GPM	2.5 GPM	Per Home	375.9	9	8.09	95%	65%	0.00	38.3	0
Low Income Single Family Attached	Water Heat LE 55 Gal	New	Low Flow Showerhead	1.75 GPM	2.5 GPM	Per Home	375.9	9	8.09	95%	75%	0.00	38.3	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low Income Single Family Attached	Water Heat LE 55 Gal	Existing	Low Flow Showerhead	2.0 GPM	2.5 GPM	Per Home	250.6	9	6.47	95%	45%	0.00	38.3	0
Low Income Single Family Attached	Water Heat LE 55 Gal	New	Low Flow Showerhead	2.0 GPM	2.5 GPM	Per Home	250.6	9	6.47	95%	65%	0.00	38.3	0
Low Income Single Family Attached	Water Heat LE 55 Gal	Existing	Low Flow Showerhead	2.5 GPM	Existing Showerhead (3.0 GPM)	Per Home	250.6	9	3.24	95%	25%	0.00	38.3	385
Low Income Single Family Attached	Water Heat LE 55 Gal	Existing	Showerstart	Add Thermostatic Shower Restriction Valve	No Thermostatic Shower Restriction Valve	Per Home	186.1	10	40.46	90%	100%	0.04	2.5	286
Low Income Single Family Attached	Water Heat LE 55 Gal	New	Showerstart	Add Thermostatic Shower Restriction Valve	No Thermostatic Shower Restriction Valve	Per Home	186.1	10	40.46	90%	100%	0.04	2.5	7
Low Income Single Family Attached	Water Heat LE 55 Gal	Existing	Solar Water Heaters	Solar Water Heaters	Federal Standard 2015 Storage Water Heater = 55 GAL - EF 0.95	Per Installation	1536.6	15	5986.93	90%	100%	0.48	0.2	0
Low Income Single Family Attached	Water Heat LE 55 Gal	New	Solar Water Heaters	Solar Water Heaters	Federal Standard 2015 Storage Water Heater = 55 GAL - EF 0.95	Per Installation	1536.6	15	5986.93	90%	100%	0.48	0.2	0
Low Income Single Family Attached	Water Heat LE 55 Gal	Existing	Water Heater Tank Wrap	Install Insulation (R-10)	No Tank Insulation	Per Home	296.7	7	50.00	95%	92%	0.04	2.4	923
Low Income Single Family Attached	Water Heat LE 55 Gal	New	Water Heater Tank Wrap	Install Insulation (R-10)	No Tank Insulation	Per Home	296.7	7	50.00	75%	92%	0.04	2.4	13
Low Income Single Family Attached	Water Heat LE 55 Gal	Existing	Water Heater Temperature Setback	120 degrees	130 degrees	Per Home	105.9	4	1.00	95%	15%	0.00	26.3	91
Low Income Single Family Attached	Water Heat LE 55 Gal	New	Water Heater Temperature Setback	120 degrees	130 degrees	Per Home	105.9	4	1.00	95%	15%	0.00	26.3	2
Low-Income Manufactured	Computer Desktop	Existing	ENERGY STAR Computer - Desktop	ENERGY STAR Computer - Desktop	Standard Desktop	Per Installation	70.7	4	1.00	90%	73%	0.01	17.8	82
Low-Income Manufactured	Computer Desktop	New	ENERGY STAR Computer - Desktop	ENERGY STAR Computer - Desktop	Standard Desktop	Per Installation	70.7	4	1.00	90%	73%	0.01	17.8	2



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Manufactured	Computer Desktop	Existing	Smart Strip Plug Outlet	Advanced Power Strip - Load Sensing: Computer Desktop	Standard Power Strip	Per Home	40.7	4	32.97	39%	95%	0.29	0.3	0
Low-Income Manufactured	Computer Desktop	New	Smart Strip Plug Outlet	Advanced Power Strip - Load Sensing: Computer Desktop	Standard Power Strip	Per Home	40.7	4	32.97	39%	95%	0.14	0.6	0
Low-Income Manufactured	Computer Desktop	Existing	Smart Strip Plug Outlet	Advanced Power Strip with Infrared Sensor: Computer Desktop	Standard Power Strip	Per Home	63.7	4	32.97	0%	95%	0.19	0.5	0
Low-Income Manufactured	Computer Desktop	New	Smart Strip Plug Outlet	Advanced Power Strip with Infrared Sensor: Computer Desktop	Standard Power Strip	Per Home	63.7	4	32.97	0%	95%	0.09	1.0	0
Low-Income Manufactured	Computer Desktop	Existing	Smart Strip Plug Outlet	Advanced Power Strip with Occupancy Sensor: Computer Desktop	Standard Power Strip	Per Home	46.5	4	99.99	100%	95%	0.78	0.1	0
Low-Income Manufactured	Computer Desktop	New	Smart Strip Plug Outlet	Advanced Power Strip with Occupancy Sensor: Computer Desktop	Standard Power Strip	Per Home	46.5	4	99.99	100%	95%	0.65	0.1	0
Low-Income Manufactured	Computer Laptop	Existing	ENERGY STAR Computer - Laptop	ENERGY STAR Computer - Laptop	Standard Laptop	Per Installation	21.5	4	1.00	90%	25%	0.02	5.4	3
Low-Income Manufactured	Computer Laptop	New	ENERGY STAR Computer - Laptop	ENERGY STAR Computer - Laptop	Standard Laptop	Per Installation	21.5	4	1.00	90%	25%	0.02	5.4	0
Low-Income Manufactured	Cool Central	Existing	Air Sealing	Air Sealing	No Air Sealing	Per Home	30.5	15	465.27	56%	21%	2.16	0.1	0
Low-Income Manufactured	Cool Central	New	Air Sealing	Air Sealing	No Air Sealing	Per Home	30.5	15	465.27	0%	21%	2.16	0.1	0
Low-Income Manufactured	Cool Central	Existing	Ceiling / Attic Insulation	R-38 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	22.6	25	2791.63	75%	13%	14.05	0.0	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Manufactured	Cool Central	Existing	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	7.5	25	3191.45	40%	55%	6.08	0.0	0
Low-Income Manufactured	Cool Central	New	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	7.5	25	3191.45	60%	55%	6.08	0.0	0
Low-Income Manufactured	Cool Central	Existing	Central AC Maintenance	Tune-up/Maintenance on Central AC	No Tune-up Maintenance on Central AC	Per Home	298.6	7	100.00	95%	84%	0.08	1.4	0
Low-Income Manufactured	Cool Central	Existing	Central Air Conditioner - CEE Tier 3	CEE Tier 3 Central Air Conditioner - SEER/EER 16/13 (Split System)	Federal Standard 2015 Central Air Conditioner - SEER 13 (Split System)	Per Installation	194.2	14	4994.34	90%	100%	1.38	0.1	0
Low-Income Manufactured	Cool Central	New	Central Air Conditioner - CEE Tier 3	CEE Tier 3 Central Air Conditioner - SEER/EER 16/13 (Split System)	Federal Standard 2015 Central Air Conditioner - SEER 13 (Split System)	Per Installation	160.0	14	4115.62	90%	100%	1.38	0.1	0
Low-Income Manufactured	Cool Central	Existing	Central Air Conditioner - Enhanced	Enhanced Central Air Conditioner - SEER/EER 18/14 (Split System)	Federal Standard 2015 Central Air Conditioner - SEER 13 (Split System)	Per Installation	287.6	14	6214.95	90%	100%	1.56	0.1	0
Low-Income Manufactured	Cool Central	New	Central Air Conditioner - Enhanced	Enhanced Central Air Conditioner - SEER/EER 18/14 (Split System)	Federal Standard 2015 Central Air Conditioner - SEER 13 (Split System)	Per Installation	237.0	14	5121.47	90%	100%	1.56	0.1	0
Low-Income Manufactured	Cool Central	New	Construction - ICF/SIP	Insulating Concrete Form (ICF) or Structural Insulated Panels (SIP)	Standard Wood Framing	Per Home	138.8	40	6395.91	25%	100%	1.68	0.1	0
Low-Income Manufactured	Cool Central	Existing	Duct Insulation	R-6 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	26.9	15	206.20	50%	69%	1.08	0.1	0
Low-Income Manufactured	Cool Central	Existing	Duct Sealing	Duct Sealing	No Duct Sealing	Per Home	157.9	20	96.23	50%	34%	0.08	1.8	44
Low-Income Manufactured	Cool Central	New	Duct Sealing	Duct Sealing	No Duct Sealing	Per Home	157.9	20	96.23	0%	34%	0.08	1.8	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Manufactured	Cool Central	Existing	ENERGY STAR Central Air Conditioner	ENERGY STAR Central Air Conditioner - SEER/EER 14.5/12 (Split System)	Federal Standard 2015 Central Air Conditioner - SEER 13 (Split System)	Per Installation	107.1	14	4078.88	90%	100%	1.25	0.1	0
Low-Income Manufactured	Cool Central	New	ENERGY STAR Central Air Conditioner	ENERGY STAR Central Air Conditioner - SEER/EER 14.5/12 (Split System)	Federal Standard 2015 Central Air Conditioner - SEER 13 (Split System)	Per Installation	88.3	14	3361.23	90%	100%	1.25	0.1	0
Low-Income Manufactured	Cool Central	Existing	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	3.2	15	5587.64	100%	12%	25.65	0.0	0
Low-Income Manufactured	Cool Central	New	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	3.2	15	5587.64	100%	12%	25.65	0.0	0
Low-Income Manufactured	Cool Central	Existing	Home Energy Reports	Home Energy Reports (Opower, Aclara, C3 Energy, and Simple Energy)	No report	Per Home	98.6	1	10.37	90%	100%	0.14	0.6	0
Low-Income Manufactured	Cool Central	New	Home Energy Reports	Home Energy Reports (Opower, Aclara, C3 Energy, and Simple Energy)	No report	Per Home	98.6	1	10.37	90%	100%	0.14	0.6	0
Low-Income Manufactured	Cool Central	Existing	Programmable Thermostat	Programmable Thermostat	Manual Thermostat	Per Home	25.9	11	64.00	95%	73%	0.42	0.3	0
Low-Income Manufactured	Cool Central	New	Programmable Thermostat	Programmable Thermostat	Manual Thermostat	Per Home	21.4	11	64.00	95%	73%	0.25	0.5	0
Low-Income Manufactured	Cool Central	Existing	Proper Sizing of Central Air Conditioner	Proper Sizing - Central Air Conditioner	Oversized Central Air Conditioner	Per Home	64.8	14	186.50	95%	95%	0.42	0.3	0
Low-Income Manufactured	Cool Central	New	Proper Sizing of Central Air Conditioner	Proper Sizing - Central Air Conditioner	Oversized Central Air Conditioner	Per Home	53.4	14	186.50	95%	95%	0.51	0.2	0
Low-Income Manufactured	Cool Central	Existing	Radiant Barriers	Install Radiant Barrier	No Radiant Barrier	Per Home	39.7	25	557.84	50%	90%	1.60	0.1	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Manufactured	Cool Central	New	Radiant Barriers	Install Radiant Barrier	No Radiant Barrier	Per Home	32.7	25	557.84	75%	90%	1.94	0.1	0
Low-Income Manufactured	Cool Central	Existing	Smart Thermostat	WiFi Thermostat	Programmable Thermostat	Per Home	97.2	11	261.59	25%	95%	0.34	0.3	0
Low-Income Manufactured	Cool Central	New	Smart Thermostat	WiFi Thermostat	Programmable Thermostat	Per Home	80.1	11	261.59	95%	95%	0.42	0.3	0
Low-Income Manufactured	Cool Central	Existing	Wall Insulation	R-13 Wall (Max Fill)	Average Existing Wall Insulation	Per Home	34.0	25	956.75	10%	62%	3.20	0.0	0
Low-Income Manufactured	Cool Central	Existing	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	5.6	25	1767.41	20%	14%	9.52	0.0	0
Low-Income Manufactured	Cool Central	New	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	5.6	25	1767.41	95%	14%	9.52	0.0	0
Low-Income Manufactured	Cool Central	Existing	Window Film	Window Film	No Window Film	Per Home	23.3	20	566.90	38%	95%	3.01	0.0	0
Low-Income Manufactured	Cool Central	New	Window Film	Window Film	No Window Film	Per Home	13.4	20	566.90	0%	95%	5.24	0.0	0
Low-Income Manufactured	Cool Central	Existing	Windows	U-0.35 (IECC 2009 - Zone 5)	Average Existing Window	Per Home	3.2	15	5009.87	100%	12%	19.95	0.0	0
Low-Income Manufactured	Cool Room	Existing	Air Sealing	Air Sealing	No Air Sealing	Per Home	11.6	15	465.27	56%	21%	5.68	0.0	0
Low-Income Manufactured	Cool Room	New	Air Sealing	Air Sealing	No Air Sealing	Per Home	11.6	15	465.27	0%	21%	5.68	0.0	0
Low-Income Manufactured	Cool Room	Existing	Ceiling / Attic Insulation	R-38 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	11.4	25	2791.63	75%	13%	27.87	0.0	0
Low-Income Manufactured	Cool Room	Existing	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	3.8	25	3191.45	40%	55%	12.07	0.0	0
Low-Income Manufactured	Cool Room	New	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	3.8	25	3191.45	60%	55%	12.07	0.0	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Manufactured	Cool Room	New	Construction - ICF/SIP	Insulating Concrete Form (ICF) or Structural Insulated Panels (SIP)	Standard Wood Framing	Per Home	14.4	40	6395.91	25%	100%	16.25	0.0	0
Low-Income Manufactured	Cool Room	Existing	Ductless Mini-Split HP / AC	Ductless Air Conditioner - SEER/EER 18/12.5	Federal Standard 2014 Room AC - CEER/EER 10.9/11.0 (8,000-13,999 Btuh)	Per Installation	39.2	9	1492.06	90%	100%	6.83	0.0	0
Low-Income Manufactured	Cool Room	New	Ductless Mini-Split HP / AC	Ductless Air Conditioner - SEER/EER 18/12.5	Federal Standard 2014 Room AC - CEER/EER 10.9/11.0 (8,000-13,999 Btuh)	Per Installation	39.2	9	1492.06	90%	100%	6.83	0.0	0
Low-Income Manufactured	Cool Room	Existing	ENERGY STAR Room Air Conditioner	ENERGY STAR Room AC - CEER/EER 11.2/11.3 (8,000-13,999 Btuh)	Federal Standard 2014 Room AC - CEER/EER 10.9/11.0 (8,000-13,999 Btuh)	Per Installation	2.7	9	220.00	90%	100%	2.90	0.0	0
Low-Income Manufactured	Cool Room	New	ENERGY STAR Room Air Conditioner	ENERGY STAR Room AC - CEER/EER 11.2/11.3 (8,000-13,999 Btuh)	Federal Standard 2014 Room AC - CEER/EER 10.9/11.0 (8,000-13,999 Btuh)	Per Installation	2.7	9	220.00	90%	100%	2.90	0.0	0
Low-Income Manufactured	Cool Room	Existing	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	3.2	15	5587.64	100%	12%	25.65	0.0	0
Low-Income Manufactured	Cool Room	New	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	3.2	15	5587.64	100%	12%	25.65	0.0	0
Low-Income Manufactured	Cool Room	Existing	Radiant Barriers	Install Radiant Barrier	No Radiant Barrier	Per Home	3.4	25	557.84	50%	90%	18.74	0.0	0
Low-Income Manufactured	Cool Room	New	Radiant Barriers	Install Radiant Barrier	No Radiant Barrier	Per Home	3.4	25	557.84	75%	90%	18.74	0.0	0
Low-Income Manufactured	Cool Room	Existing	Room AC Retirement	Proper Disposal of Room AC	Existing Non-Efficient Room AC	Per Home	167.9	4	60.00	8%	65%	0.13	0.8	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Manufactured	Cool Room	Existing	Wall Insulation	R-13 Wall (Max Fill)	Average Existing Wall Insulation	Per Home	17.1	25	956.75	10%	62%	6.35	0.0	0
Low-Income Manufactured	Cool Room	Existing	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	2.8	25	1767.41	20%	14%	18.90	0.0	0
Low-Income Manufactured	Cool Room	New	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	2.8	25	1767.41	95%	14%	18.90	0.0	0
Low-Income Manufactured	Cool Room	Existing	Window Film	Window Film	No Window Film	Per Home	2.0	20	566.90	38%	95%	35.23	0.0	0
Low-Income Manufactured	Cool Room	New	Window Film	Window Film	No Window Film	Per Home	1.4	20	566.90	0%	95%	50.56	0.0	0
Low-Income Manufactured	Cool Room	Existing	Windows	U-0.35 (IECC 2009 - Zone 5)	Average Existing Window	Per Home	3.2	15	5009.87	100%	12%	19.95	0.0	0
Low-Income Manufactured	Copier	Existing	ENERGY STAR Copier	ENERGY STAR Copier	Standard Office Copier	Per Installation	81.4	6	1.00	90%	20%	0.00	29.3	2
Low-Income Manufactured	Copier	New	ENERGY STAR Copier	ENERGY STAR Copier	Standard Office Copier	Per Installation	81.4	6	1.00	90%	20%	0.00	29.3	0
Low-Income Manufactured	Dehumidifier	Existing	ENERGY STAR Dehumidifiers	ENERGY STAR Dehumidifier	Federal Standard 2013 Dehumidifier	Per Installation	169.6	12	242.54	90%	100%	0.02	5.4	12
Low-Income Manufactured	Dehumidifier	New	ENERGY STAR Dehumidifiers	ENERGY STAR Dehumidifier	Federal Standard 2013 Dehumidifier	Per Installation	169.6	12	242.54	90%	100%	0.02	5.4	1
Low-Income Manufactured	Dryer	Existing	ENERGY STAR Dryer - CEF/EF 3.93/4.04	ENERGY STAR Dryer - CEF/EF 3.93/4.04	Federal Standard 2015 Dryer - CEF/EF 3.73/3.83	Per Installation	27.4	13	812.57	90%	100%	0.29	0.4	0
Low-Income Manufactured	Dryer	New	ENERGY STAR Dryer - CEF/EF 3.93/4.04	ENERGY STAR Dryer - CEF/EF 3.93/4.04	Federal Standard 2015 Dryer - CEF/EF 3.73/3.83	Per Installation	27.4	13	812.57	90%	100%	0.29	0.4	0
Low-Income Manufactured	Dryer	Existing	Heat Pump Dryer	Heat Pump Dryer	Federal Standard 2015 Dryer - CEF/EF 3.73/3.83	Per Installation	277.6	13	1169.99	90%	100%	0.23	0.5	0
Low-Income Manufactured	Dryer	New	Heat Pump Dryer	Heat Pump Dryer	Federal Standard 2015 Dryer - CEF/EF 3.73/3.83	Per Installation	277.6	13	1169.99	90%	100%	0.23	0.5	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Manufactured	Fax	Existing	ENERGY STAR Fax Machine	ENERGY STAR Fax Machine	Standard Fax Machine	Per Installation	15.6	4	60.00	90%	20%	1.39	0.1	0
Low-Income Manufactured	Fax	New	ENERGY STAR Fax Machine	ENERGY STAR Fax Machine	Standard Fax Machine	Per Installation	15.6	4	60.00	90%	20%	1.39	0.1	0
Low-Income Manufactured	Freezer	Existing	ENERGY STAR Freezers	ENERGY STAR Freezer	Federal Standard 2015 Freezer	Per Installation	34.3	12	6.61	90%	100%	0.03	3.3	37
Low-Income Manufactured	Freezer	New	ENERGY STAR Freezers	ENERGY STAR Freezer	Federal Standard 2015 Freezer	Per Installation	34.3	12	6.61	90%	100%	0.03	3.3	1
Low-Income Manufactured	Freezer	Existing	Refrigerator / Freezer Recycling with Replacement	Proper Disposal of Refrigerator/Freezer and Replacing with New Unit	Existing Non-Efficient Refrigerator/Freezer	Per Home	547.7	7	120.00	18%	94%	0.05	1.9	162
Low-Income Manufactured	Freezer	Existing	Refrigerator / Freezer Recycling without Replacement	Proper Disposal of Refrigerator/Freezer	Existing Non-Efficient Refrigerator/Freezer	Per Home	1072.9	8	120.00	2%	94%	0.02	4.1	30
Low-Income Manufactured	Heat Central	Existing	Air Sealing	Air Sealing	No Air Sealing	Per Home	1354.6	15	465.27	56%	21%	0.05	2.2	46
Low-Income Manufactured	Heat Central	New	Air Sealing	Air Sealing	No Air Sealing	Per Home	1354.6	15	465.27	0%	21%	0.05	2.2	0
Low-Income Manufactured	Heat Central	Existing	Basement / Crawlspace Wall Insulation	R-13 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	625.9	25	642.94	0%	35%	0.12	1.0	0
Low-Income Manufactured	Heat Central	Existing	Basement / Crawlspace Wall Insulation	R-21 (Above Code)	R-13 (IECC 2009 - Zone 5)	Per Home	361.3	25	874.92	0%	77%	0.07	1.6	0
Low-Income Manufactured	Heat Central	New	Basement / Crawlspace Wall Insulation	R-21 (Above Code)	R-13 (IECC 2009 - Zone 5)	Per Home	361.3	25	874.92	0%	77%	0.07	1.6	0
Low-Income Manufactured	Heat Central	Existing	Ceiling / Attic Insulation	R-38 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	753.8	25	2791.63	75%	13%	0.42	0.3	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Manufactured	Heat Central	Existing	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	249.4	25	3191.45	40%	55%	0.18	0.6	0
Low-Income Manufactured	Heat Central	New	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	249.4	25	3191.45	60%	55%	0.18	0.6	0
Low-Income Manufactured	Heat Central	New	Construction - ICF/SIP	Insulating Concrete Form (ICF) or Structural Insulated Panels (SIP)	Standard Wood Framing	Per Home	720.5	40	6395.91	25%	100%	0.32	0.4	0
Low-Income Manufactured	Heat Central	Existing	Duct Insulation	R-6 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	330.1	15	206.20	50%	69%	0.09	1.2	31
Low-Income Manufactured	Heat Central	Existing	Duct Sealing	Duct Sealing	No Duct Sealing	Per Home	1561.2	20	96.23	50%	34%	0.01	14.7	80
Low-Income Manufactured	Heat Central	New	Duct Sealing	Duct Sealing	No Duct Sealing	Per Home	1561.2	20	96.23	0%	34%	0.01	14.7	0
Low-Income Manufactured	Heat Central	Existing	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	421.5	15	5587.64	100%	12%	0.19	0.5	0
Low-Income Manufactured	Heat Central	New	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	421.5	15	5587.64	100%	12%	0.19	0.5	0
Low-Income Manufactured	Heat Central	Existing	Floor Insulation	R-30 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	860.0	25	2712.33	100%	50%	0.36	0.3	0
Low-Income Manufactured	Heat Central	Existing	Floor Insulation	R-38 (Above Code)	R-30 (IECC 2009 - Zone 5)	Per Home	296.2	25	3262.19	100%	50%	0.21	0.6	0
Low-Income Manufactured	Heat Central	New	Floor Insulation	R-38 (Above Code)	R-30 (IECC 2009 - Zone 5)	Per Home	296.2	25	3262.19	100%	50%	0.21	0.6	0
Low-Income Manufactured	Heat Central	Existing	Programmable Thermostat	Programmable Thermostat	Manual Thermostat	Per Home	242.1	11	64.00	95%	73%	0.04	2.2	58
Low-Income Manufactured	Heat Central	New	Programmable Thermostat	Programmable Thermostat	Manual Thermostat	Per Home	199.5	11	64.00	95%	73%	0.03	3.7	1



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Manufactured	Heat Central	Existing	Smart Thermostat	WiFi Thermostat	Programmable Thermostat	Per Home	396.8	11	261.59	25%	95%	0.08	1.2	33
Low-Income Manufactured	Heat Central	New	Smart Thermostat	WiFi Thermostat	Programmable Thermostat	Per Home	327.0	11	261.59	95%	95%	0.10	1.0	0
Low-Income Manufactured	Heat Central	Existing	Wall Insulation	R-13 Wall (Max Fill)	Average Existing Wall Insulation	Per Home	1133.5	25	956.75	10%	62%	0.10	1.2	20
Low-Income Manufactured	Heat Central	Existing	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	185.4	25	1767.41	20%	14%	0.29	0.4	0
Low-Income Manufactured	Heat Central	New	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	185.4	25	1767.41	95%	14%	0.29	0.4	0
Low-Income Manufactured	Heat Central	Existing	Windows	U-0.35 (IECC 2009 - Zone 5)	Average Existing Window	Per Home	421.5	15	5009.87	100%	12%	0.15	0.7	0
Low-Income Manufactured	Heat Pump	Existing	Air Sealing	Air Sealing	No Air Sealing	Per Home	822.9	15	465.27	56%	21%	0.08	1.4	43
Low-Income Manufactured	Heat Pump	New	Air Sealing	Air Sealing	No Air Sealing	Per Home	822.9	15	465.27	0%	21%	0.08	1.4	0
Low-Income Manufactured	Heat Pump	Existing	Air Source Heat Pump Maintenance	Tune-up/Maintenance on Air Source Heat Pump	No Tune-up Maintenance on Air Source Heat Pump	Per Home	293.7	7	100.00	95%	84%	0.08	1.2	119
Low-Income Manufactured	Heat Pump	Existing	Basement / Crawlspace Wall Insulation	R-13 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	277.3	25	642.94	0%	35%	0.26	0.5	0
Low-Income Manufactured	Heat Pump	Existing	Basement / Crawlspace Wall Insulation	R-21 (Above Code)	R-13 (IECC 2009 - Zone 5)	Per Home	160.1	25	874.92	0%	77%	0.16	0.7	0
Low-Income Manufactured	Heat Pump	New	Basement / Crawlspace Wall Insulation	R-21 (Above Code)	R-13 (IECC 2009 - Zone 5)	Per Home	160.1	25	874.92	0%	77%	0.16	0.7	0
Low-Income Manufactured	Heat Pump	Existing	Ceiling / Attic Insulation	R-38 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	334.0	25	2791.63	75%	13%	0.95	0.1	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Manufactured	Heat Pump	Existing	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	110.5	25	3191.45	40%	55%	0.41	0.3	0
Low-Income Manufactured	Heat Pump	New	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	110.5	25	3191.45	60%	55%	0.41	0.3	0
Low-Income Manufactured	Heat Pump	Existing	Cold Climate Heat Pump	Cold Climate Heat Pump - SEER/EER 21.5/12 and HSPF 10.3 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	1303.5	12	7185.84	90%	100%	0.26	0.4	0
Low-Income Manufactured	Heat Pump	New	Cold Climate Heat Pump	Cold Climate Heat Pump - SEER/EER 21.5/12 and HSPF 10.3 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	1074.2	12	5921.54	90%	100%	0.26	0.4	0
Low-Income Manufactured	Heat Pump	New	Construction - ICF/SIP	Insulating Concrete Form (ICF) or Structural Insulated Panels (SIP)	Standard Wood Framing	Per Home	711.9	40	6395.91	25%	100%	0.33	0.4	0
Low-Income Manufactured	Heat Pump	Existing	Duct Insulation	R-6 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	290.0	15	206.20	50%	69%	0.10	1.1	41
Low-Income Manufactured	Heat Pump	Existing	Duct Sealing	Duct Sealing	No Duct Sealing	Per Home	807.5	20	96.23	50%	34%	0.01	7.8	63
Low-Income Manufactured	Heat Pump	New	Duct Sealing	Duct Sealing	No Duct Sealing	Per Home	807.5	20	96.23	0%	34%	0.01	7.8	0
Low-Income Manufactured	Heat Pump	Existing	ENERGY STAR Air Source Heat Pump	ENERGY STAR Air Source Heat Pump - SEER/EER 14.5/12 and HSPF 8.2 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	33.2	12	5321.86	90%	100%	1.07	0.1	0
Low-Income Manufactured	Heat Pump	New	ENERGY STAR Air Source Heat Pump	ENERGY STAR Air Source Heat Pump - SEER/EER 14.5/12 and HSPF 8.2 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	27.3	12	4385.51	90%	100%	1.07	0.1	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Manufactured	Heat Pump	Existing	ENERGY STAR Ground Source Heat Pump	ENERGY STAR Ground Source Heat Pump - EER 17.1 and 3.6 COP (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	1753.6	15	13762.77	90%	100%	0.70	0.2	0
Low-Income Manufactured	Heat Pump	New	ENERGY STAR Ground Source Heat Pump	ENERGY STAR Ground Source Heat Pump - EER 17.1 and 3.6 COP (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	1445.1	15	11341.30	90%	100%	0.70	0.2	0
Low-Income Manufactured	Heat Pump	Existing	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	237.7	15	5587.64	100%	12%	0.34	0.3	0
Low-Income Manufactured	Heat Pump	New	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	237.7	15	5587.64	100%	12%	0.34	0.3	0
Low-Income Manufactured	Heat Pump	Existing	Floor Insulation	R-30 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	413.7	25	2712.33	100%	50%	0.75	0.2	0
Low-Income Manufactured	Heat Pump	Existing	Floor Insulation	R-38 (Above Code)	R-30 (IECC 2009 - Zone 5)	Per Home	142.5	25	3262.19	100%	50%	0.44	0.3	0
Low-Income Manufactured	Heat Pump	New	Floor Insulation	R-38 (Above Code)	R-30 (IECC 2009 - Zone 5)	Per Home	142.5	25	3262.19	100%	50%	0.44	0.3	0
Low-Income Manufactured	Heat Pump	Existing	Heat Pump - Air Source CEE Tier 2	CEE Tier 2 Air Source Heat Pump - SEER/EER 15/12.5 and HSPF 8.5 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	231.7	12	5544.06	90%	100%	0.31	0.3	0
Low-Income Manufactured	Heat Pump	New	Heat Pump - Air Source CEE Tier 2	CEE Tier 2 Air Source Heat Pump - SEER/EER 15/12.5 and HSPF 8.5 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	190.9	12	4568.62	90%	100%	0.31	0.3	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Manufactured	Heat Pump	Existing	Heat Pump - Air Source Enhanced	Enhanced Air Source Heat Pump - SEER/EER 18/14 and HSPF 9.5 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	863.4	12	8432.73	90%	100%	0.62	0.2	0
Low-Income Manufactured	Heat Pump	New	Heat Pump - Air Source Enhanced	Enhanced Air Source Heat Pump - SEER/EER 18/14 and HSPF 9.5 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	711.5	12	6949.04	90%	100%	0.62	0.2	0
Low-Income Manufactured	Heat Pump	Existing	Heat Pump - Air Source Premium	Premium Air Source Heat Pump - SEER/EER 16/13 and HSPF 9.0 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	542.3	12	5988.47	90%	100%	0.26	0.4	0
Low-Income Manufactured	Heat Pump	New	Heat Pump - Air Source Premium	Premium Air Source Heat Pump - SEER/EER 16/13 and HSPF 9.0 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	446.9	12	4934.84	90%	100%	0.26	0.4	0
Low-Income Manufactured	Heat Pump	Existing	Programmable Thermostat	Programmable Thermostat	Manual Thermostat	Per Home	218.9	11	64.00	95%	73%	0.05	2.0	82
Low-Income Manufactured	Heat Pump	New	Programmable Thermostat	Programmable Thermostat	Manual Thermostat	Per Home	180.4	11	64.00	95%	73%	0.03	3.5	1
Low-Income Manufactured	Heat Pump	Existing	Radiant Barriers	Install Radiant Barrier	No Radiant Barrier	Per Home	72.3	25	557.84	50%	90%	0.88	0.1	0
Low-Income Manufactured	Heat Pump	New	Radiant Barriers	Install Radiant Barrier	No Radiant Barrier	Per Home	59.6	25	557.84	75%	90%	1.07	0.1	0
Low-Income Manufactured	Heat Pump	Existing	Smart Thermostat	WiFi Thermostat	Programmable Thermostat	Per Home	412.5	11	261.59	25%	95%	0.08	1.2	56
Low-Income Manufactured	Heat Pump	New	Smart Thermostat	WiFi Thermostat	Programmable Thermostat	Per Home	339.9	11	261.59	95%	95%	0.10	1.0	5



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Manufactured	Heat Pump	Existing	Wall Insulation	R-13 Wall (Max Fill)	Average Existing Wall Insulation	Per Home	536.3	25	956.75	10%	62%	0.20	0.6	0
Low-Income Manufactured	Heat Pump	Existing	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	87.7	25	1767.41	20%	14%	0.60	0.2	0
Low-Income Manufactured	Heat Pump	New	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	87.7	25	1767.41	95%	14%	0.60	0.2	0
Low-Income Manufactured	Heat Pump	Existing	Window Film	Window Film	No Window Film	Per Home	23.1	20	566.90	38%	95%	3.04	0.0	0
Low-Income Manufactured	Heat Pump	New	Window Film	Window Film	No Window Film	Per Home	13.2	20	566.90	0%	95%	5.29	0.0	0
Low-Income Manufactured	Heat Pump	Existing	Windows	U-0.35 (IECC 2009 - Zone 5)	Average Existing Window	Per Home	237.7	15	5009.87	100%	12%	0.27	0.4	0
Low-Income Manufactured	Heat Room	Existing	Air Sealing	Air Sealing	No Air Sealing	Per Home	1354.6	15	465.27	56%	21%	0.05	2.2	6
Low-Income Manufactured	Heat Room	New	Air Sealing	Air Sealing	No Air Sealing	Per Home	1354.6	15	465.27	0%	21%	0.05	2.2	0
Low-Income Manufactured	Heat Room	Existing	Basement / Crawlspace Wall Insulation	R-13 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	625.9	25	642.94	0%	35%	0.12	1.0	0
Low-Income Manufactured	Heat Room	Existing	Basement / Crawlspace Wall Insulation	R-21 (Above Code)	R-13 (IECC 2009 - Zone 5)	Per Home	361.3	25	874.92	0%	77%	0.07	1.6	0
Low-Income Manufactured	Heat Room	New	Basement / Crawlspace Wall Insulation	R-21 (Above Code)	R-13 (IECC 2009 - Zone 5)	Per Home	361.3	25	874.92	0%	77%	0.07	1.6	0
Low-Income Manufactured	Heat Room	Existing	Ceiling / Attic Insulation	R-38 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	753.8	25	2791.63	75%	13%	0.42	0.3	0
Low-Income Manufactured	Heat Room	Existing	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	249.4	25	3191.45	40%	55%	0.18	0.6	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Manufactured	Heat Room	New	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	249.4	25	3191.45	60%	55%	0.18	0.6	0
Low-Income Manufactured	Heat Room	New	Construction - ICF/SIP	Insulating Concrete Form (ICF) or Structural Insulated Panels (SIP)	Standard Wood Framing	Per Home	556.8	40	6395.91	25%	100%	0.42	0.3	0
Low-Income Manufactured	Heat Room	Existing	Ductless Mini-Split HP / AC	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0	Standard Baseboard Heating - HSPF 3.41	Per Installation	2714.2	15	4398.78	90%	100%	0.21	0.5	0
Low-Income Manufactured	Heat Room	New	Ductless Mini-Split HP / AC	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0	Standard Baseboard Heating - HSPF 3.41	Per Installation	2236.7	15	3624.84	90%	100%	0.21	0.5	0
Low-Income Manufactured	Heat Room	Existing	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	237.7	15	5587.64	100%	12%	0.34	0.3	0
Low-Income Manufactured	Heat Room	New	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	237.7	15	5587.64	100%	12%	0.34	0.3	0
Low-Income Manufactured	Heat Room	Existing	Floor Insulation	R-30 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	439.4	25	2712.33	100%	50%	0.70	0.2	0
Low-Income Manufactured	Heat Room	Existing	Floor Insulation	R-38 (Above Code)	R-30 (IECC 2009 - Zone 5)	Per Home	151.3	25	3262.19	100%	50%	0.41	0.3	0
Low-Income Manufactured	Heat Room	New	Floor Insulation	R-38 (Above Code)	R-30 (IECC 2009 - Zone 5)	Per Home	151.3	25	3262.19	100%	50%	0.41	0.3	0
Low-Income Manufactured	Heat Room	Existing	Wall Insulation	R-13 Wall (Max Fill)	Average Existing Wall Insulation	Per Home	1133.5	25	956.75	10%	62%	0.10	1.2	3
Low-Income Manufactured	Heat Room	Existing	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	185.4	25	1767.41	20%	14%	0.29	0.4	0
Low-Income Manufactured	Heat Room	New	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	185.4	25	1767.41	95%	14%	0.29	0.4	0
Low-Income Manufactured	Heat Room	Existing	Windows	U-0.35 (IECC 2009 - Zone 5)	Average Existing Window	Per Home	237.7	15	5009.87	100%	12%	0.27	0.4	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Manufactured	Lighting Exterior	Existing	ENERGY STAR General Service CFL	High Efficiency General Service Lamp -CFL	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	48.5	5	2.97	90%	100%	0.01	10.9	0
Low-Income Manufactured	Lighting Exterior	New	ENERGY STAR General Service CFL	High Efficiency General Service Lamp -CFL	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	48.5	5	2.97	90%	100%	0.01	10.9	0
Low-Income Manufactured	Lighting Exterior	Existing	ENERGY STAR General Service LED	Premium Efficiency General Service Lamp -LED	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	51.8	15	12.76	90%	100%	0.05	2.5	201
Low-Income Manufactured	Lighting Exterior	New	ENERGY STAR General Service LED	Premium Efficiency General Service Lamp -LED	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	51.8	15	12.76	90%	100%	0.05	2.5	4
Low-Income Manufactured	Lighting Exterior	Existing	Lighting General Service Lamp - EISA Standard 2020	EISA Standard 2020 General Service Lamp - Incandescent	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	48.5	5	2.97	90%	100%	0.01	10.9	0
Low-Income Manufactured	Lighting Exterior	New	Lighting General Service Lamp - EISA Standard 2020	EISA Standard 2020 General Service Lamp - Incandescent	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	48.5	5	2.97	90%	100%	0.01	10.9	0
Low-Income Manufactured	Lighting Exterior	Existing	Residential Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Home	26.2	10	253.78	20%	83%	1.75	0.1	0
Low-Income Manufactured	Lighting Exterior	New	Residential Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Home	26.2	10	253.78	20%	83%	1.75	0.1	0
Low-Income Manufactured	Lighting Interior Linear Fluorescent	Existing	ENERGY STAR Indoor Fluorescent Fixture	ENERGY STAR Indoor T8 Fluorescent Fixture	Standard Indoor T12 Fixture	Per Installation	13.4	13	57.65	90%	100%	0.60	0.2	0
Low-Income Manufactured	Lighting Interior Linear Fluorescent	New	ENERGY STAR Indoor Fluorescent Fixture	ENERGY STAR Indoor T8 Fluorescent Fixture	Standard Indoor T12 Fixture	Per Installation	13.4	13	57.65	90%	100%	0.60	0.2	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Manufactured	Lighting Interior Linear Fluorescent	Existing	Residential Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Home	18.9	10	253.78	20%	83%	2.42	0.0	0
Low-Income Manufactured	Lighting Interior Linear Fluorescent	New	Residential Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Home	18.9	10	253.78	20%	83%	2.42	0.0	0
Low-Income Manufactured	Lighting Interior Specialty	Existing	ENERGY STAR Specialty CFL	High Efficiency Specialty Lamp -CFL	Standard Specialty Lamp - Incandescent	Per Installation	35.4	5	4.83	90%	100%	0.01	7.4	0
Low-Income Manufactured	Lighting Interior Specialty	New	ENERGY STAR Specialty CFL	High Efficiency Specialty Lamp -CFL	Standard Specialty Lamp - Incandescent	Per Installation	35.4	5	4.83	90%	100%	0.01	7.4	0
Low-Income Manufactured	Lighting Interior Specialty	Existing	ENERGY STAR Specialty LED	Premium Efficiency Specialty Lamp -LED	Standard Specialty Lamp - Incandescent	Per Installation	36.8	15	9.08	90%	100%	0.05	2.4	644
Low-Income Manufactured	Lighting Interior Specialty	New	ENERGY STAR Specialty LED	Premium Efficiency Specialty Lamp -LED	Standard Specialty Lamp - Incandescent	Per Installation	36.8	15	9.08	90%	100%	0.05	2.4	10
Low-Income Manufactured	Lighting Interior Specialty	Existing	Electroluminescent Nightlight	Electroluminescent Nightlight	Incandescent Nightlight	Per Home	30.4	8	4.20	25%	91%	0.03	3.4	32
Low-Income Manufactured	Lighting Interior Specialty	New	Electroluminescent Nightlight	Electroluminescent Nightlight	Incandescent Nightlight	Per Home	30.4	8	4.20	25%	91%	0.02	5.3	1
Low-Income Manufactured	Lighting Interior Specialty	Existing	Holiday Lights	LED Holiday Lights	Incandescent Holiday Lights	Per Home	10.6	10	12.00	50%	83%	0.20	0.5	0
Low-Income Manufactured	Lighting Interior Specialty	New	Holiday Lights	LED Holiday Lights	Incandescent Holiday Lights	Per Home	10.6	10	12.00	50%	83%	0.12	0.9	0
Low-Income Manufactured	Lighting Interior Specialty	Existing	LED Nightlight	LED Nightlight	Incandescent Nightlight	Per Home	26.3	10	2.00	25%	60%	0.01	7.4	0
Low-Income Manufactured	Lighting Interior Specialty	New	LED Nightlight	LED Nightlight	Incandescent Nightlight	Per Home	26.3	10	2.00	25%	60%	0.00	29.6	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Manufactured	Lighting Interior Specialty	Existing	Residential Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Home	13.3	10	253.78	20%	83%	3.44	0.0	0
Low-Income Manufactured	Lighting Interior Specialty	New	Residential Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Home	13.3	10	253.78	20%	83%	3.44	0.0	0
Low-Income Manufactured	Lighting Interior Standard	Existing	ENERGY STAR General Service CFL	High Efficiency General Service Lamp -CFL	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	27.3	5	2.72	90%	100%	0.01	7.8	0
Low-Income Manufactured	Lighting Interior Standard	New	ENERGY STAR General Service CFL	High Efficiency General Service Lamp -CFL	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	27.3	5	2.72	90%	100%	0.01	7.8	0
Low-Income Manufactured	Lighting Interior Standard	Existing	ENERGY STAR General Service LED	Premium Efficiency General Service Lamp -LED	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	29.3	15	10.47	90%	100%	0.07	1.7	1,922
Low-Income Manufactured	Lighting Interior Standard	New	ENERGY STAR General Service LED	Premium Efficiency General Service Lamp -LED	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	29.3	15	10.47	90%	100%	0.07	1.7	33
Low-Income Manufactured	Lighting Interior Standard	Existing	Lighting General Service Lamp - EISA Standard 2020	EISA Standard 2020 General Service Lamp - Incandescent	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	27.3	5	2.72	90%	100%	0.01	7.8	0
Low-Income Manufactured	Lighting Interior Standard	New	Lighting General Service Lamp - EISA Standard 2020	EISA Standard 2020 General Service Lamp - Incandescent	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	27.3	5	2.72	90%	100%	0.01	7.8	0
Low-Income Manufactured	Lighting Interior Standard	Existing	Residential Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Home	14.7	10	253.78	20%	83%	3.12	0.0	0
Low-Income Manufactured	Lighting Interior Standard	New	Residential Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Home	14.7	10	253.78	20%	83%	3.12	0.0	0
Low-Income Manufactured	Monitor	Existing	ENERGY STAR Monitor	ENERGY STAR Monitor	Standard Monitor	Per Installation	23.8	4	1.00	90%	24%	0.02	6.0	3

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Manufactured	Monitor	New	ENERGY STAR Monitor	ENERGY STAR Monitor	Standard Monitor	Per Installation	23.8	4	1.00	90%	24%	0.02	6.0	0
Low-Income Manufactured	Multifunction Device	Existing	ENERGY STAR Multifunction	ENERGY STAR Multifunction Device "All-In-One" Imaging Equipment	Standard Multifunction Device "All-In-One" Imaging Equipment	Per Installation	109.0	6	1.00	90%	100%	0.00	39.3	5
Low-Income Manufactured	Multifunction Device	New	ENERGY STAR Multifunction	ENERGY STAR Multifunction Device "All-In-One" Imaging Equipment	Standard Multifunction Device "All-In-One" Imaging Equipment	Per Installation	109.0	6	1.00	90%	100%	0.00	39.3	0
Low-Income Manufactured	Plug Load Other	Existing	ENERGY STAR Air Purifier/Cleaner	ENERGY STAR Air Purifier/Cleaner	Standard Air Purifier/Cleaner	Per Home	34.0	9	0.09	100%	30%	0.00	195.8	55
Low-Income Manufactured	Plug Load Other	New	ENERGY STAR Air Purifier/Cleaner	ENERGY STAR Air Purifier/Cleaner	Standard Air Purifier/Cleaner	Per Home	34.0	9	0.09	100%	30%	0.00	195.8	1
Low-Income Manufactured	Plug Load Other	Existing	ENERGY STAR Water Cooler	ENERGY STAR Water Cooler	Standard Water Cooler	Per Home	2.6	10	0.96	95%	58%	0.00	287.2	8
Low-Income Manufactured	Plug Load Other	New	ENERGY STAR Water Cooler	ENERGY STAR Water Cooler	Standard Water Cooler	Per Home	2.6	10	0.96	95%	58%	0.00	287.2	0
Low-Income Manufactured	Pool Pump	Existing	Variable Speed Pool Pumps (with Load Shifting Option)	Pool Pump with Variable Speed Drive (VSD)	Standard 1 Speed Pool Pump	Per Installation	1915.2	10	950.00	90%	100%	0.07	1.4	0
Low-Income Manufactured	Pool Pump	New	Variable Speed Pool Pumps (with Load Shifting Option)	Pool Pump with Variable Speed Drive (VSD)	Standard 1 Speed Pool Pump	Per Installation	1915.2	10	950.00	90%	100%	0.07	1.4	0
Low-Income Manufactured	Refrigerator	Existing	ENERGY STAR Refrigerators	ENERGY STAR Refrigerator	Federal Standard 2015 Refrigerator	Per Installation	42.6	12	625.25	90%	100%	0.10	1.1	0
Low-Income Manufactured	Refrigerator	New	ENERGY STAR Refrigerators	ENERGY STAR Refrigerator	Federal Standard 2015 Refrigerator	Per Installation	42.6	12	625.25	90%	100%	0.10	1.1	0
Low-Income Manufactured	Refrigerator	Existing	Refrigerator - CEE Tier 2	CEE Tier 2 Refrigerator	Federal Standard 2015 Refrigerator	Per Installation	81.8	12	648.46	90%	100%	0.10	1.1	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Manufactured	Refrigerator	New	Refrigerator - CEE Tier 2	CEE Tier 2 Refrigerator	Federal Standard 2015 Refrigerator	Per Installation	81.8	12	648.46	90%	100%	0.10	1.1	0
Low-Income Manufactured	Refrigerator	Existing	Refrigerator - CEE Tier 3	CEE Tier 3 Refrigerator	Federal Standard 2015 Refrigerator	Per Installation	108.3	12	664.20	90%	100%	0.10	1.1	359
Low-Income Manufactured	Refrigerator	New	Refrigerator - CEE Tier 3	CEE Tier 3 Refrigerator	Federal Standard 2015 Refrigerator	Per Installation	108.3	12	664.20	90%	100%	0.10	1.1	15
Low-Income Manufactured	Refrigerator	Existing	Refrigerator / Freezer Recycling with Replacement	Proper Disposal of Refrigerator/Freezer and Replacing with New Unit	Existing Non-Efficient Refrigerator/Freezer	Per Home	547.7	7	120.00	18%	94%	0.05	1.9	417
Low-Income Manufactured	Refrigerator	Existing	Refrigerator / Freezer Recycling without Replacement	Proper Disposal of Refrigerator/Freezer	Existing Non-Efficient Refrigerator/Freezer	Per Home	1072.9	8	120.00	2%	94%	0.02	4.1	77
Low-Income Manufactured	TV	Existing	ENERGY STAR Televisions < 50"	ENERGY STAR Televisions < 50"	Standard Television < 50"	Per Installation	19.2	6	1.00	90%	15%	0.01	6.9	3
Low-Income Manufactured	TV	New	ENERGY STAR Televisions < 50"	ENERGY STAR Televisions < 50"	Standard Television < 50"	Per Installation	19.2	6	1.00	90%	15%	0.01	6.9	0
Low-Income Manufactured	TV	Existing	Smart Strip Plug Outlet	Advanced Power Strip - Load Sensing: TV	Standard Power Strip	Per Home	40.7	4	32.97	56%	95%	0.29	0.3	0
Low-Income Manufactured	TV	New	Smart Strip Plug Outlet	Advanced Power Strip - Load Sensing: TV	Standard Power Strip	Per Home	40.7	4	32.97	56%	95%	0.14	0.6	0
Low-Income Manufactured	TV	Existing	Smart Strip Plug Outlet	Advanced Power Strip with Infrared Sensor: TV	Standard Power Strip	Per Home	63.7	4	32.97	92%	95%	0.19	0.5	0
Low-Income Manufactured	TV	New	Smart Strip Plug Outlet	Advanced Power Strip with Infrared Sensor: TV	Standard Power Strip	Per Home	63.7	4	32.97	92%	95%	0.09	1.0	13
Low-Income Manufactured	TV	Existing	Smart Strip Plug Outlet	Advanced Power Strip with Occupancy Sensor: TV	Standard Power Strip	Per Home	46.5	4	99.99	0%	95%	0.78	0.1	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Manufactured	TV	New	Smart Strip Plug Outlet	Advanced Power Strip with Occupancy Sensor: TV	Standard Power Strip	Per Home	46.5	4	99.99	0%	95%	0.65	0.1	0
Low-Income Manufactured	TV Bigscreen	Existing	ENERGY STAR Televisions > 50"	ENERGY STAR Televisions > 50"	Standard Television > 50"	Per Installation	22.8	6	1.00	90%	44%	0.01	8.2	3
Low-Income Manufactured	TV Bigscreen	New	ENERGY STAR Televisions > 50"	ENERGY STAR Televisions > 50"	Standard Television > 50"	Per Installation	22.8	6	1.00	90%	44%	0.01	8.2	0
Low-Income Manufactured	TV Bigscreen	Existing	Smart Strip Plug Outlet	Advanced Power Strip - Load Sensing: TV Bigscreen	Standard Power Strip	Per Home	40.7	4	32.97	5%	95%	0.29	0.3	0
Low-Income Manufactured	TV Bigscreen	New	Smart Strip Plug Outlet	Advanced Power Strip - Load Sensing: TV Bigscreen	Standard Power Strip	Per Home	40.7	4	32.97	5%	95%	0.14	0.6	0
Low-Income Manufactured	TV Bigscreen	Existing	Smart Strip Plug Outlet	Advanced Power Strip with Infrared Sensor: TV Bigscreen	Standard Power Strip	Per Home	63.7	4	32.97	8%	95%	0.19	0.5	0
Low-Income Manufactured	TV Bigscreen	New	Smart Strip Plug Outlet	Advanced Power Strip with Infrared Sensor: TV Bigscreen	Standard Power Strip	Per Home	63.7	4	32.97	8%	95%	0.09	1.0	0
Low-Income Manufactured	TV Bigscreen	Existing	Smart Strip Plug Outlet	Advanced Power Strip with Occupancy Sensor: TV Bigscreen	Standard Power Strip	Per Home	46.5	4	99.99	0%	95%	0.78	0.1	0
Low-Income Manufactured	TV Bigscreen	New	Smart Strip Plug Outlet	Advanced Power Strip with Occupancy Sensor: TV Bigscreen	Standard Power Strip	Per Home	46.5	4	99.99	0%	95%	0.65	0.1	0
Low-Income Manufactured	Ventilation And Circulation	Existing	Brushless Fan Motor	Brushless Fan Motor	Standard Motor	Per Home	317.1	18	360.00	75%	90%	0.15	0.9	0
Low-Income Manufactured	Ventilation And Circulation	New	Brushless Fan Motor	Brushless Fan Motor	Standard Motor	Per Home	261.3	18	360.00	100%	90%	0.08	1.7	4



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Manufactured	Ventilation And Circulation	Existing	Furnace Whistle	Furnace Whistle	No Furnace Whistle	Per Home	90.5	14	3.99	80%	90%	0.01	18.5	112
Low-Income Manufactured	Ventilation And Circulation	Existing	High Efficiency Furnace Fan (on existing furnace)	High Efficiency Furnace Fan	Existing Furnace Motor	Per Home	317.1	15	360.00	75%	90%	0.16	0.8	0
Low-Income Manufactured	Ventilation And Circulation	Existing	Residential Whole House Fan	Whole House Fan	No Whole House Fan	Per Home	101.6	15	1153.72	50%	91%	1.60	0.1	0
Low-Income Manufactured	Ventilation And Circulation	New	Residential Whole House Fan	Whole House Fan	No Whole House Fan	Per Home	101.6	15	1153.72	50%	91%	1.60	0.1	0
Low-Income Manufactured	Water Heat GT 55 Gal	Existing	CO2 Heat Pump Water Heater	CO2 Heat Pump Water Heater	Federal Standard 2015 Heat Pump Water Heater > 55 GAL - EF 1.97	Per Installation	1298.5	14	6650.00	90%	100%	0.57	0.2	0
Low-Income Manufactured	Water Heat GT 55 Gal	New	CO2 Heat Pump Water Heater	CO2 Heat Pump Water Heater	Federal Standard 2015 Heat Pump Water Heater > 55 GAL - EF 1.97	Per Installation	1298.5	14	6650.00	90%	100%	0.57	0.2	0
Low-Income Manufactured	Water Heat GT 55 Gal	Existing	Desuperheater (on existing GSHP)	Desuperheater (on existing GSHP)	No Desuperheater	Per Home	567.5	30	250.00	20%	79%	0.05	2.6	0
Low-Income Manufactured	Water Heat GT 55 Gal	Existing	Drain Water Heat Recovery Device	Drain Water Heat Recovery	No Heat Exchanger	Per Home	375.1	25	463.82	30%	90%	0.14	0.9	0
Low-Income Manufactured	Water Heat GT 55 Gal	New	Drain Water Heat Recovery Device	Drain Water Heat Recovery	No Heat Exchanger	Per Home	375.1	25	463.82	60%	90%	0.14	0.9	0
Low-Income Manufactured	Water Heat GT 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Federal Standard 2011 Clothes Washer - MEF 1.26 and WF 9.5 (Electric DHW & Dryer)	Per Home	232.9	11	731.86	99%	72%	0.53	0.2	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Manufactured	Water Heat GT 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Federal Standard 2011 Clothes Washer - MEF 1.26 and WF 9.5 (Electric DHW & Dryer)	Per Home	232.9	11	731.86	99%	72%	0.15	0.7	0
Low-Income Manufactured	Water Heat GT 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Federal Standard 2016 Clothes Washer - MEF 1.72 and WF 8.0 (Electric DHW & Dryer)	Per Home	66.7	11	731.86	99%	72%	1.86	0.1	0
Low-Income Manufactured	Water Heat GT 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Federal Standard 2016 Clothes Washer - MEF 1.72 and WF 8.0 (Electric DHW & Dryer)	Per Home	66.7	11	731.86	99%	72%	0.19	0.5	0
Low-Income Manufactured	Water Heat GT 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2011 Clothes Washer - MEF 1.26 and WF 9.5 (Electric DHW & Dryer)	Per Home	297.7	11	840.98	99%	5%	0.48	0.2	0
Low-Income Manufactured	Water Heat GT 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2011 Clothes Washer - MEF 1.26 and WF 9.5 (Electric DHW & Dryer)	Per Home	297.7	11	840.98	99%	5%	0.18	0.6	0
Low-Income Manufactured	Water Heat GT 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2016 Clothes Washer - MEF 1.72 and WF 8.0 (Electric DHW & Dryer)	Per Home	131.5	11	840.98	99%	5%	1.08	0.1	0
Low-Income Manufactured	Water Heat GT 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2016 Clothes Washer - MEF 1.72 and WF 8.0 (Electric DHW & Dryer)	Per Home	131.5	11	840.98	99%	5%	0.24	0.4	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Manufactured	Water Heat GT 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2018 Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Per Home	67.8	11	840.98	99%	5%	2.10	0.0	0
Low-Income Manufactured	Water Heat GT 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2018 Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Per Home	67.8	11	840.98	99%	5%	0.27	0.4	0
Low-Income Manufactured	Water Heat GT 55 Gal	Existing	ENERGY STAR Dishwashers (Electric Water Heating)	ENERGY STAR Dishwasher - 295 kWh/yr and 4.25 gal/cycle	Federal Standard 2014 Dishwasher - 307 kWh/yr and 5.0 gal/cycle	Per Home	9.5	10	166.40	76%	56%	3.15	0.0	0
Low-Income Manufactured	Water Heat GT 55 Gal	New	ENERGY STAR Dishwashers (Electric Water Heating)	ENERGY STAR Dishwasher - 295 kWh/yr and 4.25 gal/cycle	Federal Standard 2014 Dishwasher - 307 kWh/yr and 5.0 gal/cycle	Per Home	9.5	10	166.40	76%	56%	0.15	0.7	0
Low-Income Manufactured	Water Heat GT 55 Gal	Existing	ENERGY STAR Dishwashers (Gas Water Heating)	ENERGY STAR Dishwasher - 295 kWh/yr and 4.25 gal/cycle	Federal Standard 2014 Dishwasher - 307 kWh/yr and 5.0 gal/cycle	Per Home	9.5	10	166.40	0%	56%	3.15	0.0	0
Low-Income Manufactured	Water Heat GT 55 Gal	New	ENERGY STAR Dishwashers (Gas Water Heating)	ENERGY STAR Dishwasher - 295 kWh/yr and 4.25 gal/cycle	Federal Standard 2014 Dishwasher - 307 kWh/yr and 5.0 gal/cycle	Per Home	9.5	10	166.40	0%	56%	0.15	0.7	0
Low-Income Manufactured	Water Heat GT 55 Gal	Existing	Heat Pump Water Heater	Heat Pump Water Heater	Federal Standard 2015 Heat Pump Water Heater > 55 GAL - EF 1.97	Per Installation	36.0	14	1730.00	90%	100%	0.41	0.3	0
Low-Income Manufactured	Water Heat GT 55 Gal	New	Heat Pump Water Heater	Heat Pump Water Heater	Federal Standard 2015 Heat Pump Water Heater > 55 GAL - EF 1.97	Per Installation	36.0	14	1730.00	90%	100%	0.41	0.3	0
Low-Income Manufactured	Water Heat GT 55 Gal	Existing	Heater Pipe Insulation	R-4 Wrap	No insulation	Per Home	30.0	13	9.00	95%	80%	0.05	2.3	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Manufactured	Water Heat GT 55 Gal	Existing	Low Flow Faucet Aerator (Bathroom/Kitchen)	0.5 GPM	2.2 GPM	Per Home	421.5	12	4.80	95%	95%	0.00	55.6	0
Low-Income Manufactured	Water Heat GT 55 Gal	New	Low Flow Faucet Aerator (Bathroom/Kitchen)	0.5 GPM	2.2 GPM	Per Home	421.5	12	4.80	95%	95%	0.00	353.9	0
Low-Income Manufactured	Water Heat GT 55 Gal	Existing	Low Flow Faucet Aerator (Bathroom/Kitchen)	1.0 GPM	2.2 GPM	Per Home	297.5	12	4.55	95%	80%	0.00	41.4	0
Low-Income Manufactured	Water Heat GT 55 Gal	New	Low Flow Faucet Aerator (Bathroom/Kitchen)	1.0 GPM	2.2 GPM	Per Home	297.5	12	4.55	95%	80%	0.00	374.7	0
Low-Income Manufactured	Water Heat GT 55 Gal	Existing	Low Flow Faucet Aerator (Bathroom/Kitchen)	1.5 GPM	2.2 GPM	Per Home	173.6	12	4.30	95%	61%	0.00	25.6	0
Low-Income Manufactured	Water Heat GT 55 Gal	New	Low Flow Faucet Aerator (Bathroom/Kitchen)	1.5 GPM	2.2 GPM	Per Home	173.6	12	4.30	95%	65%	0.00	437.2	0
Low-Income Manufactured	Water Heat GT 55 Gal	Existing	Low Flow Faucet Aerator (Bathroom/Kitchen)	2.2 GPM	Existing Faucet Aerator (3.0 GPM)	Per Home	198.3	12	4.05	95%	15%	0.00	31.0	0
Low-Income Manufactured	Water Heat GT 55 Gal	Existing	Low Flow Showerhead	1.5 GPM	2.5 GPM	Per Home	334.1	9	6.47	95%	42%	0.00	25.6	0
Low-Income Manufactured	Water Heat GT 55 Gal	New	Low Flow Showerhead	1.5 GPM	2.5 GPM	Per Home	334.1	9	6.47	95%	42%	0.00	38.3	0
Low-Income Manufactured	Water Heat GT 55 Gal	Existing	Low Flow Showerhead	1.75 GPM	2.5 GPM	Per Home	250.6	9	5.39	95%	35%	0.00	23.0	0
Low-Income Manufactured	Water Heat GT 55 Gal	New	Low Flow Showerhead	1.75 GPM	2.5 GPM	Per Home	250.6	9	5.39	95%	75%	0.00	38.3	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Manufactured	Water Heat GT 55 Gal	Existing	Low Flow Showerhead	2.0 GPM	2.5 GPM	Per Home	167.1	9	4.32	95%	45%	0.00	19.2	0
Low-Income Manufactured	Water Heat GT 55 Gal	New	Low Flow Showerhead	2.0 GPM	2.5 GPM	Per Home	167.1	9	4.32	95%	65%	0.00	38.3	0
Low-Income Manufactured	Water Heat GT 55 Gal	Existing	Low Flow Showerhead	2.5 GPM	Existing Showerhead (3.0 GPM)	Per Home	167.1	9	2.16	95%	25%	0.00	38.3	0
Low-Income Manufactured	Water Heat GT 55 Gal	Existing	Showerstart	Add Thermostatic Shower Restriction Valve	No Thermostatic Shower Restriction Valve	Per Home	124.1	10	26.97	90%	100%	0.04	2.5	0
Low-Income Manufactured	Water Heat GT 55 Gal	New	Showerstart	Add Thermostatic Shower Restriction Valve	No Thermostatic Shower Restriction Valve	Per Home	124.1	10	26.97	90%	100%	0.04	2.5	0
Low-Income Manufactured	Water Heat GT 55 Gal	Existing	Solar Water Heaters	Solar Water Heaters	Federal Standard 2015 Heat Pump Water Heater > 55 GAL - EF 1.97	Per Installation	164.6	15	8164.00	90%	100%	5.61	0.0	0
Low-Income Manufactured	Water Heat GT 55 Gal	New	Solar Water Heaters	Solar Water Heaters	Federal Standard 2015 Heat Pump Water Heater > 55 GAL - EF 1.97	Per Installation	164.6	15	8164.00	90%	100%	5.61	0.0	0
Low-Income Manufactured	Water Heat GT 55 Gal	Existing	Water Heater Tank Wrap	Install Insulation (R-10)	No Tank Insulation	Per Home	231.0	7	50.00	25%	92%	0.05	1.9	0
Low-Income Manufactured	Water Heat GT 55 Gal	New	Water Heater Tank Wrap	Install Insulation (R-10)	No Tank Insulation	Per Home	231.0	7	50.00	0%	92%	0.05	1.9	0
Low-Income Manufactured	Water Heat GT 55 Gal	Existing	Water Heater Temperature Setback	120 degrees	130 degrees	Per Home	105.9	4	1.00	95%	15%	0.00	26.3	0
Low-Income Manufactured	Water Heat GT 55 Gal	New	Water Heater Temperature Setback	120 degrees	130 degrees	Per Home	105.9	4	1.00	95%	15%	0.00	26.3	0
Low-Income Manufactured	Water Heat LE 55 Gal	Existing	CO2 Heat Pump Water Heater	CO2 Heat Pump Water Heater	Federal Standard 2015 Storage Water Heater = 55 GAL - EF 0.95	Per Installation	2362.0	14	6650.00	90%	100%	0.37	0.3	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Manufactured	Water Heat LE 55 Gal	New	CO2 Heat Pump Water Heater	CO2 Heat Pump Water Heater	Federal Standard 2015 Storage Water Heater = 55 GAL - EF 0.95	Per Installation	2362.0	14	6650.00	90%	100%	0.37	0.3	0
Low-Income Manufactured	Water Heat LE 55 Gal	Existing	Desuperheater (on existing GSHP)	Desuperheater (on existing GSHP)	No Desuperheater	Per Home	567.5	30	250.00	20%	79%	0.05	2.6	171
Low-Income Manufactured	Water Heat LE 55 Gal	Existing	Drain Water Heat Recovery Device	Drain Water Heat Recovery	No Heat Exchanger	Per Home	375.1	25	463.82	30%	90%	0.14	0.9	0
Low-Income Manufactured	Water Heat LE 55 Gal	New	Drain Water Heat Recovery Device	Drain Water Heat Recovery	No Heat Exchanger	Per Home	375.1	25	463.82	60%	90%	0.14	0.9	0
Low-Income Manufactured	Water Heat LE 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Federal Standard 2011 Clothes Washer - MEF 1.26 and WF 9.5 (Electric DHW & Dryer)	Per Home	232.9	11	731.86	99%	72%	0.53	0.2	0
Low-Income Manufactured	Water Heat LE 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Federal Standard 2011 Clothes Washer - MEF 1.26 and WF 9.5 (Electric DHW & Dryer)	Per Home	232.9	11	731.86	99%	72%	0.15	0.7	0
Low-Income Manufactured	Water Heat LE 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Federal Standard 2016 Clothes Washer - MEF 1.72 and WF 8.0 (Electric DHW & Dryer)	Per Home	66.7	11	731.86	99%	72%	1.86	0.1	0
Low-Income Manufactured	Water Heat LE 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Federal Standard 2016 Clothes Washer - MEF 1.72 and WF 8.0 (Electric DHW & Dryer)	Per Home	66.7	11	731.86	99%	72%	0.19	0.5	0
Low-Income Manufactured	Water Heat LE 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2011 Clothes Washer - MEF 1.26 and WF 9.5 (Electric DHW & Dryer)	Per Home	297.7	11	840.98	99%	5%	0.48	0.2	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Manufactured	Water Heat LE 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2011 Clothes Washer - MEF 1.26 and WF 9.5 (Electric DHW & Dryer)	Per Home	297.7	11	840.98	99%	5%	0.18	0.6	0
Low-Income Manufactured	Water Heat LE 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2016 Clothes Washer - MEF 1.72 and WF 8.0 (Electric DHW & Dryer)	Per Home	131.5	11	840.98	99%	5%	1.08	0.1	0
Low-Income Manufactured	Water Heat LE 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2016 Clothes Washer - MEF 1.72 and WF 8.0 (Electric DHW & Dryer)	Per Home	131.5	11	840.98	99%	5%	0.24	0.4	0
Low-Income Manufactured	Water Heat LE 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2018 Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Per Home	67.8	11	840.98	99%	5%	2.10	0.0	0
Low-Income Manufactured	Water Heat LE 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2018 Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Per Home	67.8	11	840.98	99%	5%	0.27	0.4	0
Low-Income Manufactured	Water Heat LE 55 Gal	Existing	ENERGY STAR Dishwashers (Electric Water Heating)	ENERGY STAR Dishwasher - 295 kWh/yr and 4.25 gal/cycle	Federal Standard 2014 Dishwasher - 307 kWh/yr and 5.0 gal/cycle	Per Home	9.5	10	166.40	76%	56%	3.15	0.0	0
Low-Income Manufactured	Water Heat LE 55 Gal	New	ENERGY STAR Dishwashers (Electric Water Heating)	ENERGY STAR Dishwasher - 295 kWh/yr and 4.25 gal/cycle	Federal Standard 2014 Dishwasher - 307 kWh/yr and 5.0 gal/cycle	Per Home	9.5	10	166.40	76%	56%	0.15	0.7	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Manufactured	Water Heat LE 55 Gal	Existing	ENERGY STAR Dishwashers (Gas Water Heating)	ENERGY STAR Dishwasher - 295 kWh/yr and 4.25 gal/cycle	Federal Standard 2014 Dishwasher - 307 kWh/yr and 5.0 gal/cycle	Per Home	9.5	10	166.40	0%	56%	3.15	0.0	0
Low-Income Manufactured	Water Heat LE 55 Gal	New	ENERGY STAR Dishwashers (Gas Water Heating)	ENERGY STAR Dishwasher - 295 kWh/yr and 4.25 gal/cycle	Federal Standard 2014 Dishwasher - 307 kWh/yr and 5.0 gal/cycle	Per Home	9.5	10	166.40	0%	56%	0.15	0.7	0
Low-Income Manufactured	Water Heat LE 55 Gal	Existing	Efficient Electric Water Heaters	Efficient Electric Water Heaters	Federal Standard 2015 Storage Water Heater = 55 GAL - EF 0.95	Per Installation	65.5	14	866.00	90%	100%	0.26	0.4	0
Low-Income Manufactured	Water Heat LE 55 Gal	New	Efficient Electric Water Heaters	Efficient Electric Water Heaters	Federal Standard 2015 Storage Water Heater = 55 GAL - EF 0.95	Per Installation	65.5	14	866.00	90%	100%	0.26	0.4	0
Low-Income Manufactured	Water Heat LE 55 Gal	Existing	Heat Pump Water Heater	Heat Pump Water Heater	Federal Standard 2015 Storage Water Heater = 55 GAL - EF 0.95	Per Installation	1442.3	14	1695.00	90%	100%	0.10	1.1	1,984
Low-Income Manufactured	Water Heat LE 55 Gal	New	Heat Pump Water Heater	Heat Pump Water Heater	Federal Standard 2015 Storage Water Heater = 55 GAL - EF 0.95	Per Installation	1442.3	14	1695.00	90%	100%	0.10	1.1	54
Low-Income Manufactured	Water Heat LE 55 Gal	Existing	Heater Pipe Insulation	R-4 Wrap	No insulation	Per Home	30.0	13	9.00	95%	80%	0.05	2.3	45
Low-Income Manufactured	Water Heat LE 55 Gal	Existing	Low Flow Faucet Aerator (Bathroom/Kitchen)	0.5 GPM	2.2 GPM	Per Home	421.5	12	4.80	95%	95%	0.00	55.6	1,063
Low-Income Manufactured	Water Heat LE 55 Gal	New	Low Flow Faucet Aerator (Bathroom/Kitchen)	0.5 GPM	2.2 GPM	Per Home	421.5	12	4.80	95%	95%	0.00	353.9	27
Low-Income Manufactured	Water Heat LE 55 Gal	Existing	Low Flow Faucet Aerator (Bathroom/Kitchen)	1.0 GPM	2.2 GPM	Per Home	297.5	12	4.55	95%	80%	0.00	41.4	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Manufactured	Water Heat LE 55 Gal	New	Low Flow Faucet Aerator (Bathroom/Kitchen)	1.0 GPM	2.2 GPM	Per Home	297.5	12	4.55	95%	80%	0.00	374.7	0
Low-Income Manufactured	Water Heat LE 55 Gal	Existing	Low Flow Faucet Aerator (Bathroom/Kitchen)	1.5 GPM	2.2 GPM	Per Home	173.6	12	4.30	95%	61%	0.00	25.6	0
Low-Income Manufactured	Water Heat LE 55 Gal	New	Low Flow Faucet Aerator (Bathroom/Kitchen)	1.5 GPM	2.2 GPM	Per Home	173.6	12	4.30	95%	65%	0.00	437.2	0
Low-Income Manufactured	Water Heat LE 55 Gal	Existing	Low Flow Faucet Aerator (Bathroom/Kitchen)	2.2 GPM	Existing Faucet Aerator (3.0 GPM)	Per Home	198.3	12	4.05	95%	15%	0.00	31.0	79
Low-Income Manufactured	Water Heat LE 55 Gal	Existing	Low Flow Showerhead	1.5 GPM	2.5 GPM	Per Home	334.1	9	6.47	95%	42%	0.00	25.6	376
Low-Income Manufactured	Water Heat LE 55 Gal	New	Low Flow Showerhead	1.5 GPM	2.5 GPM	Per Home	334.1	9	6.47	95%	42%	0.00	38.3	9
Low-Income Manufactured	Water Heat LE 55 Gal	Existing	Low Flow Showerhead	1.75 GPM	2.5 GPM	Per Home	250.6	9	5.39	95%	35%	0.00	23.0	0
Low-Income Manufactured	Water Heat LE 55 Gal	New	Low Flow Showerhead	1.75 GPM	2.5 GPM	Per Home	250.6	9	5.39	95%	75%	0.00	38.3	0
Low-Income Manufactured	Water Heat LE 55 Gal	Existing	Low Flow Showerhead	2.0 GPM	2.5 GPM	Per Home	167.1	9	4.32	95%	45%	0.00	19.2	0
Low-Income Manufactured	Water Heat LE 55 Gal	New	Low Flow Showerhead	2.0 GPM	2.5 GPM	Per Home	167.1	9	4.32	95%	65%	0.00	38.3	0
Low-Income Manufactured	Water Heat LE 55 Gal	Existing	Low Flow Showerhead	2.5 GPM	Existing Showerhead (3.0 GPM)	Per Home	167.1	9	2.16	95%	25%	0.00	38.3	111
Low-Income Manufactured	Water Heat LE 55 Gal	Existing	Showerstart	Add Thermostatic Shower Restriction Valve	No Thermostatic Shower Restriction Valve	Per Home	124.1	10	26.97	90%	100%	0.04	2.5	82

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/c Ratio	Achievable Potential (MWh)
Low-Income Manufactured	Water Heat LE 55 Gal	New	Showerstart	Add Thermostatic Shower Restriction Valve	No Thermostatic Shower Restriction Valve	Per Home	124.1	10	26.97	90%	100%	0.04	2.5	2
Low-Income Manufactured	Water Heat LE 55 Gal	Existing	Solar Water Heaters	Solar Water Heaters	Federal Standard 2015 Storage Water Heater = 55 GAL - EF 0.95	Per Installation	1536.6	15	5986.93	90%	100%	0.48	0.2	0
Low-Income Manufactured	Water Heat LE 55 Gal	New	Solar Water Heaters	Solar Water Heaters	Federal Standard 2015 Storage Water Heater = 55 GAL - EF 0.95	Per Installation	1536.6	15	5986.93	90%	100%	0.48	0.2	0
Low-Income Manufactured	Water Heat LE 55 Gal	Existing	Water Heater Tank Wrap	Install Insulation (R-10)	No Tank Insulation	Per Home	296.7	7	50.00	25%	92%	0.04	2.4	116
Low-Income Manufactured	Water Heat LE 55 Gal	New	Water Heater Tank Wrap	Install Insulation (R-10)	No Tank Insulation	Per Home	296.7	7	50.00	0%	92%	0.04	2.4	0
Low-Income Manufactured	Water Heat LE 55 Gal	Existing	Water Heater Temperature Setback	120 degrees	130 degrees	Per Home	105.9	4	1.00	95%	15%	0.00	26.3	39
Low-Income Manufactured	Water Heat LE 55 Gal	New	Water Heater Temperature Setback	120 degrees	130 degrees	Per Home	105.9	4	1.00	95%	15%	0.00	26.3	1
Low-Income Single Family Detached	Computer Desktop	Existing	ENERGY STAR Computer - Desktop	ENERGY STAR Computer - Desktop	Standard Desktop	Per Installation	70.7	4	1.00	90%	73%	0.01	17.7	1,982
Low-Income Single Family Detached	Computer Desktop	New	ENERGY STAR Computer - Desktop	ENERGY STAR Computer - Desktop	Standard Desktop	Per Installation	70.7	4	1.00	90%	73%	0.01	17.7	57
Low-Income Single Family Detached	Computer Desktop	Existing	Smart Strip Plug Outlet	Advanced Power Strip - Load Sensing: Computer Desktop	Standard Power Strip	Per Home	40.7	4	32.97	39%	95%	0.29	0.3	0
Low-Income Single Family Detached	Computer Desktop	New	Smart Strip Plug Outlet	Advanced Power Strip - Load Sensing: Computer Desktop	Standard Power Strip	Per Home	40.7	4	32.97	39%	95%	0.14	0.6	0
Low-Income Single Family Detached	Computer Desktop	Existing	Smart Strip Plug Outlet	Advanced Power Strip with Infrared Sensor: Computer Desktop	Standard Power Strip	Per Home	63.7	4	32.97	0%	95%	0.19	0.5	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Single Family Detached	Computer Desktop	New	Smart Strip Plug Outlet	Advanced Power Strip with Infrared Sensor: Computer Desktop	Standard Power Strip	Per Home	63.7	4	32.97	0%	95%	0.09	1.0	0
Low-Income Single Family Detached	Computer Desktop	Existing	Smart Strip Plug Outlet	Advanced Power Strip with Occupancy Sensor: Computer Desktop	Standard Power Strip	Per Home	46.5	4	99.99	100%	95%	0.78	0.1	0
Low-Income Single Family Detached	Computer Desktop	New	Smart Strip Plug Outlet	Advanced Power Strip with Occupancy Sensor: Computer Desktop	Standard Power Strip	Per Home	46.5	4	99.99	100%	95%	0.65	0.1	0
Low-Income Single Family Detached	Computer Laptop	Existing	ENERGY STAR Computer - Laptop	ENERGY STAR Computer - Laptop	Standard Laptop	Per Installation	21.5	4	1.00	90%	25%	0.02	5.4	106
Low-Income Single Family Detached	Computer Laptop	New	ENERGY STAR Computer - Laptop	ENERGY STAR Computer - Laptop	Standard Laptop	Per Installation	21.5	4	1.00	90%	25%	0.02	5.4	3
Low-Income Single Family Detached	Cool Central	Existing	Air Sealing	Air Sealing	No Air Sealing	Per Home	104.2	15	911.48	56%	21%	0.45	0.3	0
Low-Income Single Family Detached	Cool Central	New	Air Sealing	Air Sealing	No Air Sealing	Per Home	104.2	15	911.48	0%	21%	0.45	0.3	0
Low-Income Single Family Detached	Cool Central	Existing	Ceiling / Attic Insulation	R-38 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	22.9	25	2831.44	85%	13%	6.02	0.0	0
Low-Income Single Family Detached	Cool Central	Existing	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	7.6	25	3236.96	75%	55%	2.61	0.0	0
Low-Income Single Family Detached	Cool Central	New	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	7.6	25	3236.96	90%	55%	2.61	0.0	0
Low-Income Single Family Detached	Cool Central	Existing	Central AC Maintenance	Tune-up/Maintenance on Central AC	No Tune-up Maintenance on Central AC	Per Home	364.5	7	100.00	95%	84%	0.06	1.8	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Single Family Detached	Cool Central	Existing	Central Air Conditioner - CEE Tier 3	CEE Tier 3 Central Air Conditioner - SEER/EER 16/13 (Split System)	Federal Standard 2015 Central Air Conditioner - SEER 13 (Split System)	Per Installation	237.0	14	6096.81	90%	100%	1.38	0.1	0
Low-Income Single Family Detached	Cool Central	New	Central Air Conditioner - CEE Tier 3	CEE Tier 3 Central Air Conditioner - SEER/EER 16/13 (Split System)	Federal Standard 2015 Central Air Conditioner - SEER 13 (Split System)	Per Installation	195.3	14	5024.12	90%	100%	1.38	0.1	0
Low-Income Single Family Detached	Cool Central	Existing	Central Air Conditioner - Enhanced	Enhanced Central Air Conditioner - SEER/EER 18/14 (Split System)	Federal Standard 2015 Central Air Conditioner - SEER 13 (Split System)	Per Installation	351.1	14	7586.86	90%	100%	1.56	0.1	0
Low-Income Single Family Detached	Cool Central	New	Central Air Conditioner - Enhanced	Enhanced Central Air Conditioner - SEER/EER 18/14 (Split System)	Federal Standard 2015 Central Air Conditioner - SEER 13 (Split System)	Per Installation	289.4	14	6252.00	90%	100%	1.56	0.1	0
Low-Income Single Family Detached	Cool Central	New	Construction - ICF/SIP	Insulating Concrete Form (ICF) or Structural Insulated Panels (SIP)	Standard Wood Framing	Per Home	169.4	40	12529.81	25%	100%	2.70	0.1	0
Low-Income Single Family Detached	Cool Central	Existing	Duct Insulation	R-6 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	32.9	15	403.95	50%	69%	0.97	0.1	0
Low-Income Single Family Detached	Cool Central	Existing	Duct Sealing	Duct Sealing	No Duct Sealing	Per Home	157.9	20	188.51	50%	34%	0.11	1.2	649
Low-Income Single Family Detached	Cool Central	New	Duct Sealing	Duct Sealing	No Duct Sealing	Per Home	157.9	20	188.51	0%	34%	0.11	1.2	0
Low-Income Single Family Detached	Cool Central	Existing	ENERGY STAR Central Air Conditioner	ENERGY STAR Central Air Conditioner - SEER/EER 14.5/12 (Split System)	Federal Standard 2015 Central Air Conditioner - SEER 13 (Split System)	Per Installation	130.8	14	4979.28	90%	100%	1.25	0.1	0
Low-Income Single Family Detached	Cool Central	New	ENERGY STAR Central Air Conditioner	ENERGY STAR Central Air Conditioner - SEER/EER 14.5/12 (Split System)	Federal Standard 2015 Central Air Conditioner - SEER 13 (Split System)	Per Installation	107.8	14	4103.20	90%	100%	1.25	0.1	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Single Family Detached	Cool Central	Existing	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	5.3	15	9237.06	100%	12%	4.08	0.0	0
Low-Income Single Family Detached	Cool Central	New	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	5.3	15	9237.06	100%	12%	4.08	0.0	0
Low-Income Single Family Detached	Cool Central	Existing	Home Energy Reports	Home Energy Reports (Opower, Aclara, C3 Energy, and Simple Energy)	No report	Per Home	150.1	1	10.37	90%	100%	0.09	0.9	0
Low-Income Single Family Detached	Cool Central	New	Home Energy Reports	Home Energy Reports (Opower, Aclara, C3 Energy, and Simple Energy)	No report	Per Home	150.1	1	10.37	90%	100%	0.09	0.9	0
Low-Income Single Family Detached	Cool Central	Existing	Programmable Thermostat	Programmable Thermostat	Manual Thermostat	Per Home	31.6	11	64.00	95%	73%	0.34	0.3	0
Low-Income Single Family Detached	Cool Central	New	Programmable Thermostat	Programmable Thermostat	Manual Thermostat	Per Home	26.1	11	64.00	95%	73%	0.20	0.6	0
Low-Income Single Family Detached	Cool Central	Existing	Proper Sizing of Central Air Conditioner	Proper Sizing - Central Air Conditioner	Oversized Central Air Conditioner	Per Home	79.1	14	186.50	95%	95%	0.35	0.4	0
Low-Income Single Family Detached	Cool Central	New	Proper Sizing of Central Air Conditioner	Proper Sizing - Central Air Conditioner	Oversized Central Air Conditioner	Per Home	65.2	14	186.50	95%	95%	0.42	0.3	0
Low-Income Single Family Detached	Cool Central	Existing	Radiant Barriers	Install Radiant Barrier	No Radiant Barrier	Per Home	48.4	25	565.79	50%	90%	1.33	0.1	0
Low-Income Single Family Detached	Cool Central	New	Radiant Barriers	Install Radiant Barrier	No Radiant Barrier	Per Home	39.9	25	565.79	75%	90%	1.61	0.1	0
Low-Income Single Family Detached	Cool Central	Existing	Smart Thermostat	WiFi Thermostat	Programmable Thermostat	Per Home	118.6	11	261.59	25%	95%	0.28	0.4	0
Low-Income Single Family Detached	Cool Central	New	Smart Thermostat	WiFi Thermostat	Programmable Thermostat	Per Home	97.8	11	261.59	95%	95%	0.34	0.3	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Single Family Detached	Cool Central	Existing	Wall Insulation	R-13 Wall (Max Fill)	Average Existing Wall Insulation	Per Home	78.8	25	2218.89	75%	62%	3.20	0.0	0
Low-Income Single Family Detached	Cool Central	Existing	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	12.9	25	4098.96	20%	14%	9.52	0.0	0
Low-Income Single Family Detached	Cool Central	New	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	12.9	25	4098.96	95%	14%	9.52	0.0	0
Low-Income Single Family Detached	Cool Central	Existing	Window Film	Window Film	No Window Film	Per Home	28.4	20	937.15	38%	95%	4.07	0.0	0
Low-Income Single Family Detached	Cool Central	New	Window Film	Window Film	No Window Film	Per Home	16.3	20	937.15	0%	95%	7.09	0.0	0
Low-Income Single Family Detached	Cool Central	Existing	Windows	U-0.35 (IECC 2009 - Zone 5)	Average Existing Window	Per Home	5.3	15	8281.93	100%	12%	19.95	0.0	0
Low-Income Single Family Detached	Cool Room	Existing	Air Sealing	Air Sealing	No Air Sealing	Per Home	39.6	15	911.48	56%	21%	0.06	1.8	285
Low-Income Single Family Detached	Cool Room	New	Air Sealing	Air Sealing	No Air Sealing	Per Home	39.6	15	911.48	0%	21%	0.06	1.8	0
Low-Income Single Family Detached	Cool Room	Existing	Ceiling / Attic Insulation	R-38 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	11.6	25	2831.44	85%	13%	0.87	0.1	0
Low-Income Single Family Detached	Cool Room	Existing	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	3.8	25	3236.96	75%	55%	0.37	0.3	0
Low-Income Single Family Detached	Cool Room	New	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	3.8	25	3236.96	90%	55%	0.37	0.3	0
Low-Income Single Family Detached	Cool Room	New	Construction - ICF/SIP	Insulating Concrete Form (ICF) or Structural Insulated Panels (SIP)	Standard Wood Framing	Per Home	18.3	40	12529.81	25%	100%	24.95	0.0	0
Low-Income Single Family Detached	Cool Room	Existing	Ductless Mini-Split HP / AC	Ductless Air Conditioner - SEER/EER 18/12.5	Federal Standard 2014 Room AC - CEER/EER 10.9/11.0 (8,000-13,999 Btuh)	Per Installation	50.0	9	1904.17	90%	100%	6.83	0.0	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Single Family Detached	Cool Room	New	Ductless Mini-Split HP / AC	Ductless Air Conditioner - SEER/EER 18/12.5	Federal Standard 2014 Room AC - CEER/EER 10.9/11.0 (8,000-13,999 Btuh)	Per Installation	50.0	9	1904.17	90%	100%	6.83	0.0	0
Low-Income Single Family Detached	Cool Room	Existing	ENERGY STAR Room Air Conditioner	ENERGY STAR Room AC - CEER/EER 11.2/11.3 (8,000-13,999 Btuh)	Federal Standard 2014 Room AC - CEER/EER 10.9/11.0 (8,000-13,999 Btuh)	Per Installation	3.4	9	220.00	90%	100%	2.27	0.0	0
Low-Income Single Family Detached	Cool Room	New	ENERGY STAR Room Air Conditioner	ENERGY STAR Room AC - CEER/EER 11.2/11.3 (8,000-13,999 Btuh)	Federal Standard 2014 Room AC - CEER/EER 10.9/11.0 (8,000-13,999 Btuh)	Per Installation	3.4	9	220.00	90%	100%	2.27	0.0	0
Low-Income Single Family Detached	Cool Room	Existing	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	5.3	15	9237.06	100%	12%	0.66	0.2	0
Low-Income Single Family Detached	Cool Room	New	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	5.3	15	9237.06	100%	12%	0.66	0.2	0
Low-Income Single Family Detached	Cool Room	Existing	Radiant Barriers	Install Radiant Barrier	No Radiant Barrier	Per Home	4.3	25	565.79	50%	90%	14.90	0.0	0
Low-Income Single Family Detached	Cool Room	New	Radiant Barriers	Install Radiant Barrier	No Radiant Barrier	Per Home	4.3	25	565.79	75%	90%	14.90	0.0	0
Low-Income Single Family Detached	Cool Room	Existing	Room AC Retirement	Proper Disposal of Room AC	Existing Non-Efficient Room AC	Per Home	167.9	4	60.00	8%	65%	0.13	0.8	0
Low-Income Single Family Detached	Cool Room	Existing	Wall Insulation	R-13 Wall (Max Fill)	Average Existing Wall Insulation	Per Home	39.7	25	2218.89	75%	62%	6.35	0.0	0
Low-Income Single Family Detached	Cool Room	Existing	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	6.5	25	4098.96	20%	14%	18.90	0.0	0
Low-Income Single Family Detached	Cool Room	New	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	6.5	25	4098.96	95%	14%	18.90	0.0	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Single Family Detached	Cool Room	Existing	Window Film	Window Film	No Window Film	Per Home	2.5	20	937.15	38%	95%	45.64	0.0	0
Low-Income Single Family Detached	Cool Room	New	Window Film	Window Film	No Window Film	Per Home	1.8	20	937.15	0%	95%	65.49	0.0	0
Low-Income Single Family Detached	Cool Room	Existing	Windows	U-0.35 (IECC 2009 - Zone 5)	Average Existing Window	Per Home	5.3	15	8281.93	100%	12%	19.95	0.0	0
Low-Income Single Family Detached	Copier	Existing	ENERGY STAR Copier	ENERGY STAR Copier	Standard Office Copier	Per Installation	81.4	6	1.00	90%	20%	0.00	29.2	85
Low-Income Single Family Detached	Copier	New	ENERGY STAR Copier	ENERGY STAR Copier	Standard Office Copier	Per Installation	81.4	6	1.00	90%	20%	0.00	29.2	3
Low-Income Single Family Detached	Dehumidifier	Existing	ENERGY STAR Dehumidifiers	ENERGY STAR Dehumidifier	Federal Standard 2013 Dehumidifier	Per Installation	169.6	12	242.54	90%	100%	0.02	5.4	665
Low-Income Single Family Detached	Dehumidifier	New	ENERGY STAR Dehumidifiers	ENERGY STAR Dehumidifier	Federal Standard 2013 Dehumidifier	Per Installation	169.6	12	242.54	90%	100%	0.02	5.4	31
Low-Income Single Family Detached	Dryer	Existing	ENERGY STAR Dryer - CEF/EF 3.93/4.04	ENERGY STAR Dryer - CEF/EF 3.93/4.04	Federal Standard 2015 Dryer - CEF/EF 3.73/3.83	Per Installation	27.4	13	812.57	90%	100%	0.29	0.4	0
Low-Income Single Family Detached	Dryer	New	ENERGY STAR Dryer - CEF/EF 3.93/4.04	ENERGY STAR Dryer - CEF/EF 3.93/4.04	Federal Standard 2015 Dryer - CEF/EF 3.73/3.83	Per Installation	27.4	13	812.57	90%	100%	0.29	0.4	0
Low-Income Single Family Detached	Dryer	Existing	Heat Pump Dryer	Heat Pump Dryer	Federal Standard 2015 Dryer - CEF/EF 3.73/3.83	Per Installation	277.6	13	1169.99	90%	100%	0.23	0.5	0
Low-Income Single Family Detached	Dryer	New	Heat Pump Dryer	Heat Pump Dryer	Federal Standard 2015 Dryer - CEF/EF 3.73/3.83	Per Installation	277.6	13	1169.99	90%	100%	0.23	0.5	0
Low-Income Single Family Detached	Fax	Existing	ENERGY STAR Fax Machine	ENERGY STAR Fax Machine	Standard Fax Machine	Per Installation	15.6	4	60.00	90%	20%	1.39	0.1	0
Low-Income Single Family Detached	Fax	New	ENERGY STAR Fax Machine	ENERGY STAR Fax Machine	Standard Fax Machine	Per Installation	15.6	4	60.00	90%	20%	1.39	0.1	0
Low-Income Single Family Detached	Freezer	Existing	ENERGY STAR Freezers	ENERGY STAR Freezer	Federal Standard 2015 Freezer	Per Installation	34.3	12	6.61	90%	100%	0.03	3.3	748



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Single Family Detached	Freezer	New	ENERGY STAR Freezers	ENERGY STAR Freezer	Federal Standard 2015 Freezer	Per Installation	34.3	12	6.61	90%	100%	0.03	3.3	30
Low-Income Single Family Detached	Freezer	Existing	Refrigerator / Freezer Recycling with Replacement	Proper Disposal of Refrigerator/Freezer and Replacing with New Unit	Existing Non-Efficient Refrigerator/Freezer	Per Home	547.7	7	120.00	18%	94%	0.05	1.9	3,302
Low-Income Single Family Detached	Freezer	Existing	Refrigerator / Freezer Recycling without Replacement	Proper Disposal of Refrigerator/Freezer	Existing Non-Efficient Refrigerator/Freezer	Per Home	1072.9	8	120.00	2%	94%	0.02	4.1	609
Low-Income Single Family Detached	Heat Central	Existing	Air Sealing	Air Sealing	No Air Sealing	Per Home	4629.2	15	911.48	56%	21%	0.03	3.8	327
Low-Income Single Family Detached	Heat Central	New	Air Sealing	Air Sealing	No Air Sealing	Per Home	4629.2	15	911.48	0%	21%	0.03	3.8	0
Low-Income Single Family Detached	Heat Central	Existing	Basement / Crawlspace Wall Insulation	R-13 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	1226.1	25	1259.55	63%	35%	0.12	1.0	13
Low-Income Single Family Detached	Heat Central	Existing	Basement / Crawlspace Wall Insulation	R-21 (Above Code)	R-13 (IECC 2009 - Zone 5)	Per Home	707.7	25	1714.00	47%	77%	0.07	1.6	14
Low-Income Single Family Detached	Heat Central	New	Basement / Crawlspace Wall Insulation	R-21 (Above Code)	R-13 (IECC 2009 - Zone 5)	Per Home	707.7	25	1714.00	63%	77%	0.07	1.6	2
Low-Income Single Family Detached	Heat Central	Existing	Ceiling / Attic Insulation	R-38 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	764.6	25	2831.44	85%	13%	0.42	0.3	0
Low-Income Single Family Detached	Heat Central	Existing	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	252.9	25	3236.96	75%	55%	0.18	0.6	0
Low-Income Single Family Detached	Heat Central	New	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	252.9	25	3236.96	90%	55%	0.18	0.6	0
Low-Income Single Family Detached	Heat Central	New	Construction - ICF/SIP	Insulating Concrete Form (ICF) or Structural Insulated Panels (SIP)	Standard Wood Framing	Per Home	1411.6	40	12529.81	25%	100%	0.32	0.4	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Single Family Detached	Heat Central	Existing	Duct Insulation	R-6 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	646.7	15	403.95	50%	69%	0.09	1.2	111
Low-Income Single Family Detached	Heat Central	Existing	Duct Sealing	Duct Sealing	No Duct Sealing	Per Home	1561.2	20	188.51	50%	34%	0.01	7.6	163
Low-Income Single Family Detached	Heat Central	New	Duct Sealing	Duct Sealing	No Duct Sealing	Per Home	1561.2	20	188.51	0%	34%	0.01	7.6	0
Low-Income Single Family Detached	Heat Central	Existing	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	696.7	15	9237.06	100%	12%	0.19	0.5	0
Low-Income Single Family Detached	Heat Central	New	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	696.7	15	9237.06	100%	12%	0.19	0.5	0
Low-Income Single Family Detached	Heat Central	Existing	Floor Insulation	R-30 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	872.3	25	2751.01	20%	50%	0.36	0.3	0
Low-Income Single Family Detached	Heat Central	Existing	Floor Insulation	R-38 (Above Code)	R-30 (IECC 2009 - Zone 5)	Per Home	300.4	25	3308.71	20%	50%	0.21	0.6	0
Low-Income Single Family Detached	Heat Central	New	Floor Insulation	R-38 (Above Code)	R-30 (IECC 2009 - Zone 5)	Per Home	300.4	25	3308.71	20%	50%	0.21	0.6	0
Low-Income Single Family Detached	Heat Central	Existing	Programmable Thermostat	Programmable Thermostat	Manual Thermostat	Per Home	474.4	11	64.00	95%	73%	0.02	4.3	238
Low-Income Single Family Detached	Heat Central	New	Programmable Thermostat	Programmable Thermostat	Manual Thermostat	Per Home	390.9	11	64.00	95%	73%	0.01	7.3	4
Low-Income Single Family Detached	Heat Central	Existing	Smart Thermostat	WiFi Thermostat	Programmable Thermostat	Per Home	777.4	11	261.59	25%	95%	0.04	2.3	137
Low-Income Single Family Detached	Heat Central	New	Smart Thermostat	WiFi Thermostat	Programmable Thermostat	Per Home	640.6	11	261.59	95%	95%	0.05	1.9	12
Low-Income Single Family Detached	Heat Central	Existing	Wall Insulation	R-13 Wall (Max Fill)	Average Existing Wall Insulation	Per Home	2628.9	25	2218.89	75%	62%	0.10	1.2	674
Low-Income Single Family Detached	Heat Central	Existing	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	429.9	25	4098.96	20%	14%	0.29	0.4	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Single Family Detached	Heat Central	New	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	429.9	25	4098.96	95%	14%	0.29	0.4	0
Low-Income Single Family Detached	Heat Central	Existing	Windows	U-0.35 (IECC 2009 - Zone 5)	Average Existing Window	Per Home	696.7	15	8281.93	100%	12%	0.15	0.7	0
Low-Income Single Family Detached	Heat Pump	Existing	Air Sealing	Air Sealing	No Air Sealing	Per Home	2812.4	15	911.48	56%	21%	0.05	2.4	3,931
Low-Income Single Family Detached	Heat Pump	New	Air Sealing	Air Sealing	No Air Sealing	Per Home	2812.4	15	911.48	0%	21%	0.05	2.4	0
Low-Income Single Family Detached	Heat Pump	Existing	Air Source Heat Pump Maintenance	Tune-up/Maintenance on Air Source Heat Pump	No Tune-up Maintenance on Air Source Heat Pump	Per Home	358.6	7	100.00	95%	84%	0.06	1.5	3,757
Low-Income Single Family Detached	Heat Pump	Existing	Basement / Crawlspace Wall Insulation	R-13 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	543.3	25	1259.55	63%	35%	0.26	0.5	0
Low-Income Single Family Detached	Heat Pump	Existing	Basement / Crawlspace Wall Insulation	R-21 (Above Code)	R-13 (IECC 2009 - Zone 5)	Per Home	313.6	25	1714.00	47%	77%	0.16	0.7	0
Low-Income Single Family Detached	Heat Pump	New	Basement / Crawlspace Wall Insulation	R-21 (Above Code)	R-13 (IECC 2009 - Zone 5)	Per Home	313.6	25	1714.00	63%	77%	0.16	0.7	0
Low-Income Single Family Detached	Heat Pump	Existing	Ceiling / Attic Insulation	R-38 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	338.8	25	2831.44	85%	13%	0.95	0.1	0
Low-Income Single Family Detached	Heat Pump	Existing	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	112.1	25	3236.96	75%	55%	0.41	0.3	0
Low-Income Single Family Detached	Heat Pump	New	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	112.1	25	3236.96	90%	55%	0.41	0.3	0
Low-Income Single Family Detached	Heat Pump	Existing	Cold Climate Heat Pump	Cold Climate Heat Pump - SEER/EER 21.5/12 and HSPF 10.3 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	1591.2	12	8772.08	90%	100%	0.26	0.4	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Single Family Detached	Heat Pump	New	Cold Climate Heat Pump	Cold Climate Heat Pump - SEER/EER 21.5/12 and HSPF 10.3 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	1311.3	12	7228.69	90%	100%	0.26	0.4	0
Low-Income Single Family Detached	Heat Pump	New	Construction - ICF/SIP	Insulating Concrete Form (ICF) or Structural Insulated Panels (SIP)	Standard Wood Framing	Per Home	869.1	40	12529.81	25%	100%	0.53	0.2	0
Low-Income Single Family Detached	Heat Pump	Existing	Duct Insulation	R-6 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	354.0	15	403.95	50%	69%	0.16	0.7	0
Low-Income Single Family Detached	Heat Pump	Existing	Duct Sealing	Duct Sealing	No Duct Sealing	Per Home	807.5	20	188.51	50%	34%	0.03	4.0	1,663
Low-Income Single Family Detached	Heat Pump	New	Duct Sealing	Duct Sealing	No Duct Sealing	Per Home	807.5	20	188.51	0%	34%	0.03	4.0	0
Low-Income Single Family Detached	Heat Pump	Existing	ENERGY STAR Air Source Heat Pump	ENERGY STAR Air Source Heat Pump - SEER/EER 14.5/12 and HSPF 8.2 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	40.5	12	6496.62	90%	100%	1.07	0.1	0
Low-Income Single Family Detached	Heat Pump	New	ENERGY STAR Air Source Heat Pump	ENERGY STAR Air Source Heat Pump - SEER/EER 14.5/12 and HSPF 8.2 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	33.4	12	5353.59	90%	100%	1.07	0.1	0
Low-Income Single Family Detached	Heat Pump	Existing	ENERGY STAR Ground Source Heat Pump	ENERGY STAR Ground Source Heat Pump - EER 17.1 and 3.6 COP (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	2140.8	15	16800.82	90%	100%	0.70	0.2	0
Low-Income Single Family Detached	Heat Pump	New	ENERGY STAR Ground Source Heat Pump	ENERGY STAR Ground Source Heat Pump - EER 17.1 and 3.6 COP (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	1764.1	15	13844.83	90%	100%	0.70	0.2	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Single Family Detached	Heat Pump	Existing	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	393.0	15	9237.06	100%	12%	0.34	0.3	0
Low-Income Single Family Detached	Heat Pump	New	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	393.0	15	9237.06	100%	12%	0.34	0.3	0
Low-Income Single Family Detached	Heat Pump	Existing	Floor Insulation	R-30 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	419.6	25	2751.01	20%	50%	0.75	0.2	0
Low-Income Single Family Detached	Heat Pump	Existing	Floor Insulation	R-38 (Above Code)	R-30 (IECC 2009 - Zone 5)	Per Home	144.5	25	3308.71	20%	50%	0.44	0.3	0
Low-Income Single Family Detached	Heat Pump	New	Floor Insulation	R-38 (Above Code)	R-30 (IECC 2009 - Zone 5)	Per Home	144.5	25	3308.71	20%	50%	0.44	0.3	0
Low-Income Single Family Detached	Heat Pump	Existing	Heat Pump - Air Source CEE Tier 2	CEE Tier 2 Air Source Heat Pump - SEER/EER 15/12.5 and HSPF 8.5 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	282.8	12	6767.88	90%	100%	0.31	0.3	0
Low-Income Single Family Detached	Heat Pump	New	Heat Pump - Air Source CEE Tier 2	CEE Tier 2 Air Source Heat Pump - SEER/EER 15/12.5 and HSPF 8.5 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	233.1	12	5577.12	90%	100%	0.31	0.3	0
Low-Income Single Family Detached	Heat Pump	Existing	Heat Pump - Air Source Enhanced	Enhanced Air Source Heat Pump - SEER/EER 18/14 and HSPF 9.5 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	1054.0	12	10294.20	90%	100%	0.62	0.2	0
Low-Income Single Family Detached	Heat Pump	New	Heat Pump - Air Source Enhanced	Enhanced Air Source Heat Pump - SEER/EER 18/14 and HSPF 9.5 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	868.6	12	8483.01	90%	100%	0.62	0.2	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Single Family Detached	Heat Pump	Existing	Heat Pump - Air Source Premium	Premium Air Source Heat Pump - SEER/EER 16/13 and HSPF 9.0 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	662.0	12	7310.39	90%	100%	0.26	0.4	0
Low-Income Single Family Detached	Heat Pump	New	Heat Pump - Air Source Premium	Premium Air Source Heat Pump - SEER/EER 16/13 and HSPF 9.0 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	545.5	12	6024.18	90%	100%	0.26	0.4	0
Low-Income Single Family Detached	Heat Pump	Existing	Programmable Thermostat	Programmable Thermostat	Manual Thermostat	Per Home	267.2	11	64.00	95%	73%	0.04	2.5	2,645
Low-Income Single Family Detached	Heat Pump	New	Programmable Thermostat	Programmable Thermostat	Manual Thermostat	Per Home	221.7	11	64.00	95%	73%	0.02	4.2	45
Low-Income Single Family Detached	Heat Pump	Existing	Radiant Barriers	Install Radiant Barrier	No Radiant Barrier	Per Home	88.2	25	565.79	50%	90%	0.73	0.2	0
Low-Income Single Family Detached	Heat Pump	New	Radiant Barriers	Install Radiant Barrier	No Radiant Barrier	Per Home	72.7	25	565.79	75%	90%	0.89	0.1	0
Low-Income Single Family Detached	Heat Pump	Existing	Smart Thermostat	WiFi Thermostat	Programmable Thermostat	Per Home	503.5	11	261.59	25%	95%	0.07	1.5	1,762
Low-Income Single Family Detached	Heat Pump	New	Smart Thermostat	WiFi Thermostat	Programmable Thermostat	Per Home	413.4	11	261.59	95%	95%	0.08	1.2	148
Low-Income Single Family Detached	Heat Pump	Existing	Wall Insulation	R-13 Wall (Max Fill)	Average Existing Wall Insulation	Per Home	1243.7	25	2218.89	75%	62%	0.20	0.6	0
Low-Income Single Family Detached	Heat Pump	Existing	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	203.4	25	4098.96	20%	14%	0.60	0.2	0
Low-Income Single Family Detached	Heat Pump	New	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	203.4	25	4098.96	95%	14%	0.60	0.2	0
Low-Income Single Family Detached	Heat Pump	Existing	Window Film	Window Film	No Window Film	Per Home	28.2	20	937.15	38%	95%	4.11	0.0	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Single Family Detached	Heat Pump	New	Window Film	Window Film	No Window Film	Per Home	16.2	20	937.15	0%	95%	7.16	0.0	0
Low-Income Single Family Detached	Heat Pump	Existing	Windows	U-0.35 (IECC 2009 - Zone 5)	Average Existing Window	Per Home	393.0	15	8281.93	100%	12%	0.27	0.4	0
Low-Income Single Family Detached	Heat Room	Existing	Air Sealing	Air Sealing	No Air Sealing	Per Home	4629.2	15	911.48	56%	21%	0.03	3.8	12,329
Low-Income Single Family Detached	Heat Room	New	Air Sealing	Air Sealing	No Air Sealing	Per Home	4629.2	15	911.48	0%	21%	0.03	3.8	0
Low-Income Single Family Detached	Heat Room	Existing	Basement / Crawlspace Wall Insulation	R-13 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	1226.1	25	1259.55	63%	35%	0.12	1.0	433
Low-Income Single Family Detached	Heat Room	Existing	Basement / Crawlspace Wall Insulation	R-21 (Above Code)	R-13 (IECC 2009 - Zone 5)	Per Home	707.7	25	1714.00	47%	77%	0.07	1.6	510
Low-Income Single Family Detached	Heat Room	New	Basement / Crawlspace Wall Insulation	R-21 (Above Code)	R-13 (IECC 2009 - Zone 5)	Per Home	707.7	25	1714.00	63%	77%	0.07	1.6	65
Low-Income Single Family Detached	Heat Room	Existing	Ceiling / Attic Insulation	R-38 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	764.6	25	2831.44	85%	13%	0.42	0.3	0
Low-Income Single Family Detached	Heat Room	Existing	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	252.9	25	3236.96	75%	55%	0.18	0.6	0
Low-Income Single Family Detached	Heat Room	New	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	252.9	25	3236.96	90%	55%	0.18	0.6	0
Low-Income Single Family Detached	Heat Room	New	Construction - ICF/SIP	Insulating Concrete Form (ICF) or Structural Insulated Panels (SIP)	Standard Wood Framing	Per Home	819.4	40	12529.81	25%	100%	0.56	0.2	0
Low-Income Single Family Detached	Heat Room	Existing	Ductless Mini-Split HP / AC	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0	Standard Baseboard Heating - HSPF 3.41	Per Installation	3994.0	15	6472.91	90%	100%	0.21	0.5	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Single Family Detached	Heat Room	New	Ductless Mini-Split HP / AC	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0	Standard Baseboard Heating - HSPF 3.41	Per Installation	3291.3	15	5334.04	90%	100%	0.21	0.5	0
Low-Income Single Family Detached	Heat Room	Existing	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	393.0	15	9237.06	100%	12%	0.34	0.3	0
Low-Income Single Family Detached	Heat Room	New	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	393.0	15	9237.06	100%	12%	0.34	0.3	0
Low-Income Single Family Detached	Heat Room	Existing	Floor Insulation	R-30 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	445.7	25	2751.01	20%	50%	0.70	0.2	0
Low-Income Single Family Detached	Heat Room	Existing	Floor Insulation	R-38 (Above Code)	R-30 (IECC 2009 - Zone 5)	Per Home	153.5	25	3308.71	20%	50%	0.41	0.3	0
Low-Income Single Family Detached	Heat Room	New	Floor Insulation	R-38 (Above Code)	R-30 (IECC 2009 - Zone 5)	Per Home	153.5	25	3308.71	20%	50%	0.41	0.3	0
Low-Income Single Family Detached	Heat Room	Existing	Wall Insulation	R-13 Wall (Max Fill)	Average Existing Wall Insulation	Per Home	2628.9	25	2218.89	75%	62%	0.10	1.2	24,613
Low-Income Single Family Detached	Heat Room	Existing	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	429.9	25	4098.96	20%	14%	0.29	0.4	0
Low-Income Single Family Detached	Heat Room	New	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	429.9	25	4098.96	95%	14%	0.29	0.4	0
Low-Income Single Family Detached	Heat Room	Existing	Windows	U-0.35 (IECC 2009 - Zone 5)	Average Existing Window	Per Home	393.0	15	8281.93	100%	12%	0.27	0.4	0
Low-Income Single Family Detached	Lighting Exterior	Existing	ENERGY STAR General Service CFL	High Efficiency General Service Lamp -CFL	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	48.5	5	2.97	90%	100%	0.01	10.9	0
Low-Income Single Family Detached	Lighting Exterior	New	ENERGY STAR General Service CFL	High Efficiency General Service Lamp -CFL	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	48.5	5	2.97	90%	100%	0.01	10.9	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Single Family Detached	Lighting Exterior	Existing	ENERGY STAR General Service LED	Premium Efficiency General Service Lamp -LED	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	51.8	15	12.76	90%	100%	0.05	2.5	8,061
Low-Income Single Family Detached	Lighting Exterior	New	ENERGY STAR General Service LED	Premium Efficiency General Service Lamp -LED	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	51.8	15	12.76	90%	100%	0.05	2.5	156
Low-Income Single Family Detached	Lighting Exterior	Existing	Lighting General Service Lamp - EISA Standard 2020	EISA Standard 2020 General Service Lamp - Incandescent	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	48.5	5	2.97	90%	100%	0.01	10.9	0
Low-Income Single Family Detached	Lighting Exterior	New	Lighting General Service Lamp - EISA Standard 2020	EISA Standard 2020 General Service Lamp - Incandescent	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	48.5	5	2.97	90%	100%	0.01	10.9	0
Low-Income Single Family Detached	Lighting Exterior	Existing	Residential Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Home	26.2	10	497.17	20%	83%	3.42	0.0	0
Low-Income Single Family Detached	Lighting Exterior	New	Residential Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Home	26.2	10	497.17	20%	83%	3.42	0.0	0
Low-Income Single Family Detached	Lighting Interior Linear Fluorescent	Existing	ENERGY STAR Indoor Fluorescent Fixture	ENERGY STAR Indoor T8 Fluorescent Fixture	Standard Indoor T12 Fixture	Per Installation	13.4	13	57.65	90%	100%	0.60	0.2	0
Low-Income Single Family Detached	Lighting Interior Linear Fluorescent	New	ENERGY STAR Indoor Fluorescent Fixture	ENERGY STAR Indoor T8 Fluorescent Fixture	Standard Indoor T12 Fixture	Per Installation	13.4	13	57.65	90%	100%	0.60	0.2	0
Low-Income Single Family Detached	Lighting Interior Linear Fluorescent	Existing	Residential Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Home	18.9	10	497.17	20%	83%	4.74	0.0	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Single Family Detached	Lighting Interior Linear Fluorescent	New	Residential Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Home	18.9	10	497.17	20%	83%	4.74	0.0	0
Low-Income Single Family Detached	Lighting Interior Specialty	Existing	ENERGY STAR Specialty CFL	High Efficiency Specialty Lamp -CFL	Standard Specialty Lamp - Incandescent	Per Installation	35.4	5	4.83	90%	100%	0.01	7.4	0
Low-Income Single Family Detached	Lighting Interior Specialty	New	ENERGY STAR Specialty CFL	High Efficiency Specialty Lamp -CFL	Standard Specialty Lamp - Incandescent	Per Installation	35.4	5	4.83	90%	100%	0.01	7.4	0
Low-Income Single Family Detached	Lighting Interior Specialty	Existing	ENERGY STAR Specialty LED	Premium Efficiency Specialty Lamp -LED	Standard Specialty Lamp - Incandescent	Per Installation	36.8	15	9.08	90%	100%	0.05	2.4	39,448
Low-Income Single Family Detached	Lighting Interior Specialty	New	ENERGY STAR Specialty LED	Premium Efficiency Specialty Lamp -LED	Standard Specialty Lamp - Incandescent	Per Installation	36.8	15	9.08	90%	100%	0.05	2.4	507
Low-Income Single Family Detached	Lighting Interior Specialty	Existing	Electroluminescent Nightlight	Electroluminescent Nightlight	Incandescent Nightlight	Per Home	30.4	8	4.20	44%	91%	0.03	3.4	3,496
Low-Income Single Family Detached	Lighting Interior Specialty	New	Electroluminescent Nightlight	Electroluminescent Nightlight	Incandescent Nightlight	Per Home	30.4	8	4.20	44%	91%	0.02	5.3	67
Low-Income Single Family Detached	Lighting Interior Specialty	Existing	Holiday Lights	LED Holiday Lights	Incandescent Holiday Lights	Per Home	10.6	10	12.00	50%	83%	0.20	0.5	0
Low-Income Single Family Detached	Lighting Interior Specialty	New	Holiday Lights	LED Holiday Lights	Incandescent Holiday Lights	Per Home	10.6	10	12.00	50%	83%	0.12	0.9	0
Low-Income Single Family Detached	Lighting Interior Specialty	Existing	LED Nightlight	LED Nightlight	Incandescent Nightlight	Per Home	26.3	10	2.00	44%	60%	0.01	7.4	0
Low-Income Single Family Detached	Lighting Interior Specialty	New	LED Nightlight	LED Nightlight	Incandescent Nightlight	Per Home	26.3	10	2.00	44%	60%	0.00	29.6	0
Low-Income Single Family Detached	Lighting Interior Specialty	Existing	Residential Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Home	13.3	10	497.17	20%	83%	6.75	0.0	0
Low-Income Single Family Detached	Lighting Interior Specialty	New	Residential Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Home	13.3	10	497.17	20%	83%	6.75	0.0	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Single Family Detached	Lighting Interior Standard	Existing	ENERGY STAR General Service CFL	High Efficiency General Service Lamp -CFL	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	27.3	5	2.72	90%	100%	0.01	7.8	0
Low-Income Single Family Detached	Lighting Interior Standard	New	ENERGY STAR General Service CFL	High Efficiency General Service Lamp -CFL	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	27.3	5	2.72	90%	100%	0.01	7.8	0
Low-Income Single Family Detached	Lighting Interior Standard	Existing	ENERGY STAR General Service LED	Premium Efficiency General Service Lamp -LED	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	29.3	15	10.47	90%	100%	0.07	1.7	63,355
Low-Income Single Family Detached	Lighting Interior Standard	New	ENERGY STAR General Service LED	Premium Efficiency General Service Lamp -LED	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	29.3	15	10.47	90%	100%	0.07	1.7	1,079
Low-Income Single Family Detached	Lighting Interior Standard	Existing	Lighting General Service Lamp - EISA Standard 2020	EISA Standard 2020 General Service Lamp - Incandescent	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	27.3	5	2.72	90%	100%	0.01	7.8	0
Low-Income Single Family Detached	Lighting Interior Standard	New	Lighting General Service Lamp - EISA Standard 2020	EISA Standard 2020 General Service Lamp - Incandescent	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	27.3	5	2.72	90%	100%	0.01	7.8	0
Low-Income Single Family Detached	Lighting Interior Standard	Existing	Residential Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Home	14.7	10	497.17	20%	83%	6.11	0.0	0
Low-Income Single Family Detached	Lighting Interior Standard	New	Residential Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Home	14.7	10	497.17	20%	83%	6.11	0.0	0
Low-Income Single Family Detached	Monitor	Existing	ENERGY STAR Monitor	ENERGY STAR Monitor	Standard Monitor	Per Installation	23.8	4	1.00	90%	24%	0.02	6.0	70
Low-Income Single Family Detached	Monitor	New	ENERGY STAR Monitor	ENERGY STAR Monitor	Standard Monitor	Per Installation	23.8	4	1.00	90%	24%	0.02	6.0	2

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Single Family Detached	Multifunction Device	Existing	ENERGY STAR Multifunction	ENERGY STAR Multifunction Device "All-In-One" Imaging Equipment	Standard Multifunction Device "All-In-One" Imaging Equipment	Per Installation	109.0	6	1.00	90%	100%	0.00	39.1	250
Low-Income Single Family Detached	Multifunction Device	New	ENERGY STAR Multifunction	ENERGY STAR Multifunction Device "All-In-One" Imaging Equipment	Standard Multifunction Device "All-In-One" Imaging Equipment	Per Installation	109.0	6	1.00	90%	100%	0.00	39.1	9
Low-Income Single Family Detached	Plug Load Other	Existing	ENERGY STAR Air Purifier/Cleaner	ENERGY STAR Air Purifier/Cleaner	Standard Air Purifier/Cleaner	Per Home	52.2	9	0.13	100%	30%	0.00	194.7	1,451
Low-Income Single Family Detached	Plug Load Other	New	ENERGY STAR Air Purifier/Cleaner	ENERGY STAR Air Purifier/Cleaner	Standard Air Purifier/Cleaner	Per Home	52.2	9	0.13	100%	30%	0.00	194.7	37
Low-Income Single Family Detached	Plug Load Other	Existing	ENERGY STAR Water Cooler	ENERGY STAR Water Cooler	Standard Water Cooler	Per Home	2.6	10	0.96	95%	58%	0.00	285.5	133
Low-Income Single Family Detached	Plug Load Other	New	ENERGY STAR Water Cooler	ENERGY STAR Water Cooler	Standard Water Cooler	Per Home	2.6	10	0.96	95%	58%	0.00	285.5	3
Low-Income Single Family Detached	Pool Pump	Existing	Variable Speed Pool Pumps (with Load Shifting Option)	Pool Pump with Variable Speed Drive (VSD)	Standard 1 Speed Pool Pump	Per Installation	1915.2	10	950.00	90%	100%	0.07	1.4	8,412
Low-Income Single Family Detached	Pool Pump	New	Variable Speed Pool Pumps (with Load Shifting Option)	Pool Pump with Variable Speed Drive (VSD)	Standard 1 Speed Pool Pump	Per Installation	1915.2	10	950.00	90%	100%	0.07	1.4	332
Low-Income Single Family Detached	Refrigerator	Existing	ENERGY STAR Refrigerators	ENERGY STAR Refrigerator	Federal Standard 2015 Refrigerator	Per Installation	42.6	12	625.25	90%	100%	0.10	1.1	0
Low-Income Single Family Detached	Refrigerator	New	ENERGY STAR Refrigerators	ENERGY STAR Refrigerator	Federal Standard 2015 Refrigerator	Per Installation	42.6	12	625.25	90%	100%	0.10	1.1	0
Low-Income Single Family Detached	Refrigerator	Existing	Refrigerator - CEE Tier 2	CEE Tier 2 Refrigerator	Federal Standard 2015 Refrigerator	Per Installation	81.8	12	648.46	90%	100%	0.10	1.1	0
Low-Income Single Family Detached	Refrigerator	New	Refrigerator - CEE Tier 2	CEE Tier 2 Refrigerator	Federal Standard 2015 Refrigerator	Per Installation	81.8	12	648.46	90%	100%	0.10	1.1	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Single Family Detached	Refrigerator	Existing	Refrigerator - CEE Tier 3	CEE Tier 3 Refrigerator	Federal Standard 2015 Refrigerator	Per Installation	108.3	12	664.20	90%	100%	0.10	1.1	7,248
Low-Income Single Family Detached	Refrigerator	New	Refrigerator - CEE Tier 3	CEE Tier 3 Refrigerator	Federal Standard 2015 Refrigerator	Per Installation	108.3	12	664.20	90%	100%	0.10	1.1	308
Low-Income Single Family Detached	Refrigerator	Existing	Refrigerator / Freezer Recycling with Replacement	Proper Disposal of Refrigerator/Freezer and Replacing with New Unit	Existing Non-Efficient Refrigerator/Freezer	Per Home	547.7	7	120.00	18%	94%	0.05	1.9	8,412
Low-Income Single Family Detached	Refrigerator	Existing	Refrigerator / Freezer Recycling without Replacement	Proper Disposal of Refrigerator/Freezer	Existing Non-Efficient Refrigerator/Freezer	Per Home	1072.9	8	120.00	2%	94%	0.02	4.1	1,551
Low-Income Single Family Detached	TV	Existing	ENERGY STAR Televisions < 50"	ENERGY STAR Televisions < 50"	Standard Television < 50"	Per Installation	19.2	6	1.00	90%	15%	0.01	6.9	80
Low-Income Single Family Detached	TV	New	ENERGY STAR Televisions < 50"	ENERGY STAR Televisions < 50"	Standard Television < 50"	Per Installation	19.2	6	1.00	90%	15%	0.01	6.9	1
Low-Income Single Family Detached	TV	Existing	Smart Strip Plug Outlet	Advanced Power Strip - Load Sensing: TV	Standard Power Strip	Per Home	40.7	4	32.97	57%	95%	0.29	0.3	0
Low-Income Single Family Detached	TV	New	Smart Strip Plug Outlet	Advanced Power Strip - Load Sensing: TV	Standard Power Strip	Per Home	40.7	4	32.97	57%	95%	0.14	0.6	0
Low-Income Single Family Detached	TV	Existing	Smart Strip Plug Outlet	Advanced Power Strip with Infrared Sensor: TV	Standard Power Strip	Per Home	63.7	4	32.97	93%	95%	0.19	0.5	0
Low-Income Single Family Detached	TV	New	Smart Strip Plug Outlet	Advanced Power Strip with Infrared Sensor: TV	Standard Power Strip	Per Home	63.7	4	32.97	93%	95%	0.09	1.0	306
Low-Income Single Family Detached	TV	Existing	Smart Strip Plug Outlet	Advanced Power Strip with Occupancy Sensor: TV	Standard Power Strip	Per Home	46.5	4	99.99	0%	95%	0.78	0.1	0
Low-Income Single Family Detached	TV	New	Smart Strip Plug Outlet	Advanced Power Strip with Occupancy Sensor: TV	Standard Power Strip	Per Home	46.5	4	99.99	0%	95%	0.65	0.1	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Single Family Detached	TV Bigscreen	Existing	ENERGY STAR Televisions > 50"	ENERGY STAR Televisions > 50"	Standard Television > 50"	Per Installation	22.8	6	1.00	90%	44%	0.01	8.2	62
Low-Income Single Family Detached	TV Bigscreen	New	ENERGY STAR Televisions > 50"	ENERGY STAR Televisions > 50"	Standard Television > 50"	Per Installation	22.8	6	1.00	90%	44%	0.01	8.2	2
Low-Income Single Family Detached	TV Bigscreen	Existing	Smart Strip Plug Outlet	Advanced Power Strip - Load Sensing: TV Bigscreen	Standard Power Strip	Per Home	40.7	4	32.97	4%	95%	0.29	0.3	0
Low-Income Single Family Detached	TV Bigscreen	New	Smart Strip Plug Outlet	Advanced Power Strip - Load Sensing: TV Bigscreen	Standard Power Strip	Per Home	40.7	4	32.97	4%	95%	0.14	0.6	0
Low-Income Single Family Detached	TV Bigscreen	Existing	Smart Strip Plug Outlet	Advanced Power Strip with Infrared Sensor: TV Bigscreen	Standard Power Strip	Per Home	63.7	4	32.97	7%	95%	0.19	0.5	0
Low-Income Single Family Detached	TV Bigscreen	New	Smart Strip Plug Outlet	Advanced Power Strip with Infrared Sensor: TV Bigscreen	Standard Power Strip	Per Home	63.7	4	32.97	7%	95%	0.09	1.0	2
Low-Income Single Family Detached	TV Bigscreen	Existing	Smart Strip Plug Outlet	Advanced Power Strip with Occupancy Sensor: TV Bigscreen	Standard Power Strip	Per Home	46.5	4	99.99	0%	95%	0.78	0.1	0
Low-Income Single Family Detached	TV Bigscreen	New	Smart Strip Plug Outlet	Advanced Power Strip with Occupancy Sensor: TV Bigscreen	Standard Power Strip	Per Home	46.5	4	99.99	0%	95%	0.65	0.1	0
Low-Income Single Family Detached	Ventilation And Circulation	Existing	Brushless Fan Motor	Brushless Fan Motor	Standard Motor	Per Home	387.1	18	360.00	75%	90%	0.12	1.1	0
Low-Income Single Family Detached	Ventilation And Circulation	New	Brushless Fan Motor	Brushless Fan Motor	Standard Motor	Per Home	319.0	18	360.00	100%	90%	0.06	2.1	85
Low-Income Single Family Detached	Ventilation And Circulation	Existing	Furnace Whistle	Furnace Whistle	No Furnace Whistle	Per Home	110.5	14	3.99	80%	90%	0.01	23.0	2,345



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Single Family Detached	Ventilation And Circulation	Existing	High Efficiency Furnace Fan (on existing furnace)	High Efficiency Furnace Fan	Existing Furnace Motor	Per Home	387.1	15	360.00	75%	90%	0.13	0.9	0
Low-Income Single Family Detached	Ventilation And Circulation	Existing	Residential Whole House Fan	Whole House Fan	No Whole House Fan	Per Home	199.1	15	1153.72	50%	91%	0.82	0.2	0
Low-Income Single Family Detached	Ventilation And Circulation	New	Residential Whole House Fan	Whole House Fan	No Whole House Fan	Per Home	199.1	15	1153.72	50%	91%	0.82	0.2	0
Low-Income Single Family Detached	Water Heat GT 55 Gal	Existing	CO2 Heat Pump Water Heater	CO2 Heat Pump Water Heater	Federal Standard 2015 Heat Pump Water Heater > 55 GAL - EF 1.97	Per Installation	1298.5	14	6650.00	90%	100%	0.57	0.2	0
Low-Income Single Family Detached	Water Heat GT 55 Gal	New	CO2 Heat Pump Water Heater	CO2 Heat Pump Water Heater	Federal Standard 2015 Heat Pump Water Heater > 55 GAL - EF 1.97	Per Installation	1298.5	14	6650.00	90%	100%	0.57	0.2	0
Low-Income Single Family Detached	Water Heat GT 55 Gal	Existing	Desuperheater (on existing GSHP)	Desuperheater (on existing GSHP)	No Desuperheater	Per Home	567.5	30	250.00	20%	79%	0.05	2.6	63
Low-Income Single Family Detached	Water Heat GT 55 Gal	Existing	Drain Water Heat Recovery Device	Drain Water Heat Recovery	No Heat Exchanger	Per Home	375.1	25	463.82	30%	90%	0.14	0.9	0
Low-Income Single Family Detached	Water Heat GT 55 Gal	New	Drain Water Heat Recovery Device	Drain Water Heat Recovery	No Heat Exchanger	Per Home	375.1	25	463.82	60%	90%	0.14	0.9	0
Low-Income Single Family Detached	Water Heat GT 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Federal Standard 2011 Clothes Washer - MEF 1.26 and WF 9.5 (Electric DHW & Dryer)	Per Home	232.9	11	731.86	99%	72%	0.53	0.2	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Single Family Detached	Water Heat GT 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Federal Standard 2011 Clothes Washer - MEF 1.26 and WF 9.5 (Electric DHW & Dryer)	Per Home	232.9	11	731.86	99%	72%	0.15	0.7	0
Low-Income Single Family Detached	Water Heat GT 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Federal Standard 2016 Clothes Washer - MEF 1.72 and WF 8.0 (Electric DHW & Dryer)	Per Home	66.7	11	731.86	99%	72%	1.86	0.1	0
Low-Income Single Family Detached	Water Heat GT 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Federal Standard 2016 Clothes Washer - MEF 1.72 and WF 8.0 (Electric DHW & Dryer)	Per Home	66.7	11	731.86	99%	72%	0.19	0.5	0
Low-Income Single Family Detached	Water Heat GT 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2011 Clothes Washer - MEF 1.26 and WF 9.5 (Electric DHW & Dryer)	Per Home	297.7	11	840.98	99%	5%	0.48	0.2	0
Low-Income Single Family Detached	Water Heat GT 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2011 Clothes Washer - MEF 1.26 and WF 9.5 (Electric DHW & Dryer)	Per Home	297.7	11	840.98	99%	5%	0.18	0.6	0
Low-Income Single Family Detached	Water Heat GT 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2016 Clothes Washer - MEF 1.72 and WF 8.0 (Electric DHW & Dryer)	Per Home	131.5	11	840.98	99%	5%	1.08	0.1	0
Low-Income Single Family Detached	Water Heat GT 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2016 Clothes Washer - MEF 1.72 and WF 8.0 (Electric DHW & Dryer)	Per Home	131.5	11	840.98	99%	5%	0.24	0.4	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Single Family Detached	Water Heat GT 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2018 Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Per Home	67.8	11	840.98	99%	5%	2.10	0.0	0
Low-Income Single Family Detached	Water Heat GT 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2018 Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Per Home	67.8	11	840.98	99%	5%	0.27	0.4	0
Low-Income Single Family Detached	Water Heat GT 55 Gal	Existing	ENERGY STAR Dishwashers (Electric Water Heating)	ENERGY STAR Dishwasher - 295 kWh/yr and 4.25 gal/cycle	Federal Standard 2014 Dishwasher - 307 kWh/yr and 5.0 gal/cycle	Per Home	9.5	10	166.40	76%	56%	3.15	0.0	0
Low-Income Single Family Detached	Water Heat GT 55 Gal	New	ENERGY STAR Dishwashers (Electric Water Heating)	ENERGY STAR Dishwasher - 295 kWh/yr and 4.25 gal/cycle	Federal Standard 2014 Dishwasher - 307 kWh/yr and 5.0 gal/cycle	Per Home	9.5	10	166.40	76%	56%	0.15	0.7	0
Low-Income Single Family Detached	Water Heat GT 55 Gal	Existing	ENERGY STAR Dishwashers (Gas Water Heating)	ENERGY STAR Dishwasher - 295 kWh/yr and 4.25 gal/cycle	Federal Standard 2014 Dishwasher - 307 kWh/yr and 5.0 gal/cycle	Per Home	9.5	10	166.40	0%	56%	3.15	0.0	0
Low-Income Single Family Detached	Water Heat GT 55 Gal	New	ENERGY STAR Dishwashers (Gas Water Heating)	ENERGY STAR Dishwasher - 295 kWh/yr and 4.25 gal/cycle	Federal Standard 2014 Dishwasher - 307 kWh/yr and 5.0 gal/cycle	Per Home	9.5	10	166.40	0%	56%	0.15	0.7	0
Low-Income Single Family Detached	Water Heat GT 55 Gal	Existing	Heat Pump Water Heater	Heat Pump Water Heater	Federal Standard 2015 Heat Pump Water Heater > 55 GAL - EF 1.97	Per Installation	36.0	14	1730.00	90%	100%	0.41	0.3	0
Low-Income Single Family Detached	Water Heat GT 55 Gal	New	Heat Pump Water Heater	Heat Pump Water Heater	Federal Standard 2015 Heat Pump Water Heater > 55 GAL - EF 1.97	Per Installation	36.0	14	1730.00	90%	100%	0.41	0.3	0
Low-Income Single Family Detached	Water Heat GT 55 Gal	Existing	Heater Pipe Insulation	R-4 Wrap	No insulation	Per Home	30.0	13	9.00	95%	80%	0.05	2.3	17

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Single Family Detached	Water Heat GT 55 Gal	Existing	Low Flow Faucet Aerator (Bathroom/Kitchen)	0.5 GPM	2.2 GPM	Per Home	574.1	12	6.63	95%	95%	0.00	54.8	533
Low-Income Single Family Detached	Water Heat GT 55 Gal	New	Low Flow Faucet Aerator (Bathroom/Kitchen)	0.5 GPM	2.2 GPM	Per Home	574.1	12	6.63	95%	95%	0.00	349.2	13
Low-Income Single Family Detached	Water Heat GT 55 Gal	Existing	Low Flow Faucet Aerator (Bathroom/Kitchen)	1.0 GPM	2.2 GPM	Per Home	405.2	12	6.29	95%	80%	0.00	40.9	0
Low-Income Single Family Detached	Water Heat GT 55 Gal	New	Low Flow Faucet Aerator (Bathroom/Kitchen)	1.0 GPM	2.2 GPM	Per Home	405.2	12	6.29	95%	80%	0.00	369.7	0
Low-Income Single Family Detached	Water Heat GT 55 Gal	Existing	Low Flow Faucet Aerator (Bathroom/Kitchen)	1.5 GPM	2.2 GPM	Per Home	236.4	12	5.94	95%	65%	0.00	25.2	0
Low-Income Single Family Detached	Water Heat GT 55 Gal	New	Low Flow Faucet Aerator (Bathroom/Kitchen)	1.5 GPM	2.2 GPM	Per Home	236.4	12	5.94	95%	65%	0.00	431.3	0
Low-Income Single Family Detached	Water Heat GT 55 Gal	Existing	Low Flow Faucet Aerator (Bathroom/Kitchen)	2.2 GPM	Existing Faucet Aerator (3.0 GPM)	Per Home	270.2	12	5.59	95%	15%	0.00	30.6	40
Low-Income Single Family Detached	Water Heat GT 55 Gal	Existing	Low Flow Showerhead	1.5 GPM	2.5 GPM	Per Home	501.1	9	9.71	95%	42%	0.00	25.6	208
Low-Income Single Family Detached	Water Heat GT 55 Gal	New	Low Flow Showerhead	1.5 GPM	2.5 GPM	Per Home	501.1	9	9.71	95%	42%	0.00	38.3	5
Low-Income Single Family Detached	Water Heat GT 55 Gal	Existing	Low Flow Showerhead	1.75 GPM	2.5 GPM	Per Home	375.9	9	8.09	95%	65%	0.00	23.0	0
Low-Income Single Family Detached	Water Heat GT 55 Gal	New	Low Flow Showerhead	1.75 GPM	2.5 GPM	Per Home	375.9	9	8.09	95%	75%	0.00	38.3	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Single Family Detached	Water Heat GT 55 Gal	Existing	Low Flow Showerhead	2.0 GPM	2.5 GPM	Per Home	250.6	9	6.47	95%	45%	0.00	19.2	0
Low-Income Single Family Detached	Water Heat GT 55 Gal	New	Low Flow Showerhead	2.0 GPM	2.5 GPM	Per Home	250.6	9	6.47	95%	65%	0.00	38.3	0
Low-Income Single Family Detached	Water Heat GT 55 Gal	Existing	Low Flow Showerhead	2.5 GPM	Existing Showerhead (3.0 GPM)	Per Home	250.6	9	3.24	95%	25%	0.00	38.3	61
Low-Income Single Family Detached	Water Heat GT 55 Gal	Existing	Showerstart	Add Thermostatic Shower Restriction Valve	No Thermostatic Shower Restriction Valve	Per Home	186.1	10	40.46	90%	100%	0.04	2.5	45
Low-Income Single Family Detached	Water Heat GT 55 Gal	New	Showerstart	Add Thermostatic Shower Restriction Valve	No Thermostatic Shower Restriction Valve	Per Home	186.1	10	40.46	90%	100%	0.04	2.5	1
Low-Income Single Family Detached	Water Heat GT 55 Gal	Existing	Solar Water Heaters	Solar Water Heaters	Federal Standard 2015 Heat Pump Water Heater > 55 GAL - EF 1.97	Per Installation	164.6	15	8164.00	90%	100%	5.61	0.0	0
Low-Income Single Family Detached	Water Heat GT 55 Gal	New	Solar Water Heaters	Solar Water Heaters	Federal Standard 2015 Heat Pump Water Heater > 55 GAL - EF 1.97	Per Installation	164.6	15	8164.00	90%	100%	5.61	0.0	0
Low-Income Single Family Detached	Water Heat GT 55 Gal	Existing	Water Heater Tank Wrap	Install Insulation (R-10)	No Tank Insulation	Per Home	231.0	7	50.00	25%	92%	0.05	1.9	33
Low-Income Single Family Detached	Water Heat GT 55 Gal	New	Water Heater Tank Wrap	Install Insulation (R-10)	No Tank Insulation	Per Home	231.0	7	50.00	0%	92%	0.05	1.9	0
Low-Income Single Family Detached	Water Heat GT 55 Gal	Existing	Water Heater Temperature Setback	120 degrees	130 degrees	Per Home	105.9	4	1.00	95%	15%	0.00	26.3	15
Low-Income Single Family Detached	Water Heat GT 55 Gal	New	Water Heater Temperature Setback	120 degrees	130 degrees	Per Home	105.9	4	1.00	95%	15%	0.00	26.3	0
Low-Income Single Family Detached	Water Heat LE 55 Gal	Existing	CO2 Heat Pump Water Heater	CO2 Heat Pump Water Heater	Federal Standard 2015 Storage Water Heater = 55 GAL - EF 0.95	Per Installation	2362.0	14	6650.00	90%	100%	0.37	0.3	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Single Family Detached	Water Heat LE 55 Gal	New	CO2 Heat Pump Water Heater	CO2 Heat Pump Water Heater	Federal Standard 2015 Storage Water Heater = 55 GAL - EF 0.95	Per Installation	2362.0	14	6650.00	90%	100%	0.37	0.3	0
Low-Income Single Family Detached	Water Heat LE 55 Gal	Existing	Desuperheater (on existing GSHP)	Desuperheater (on existing GSHP)	No Desuperheater	Per Home	567.5	30	250.00	20%	79%	0.05	2.6	1,436
Low-Income Single Family Detached	Water Heat LE 55 Gal	Existing	Drain Water Heat Recovery Device	Drain Water Heat Recovery	No Heat Exchanger	Per Home	375.1	25	463.82	30%	90%	0.14	0.9	0
Low-Income Single Family Detached	Water Heat LE 55 Gal	New	Drain Water Heat Recovery Device	Drain Water Heat Recovery	No Heat Exchanger	Per Home	375.1	25	463.82	60%	90%	0.14	0.9	0
Low-Income Single Family Detached	Water Heat LE 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Federal Standard 2011 Clothes Washer - MEF 1.26 and WF 9.5 (Electric DHW & Dryer)	Per Home	232.9	11	731.86	99%	72%	0.53	0.2	0
Low-Income Single Family Detached	Water Heat LE 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Federal Standard 2011 Clothes Washer - MEF 1.26 and WF 9.5 (Electric DHW & Dryer)	Per Home	232.9	11	731.86	99%	72%	0.15	0.7	0
Low-Income Single Family Detached	Water Heat LE 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Federal Standard 2016 Clothes Washer - MEF 1.72 and WF 8.0 (Electric DHW & Dryer)	Per Home	66.7	11	731.86	99%	72%	1.86	0.1	0
Low-Income Single Family Detached	Water Heat LE 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Federal Standard 2016 Clothes Washer - MEF 1.72 and WF 8.0 (Electric DHW & Dryer)	Per Home	66.7	11	731.86	99%	72%	0.19	0.5	0
Low-Income Single Family Detached	Water Heat LE 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2011 Clothes Washer - MEF 1.26 and WF 9.5 (Electric DHW & Dryer)	Per Home	297.7	11	840.98	99%	5%	0.48	0.2	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Single Family Detached	Water Heat LE 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2011 Clothes Washer - MEF 1.26 and WF 9.5 (Electric DHW & Dryer)	Per Home	297.7	11	840.98	99%	5%	0.18	0.6	0
Low-Income Single Family Detached	Water Heat LE 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2016 Clothes Washer - MEF 1.72 and WF 8.0 (Electric DHW & Dryer)	Per Home	131.5	11	840.98	99%	5%	1.08	0.1	0
Low-Income Single Family Detached	Water Heat LE 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2016 Clothes Washer - MEF 1.72 and WF 8.0 (Electric DHW & Dryer)	Per Home	131.5	11	840.98	99%	5%	0.24	0.4	0
Low-Income Single Family Detached	Water Heat LE 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2018 Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Per Home	67.8	11	840.98	99%	5%	2.10	0.0	0
Low-Income Single Family Detached	Water Heat LE 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2018 Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Per Home	67.8	11	840.98	99%	5%	0.27	0.4	0
Low-Income Single Family Detached	Water Heat LE 55 Gal	Existing	ENERGY STAR Dishwashers (Electric Water Heating)	ENERGY STAR Dishwasher - 295 kWh/yr and 4.25 gal/cycle	Federal Standard 2014 Dishwasher - 307 kWh/yr and 5.0 gal/cycle	Per Home	9.5	10	166.40	76%	56%	3.15	0.0	0
Low-Income Single Family Detached	Water Heat LE 55 Gal	New	ENERGY STAR Dishwashers (Electric Water Heating)	ENERGY STAR Dishwasher - 295 kWh/yr and 4.25 gal/cycle	Federal Standard 2014 Dishwasher - 307 kWh/yr and 5.0 gal/cycle	Per Home	9.5	10	166.40	76%	56%	0.15	0.7	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Single Family Detached	Water Heat LE 55 Gal	Existing	ENERGY STAR Dishwashers (Gas Water Heating)	ENERGY STAR Dishwasher - 295 kWh/yr and 4.25 gal/cycle	Federal Standard 2014 Dishwasher - 307 kWh/yr and 5.0 gal/cycle	Per Home	9.5	10	166.40	0%	56%	3.15	0.0	0
Low-Income Single Family Detached	Water Heat LE 55 Gal	New	ENERGY STAR Dishwashers (Gas Water Heating)	ENERGY STAR Dishwasher - 295 kWh/yr and 4.25 gal/cycle	Federal Standard 2014 Dishwasher - 307 kWh/yr and 5.0 gal/cycle	Per Home	9.5	10	166.40	0%	56%	0.15	0.7	0
Low-Income Single Family Detached	Water Heat LE 55 Gal	Existing	Efficient Electric Water Heaters	Efficient Electric Water Heaters	Federal Standard 2015 Storage Water Heater = 55 GAL - EF 0.95	Per Installation	65.5	14	866.00	90%	100%	0.26	0.4	0
Low-Income Single Family Detached	Water Heat LE 55 Gal	New	Efficient Electric Water Heaters	Efficient Electric Water Heaters	Federal Standard 2015 Storage Water Heater = 55 GAL - EF 0.95	Per Installation	65.5	14	866.00	90%	100%	0.26	0.4	0
Low-Income Single Family Detached	Water Heat LE 55 Gal	Existing	Heat Pump Water Heater	Heat Pump Water Heater	Federal Standard 2015 Storage Water Heater = 55 GAL - EF 0.95	Per Installation	1442.3	14	1695.00	90%	100%	0.10	1.1	17,921
Low-Income Single Family Detached	Water Heat LE 55 Gal	New	Heat Pump Water Heater	Heat Pump Water Heater	Federal Standard 2015 Storage Water Heater = 55 GAL - EF 0.95	Per Installation	1442.3	14	1695.00	90%	100%	0.10	1.1	456
Low-Income Single Family Detached	Water Heat LE 55 Gal	Existing	Heater Pipe Insulation	R-4 Wrap	No insulation	Per Home	30.0	13	9.00	95%	80%	0.05	2.3	375
Low-Income Single Family Detached	Water Heat LE 55 Gal	Existing	Low Flow Faucet Aerator (Bathroom/Kitchen)	0.5 GPM	2.2 GPM	Per Home	574.1	12	6.63	95%	95%	0.00	54.8	13,266
Low-Income Single Family Detached	Water Heat LE 55 Gal	New	Low Flow Faucet Aerator (Bathroom/Kitchen)	0.5 GPM	2.2 GPM	Per Home	574.1	12	6.63	95%	95%	0.00	349.2	332
Low-Income Single Family Detached	Water Heat LE 55 Gal	Existing	Low Flow Faucet Aerator (Bathroom/Kitchen)	1.0 GPM	2.2 GPM	Per Home	405.2	12	6.29	95%	80%	0.00	40.9	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Single Family Detached	Water Heat LE 55 Gal	New	Low Flow Faucet Aerator (Bathroom/Kitchen)	1.0 GPM	2.2 GPM	Per Home	405.2	12	6.29	95%	80%	0.00	369.7	0
Low-Income Single Family Detached	Water Heat LE 55 Gal	Existing	Low Flow Faucet Aerator (Bathroom/Kitchen)	1.5 GPM	2.2 GPM	Per Home	236.4	12	5.94	95%	65%	0.00	25.2	0
Low-Income Single Family Detached	Water Heat LE 55 Gal	New	Low Flow Faucet Aerator (Bathroom/Kitchen)	1.5 GPM	2.2 GPM	Per Home	236.4	12	5.94	95%	65%	0.00	431.3	0
Low-Income Single Family Detached	Water Heat LE 55 Gal	Existing	Low Flow Faucet Aerator (Bathroom/Kitchen)	2.2 GPM	Existing Faucet Aerator (3.0 GPM)	Per Home	270.2	12	5.59	95%	15%	0.00	30.6	986
Low-Income Single Family Detached	Water Heat LE 55 Gal	Existing	Low Flow Showerhead	1.5 GPM	2.5 GPM	Per Home	501.1	9	9.71	95%	42%	0.00	25.6	5,165
Low-Income Single Family Detached	Water Heat LE 55 Gal	New	Low Flow Showerhead	1.5 GPM	2.5 GPM	Per Home	501.1	9	9.71	95%	42%	0.00	38.3	129
Low-Income Single Family Detached	Water Heat LE 55 Gal	Existing	Low Flow Showerhead	1.75 GPM	2.5 GPM	Per Home	375.9	9	8.09	95%	65%	0.00	23.0	0
Low-Income Single Family Detached	Water Heat LE 55 Gal	New	Low Flow Showerhead	1.75 GPM	2.5 GPM	Per Home	375.9	9	8.09	95%	75%	0.00	38.3	0
Low-Income Single Family Detached	Water Heat LE 55 Gal	Existing	Low Flow Showerhead	2.0 GPM	2.5 GPM	Per Home	250.6	9	6.47	95%	45%	0.00	19.2	0
Low-Income Single Family Detached	Water Heat LE 55 Gal	New	Low Flow Showerhead	2.0 GPM	2.5 GPM	Per Home	250.6	9	6.47	95%	65%	0.00	38.3	0
Low-Income Single Family Detached	Water Heat LE 55 Gal	Existing	Low Flow Showerhead	2.5 GPM	Existing Showerhead (3.0 GPM)	Per Home	250.6	9	3.24	95%	25%	0.00	38.3	1,524
Low-Income Single Family Detached	Water Heat LE 55 Gal	Existing	Showerstart	Add Thermostatic Shower Restriction Valve	No Thermostatic Shower Restriction Valve	Per Home	186.1	10	40.46	90%	100%	0.04	2.5	1,132

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Low-Income Single Family Detached	Water Heat LE 55 Gal	New	Showerstart	Add Thermostatic Shower Restriction Valve	No Thermostatic Shower Restriction Valve	Per Home	186.1	10	40.46	90%	100%	0.04	2.5	28
Low-Income Single Family Detached	Water Heat LE 55 Gal	Existing	Solar Water Heaters	Solar Water Heaters	Federal Standard 2015 Storage Water Heater = 55 GAL - EF 0.95	Per Installation	1536.6	15	5986.93	90%	100%	0.48	0.2	0
Low-Income Single Family Detached	Water Heat LE 55 Gal	New	Solar Water Heaters	Solar Water Heaters	Federal Standard 2015 Storage Water Heater = 55 GAL - EF 0.95	Per Installation	1536.6	15	5986.93	90%	100%	0.48	0.2	0
Low-Income Single Family Detached	Water Heat LE 55 Gal	Existing	Water Heater Tank Wrap	Install Insulation (R-10)	No Tank Insulation	Per Home	296.7	7	50.00	25%	92%	0.04	2.4	964
Low-Income Single Family Detached	Water Heat LE 55 Gal	New	Water Heater Tank Wrap	Install Insulation (R-10)	No Tank Insulation	Per Home	296.7	7	50.00	0%	92%	0.04	2.4	0
Low-Income Single Family Detached	Water Heat LE 55 Gal	Existing	Water Heater Temperature Setback	120 degrees	130 degrees	Per Home	105.9	4	1.00	95%	15%	0.00	26.3	361
Low-Income Single Family Detached	Water Heat LE 55 Gal	New	Water Heater Temperature Setback	120 degrees	130 degrees	Per Home	105.9	4	1.00	95%	15%	0.00	26.3	7
Manufactured	Computer Desktop	Existing	ENERGY STAR Computer - Desktop	ENERGY STAR Computer - Desktop	Standard Desktop	Per Installation	70.7	4	1.00	90%	73%	0.01	17.8	163
Manufactured	Computer Desktop	New	ENERGY STAR Computer - Desktop	ENERGY STAR Computer - Desktop	Standard Desktop	Per Installation	70.7	4	1.00	90%	73%	0.01	17.8	5
Manufactured	Computer Desktop	Existing	Smart Strip Plug Outlet	Advanced Power Strip - Load Sensing: Computer Desktop	Standard Power Strip	Per Home	40.7	4	32.97	39%	95%	0.29	0.3	0
Manufactured	Computer Desktop	New	Smart Strip Plug Outlet	Advanced Power Strip - Load Sensing: Computer Desktop	Standard Power Strip	Per Home	40.7	4	15.91	39%	95%	0.14	0.6	0
Manufactured	Computer Desktop	Existing	Smart Strip Plug Outlet	Advanced Power Strip with Infrared Sensor: Computer Desktop	Standard Power Strip	Per Home	63.7	4	32.97	0%	95%	0.19	0.5	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Manufactured	Computer Desktop	New	Smart Strip Plug Outlet	Advanced Power Strip with Infrared Sensor: Computer Desktop	Standard Power Strip	Per Home	63.7	4	15.91	0%	95%	0.09	1.0	0
Manufactured	Computer Desktop	Existing	Smart Strip Plug Outlet	Advanced Power Strip with Occupancy Sensor: Computer Desktop	Standard Power Strip	Per Home	46.5	4	99.99	100%	95%	0.78	0.1	0
Manufactured	Computer Desktop	New	Smart Strip Plug Outlet	Advanced Power Strip with Occupancy Sensor: Computer Desktop	Standard Power Strip	Per Home	46.5	4	82.93	100%	95%	0.65	0.1	0
Manufactured	Computer Laptop	Existing	ENERGY STAR Computer - Laptop	ENERGY STAR Computer - Laptop	Standard Laptop	Per Installation	21.5	4	1.00	90%	25%	0.02	5.4	6
Manufactured	Computer Laptop	New	ENERGY STAR Computer - Laptop	ENERGY STAR Computer - Laptop	Standard Laptop	Per Installation	21.5	4	1.00	90%	25%	0.02	5.4	0
Manufactured	Cool Central	Existing	Air Sealing	Air Sealing	No Air Sealing	Per Home	30.5	15	465.27	56%	21%	2.16	0.1	0
Manufactured	Cool Central	New	Air Sealing	Air Sealing	No Air Sealing	Per Home	30.5	15	465.27	0%	21%	2.16	0.1	0
Manufactured	Cool Central	Existing	Ceiling / Attic Insulation	R-38 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	22.6	25	2791.63	75%	13%	14.05	0.0	0
Manufactured	Cool Central	Existing	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	7.5	25	399.82	40%	55%	6.08	0.0	0
Manufactured	Cool Central	New	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	7.5	25	399.82	60%	55%	6.08	0.0	0
Manufactured	Cool Central	Existing	Central AC Maintenance	Tune-up/Maintenance on Central AC	No Tune-up Maintenance on Central AC	Per Home	298.6	7	100.00	95%	84%	0.08	1.4	0
Manufactured	Cool Central	Existing	Central Air Conditioner - CEE Tier 3	CEE Tier 3 Central Air Conditioner - SEER/EER 16/13 (Split System)	Federal Standard 2015 Central Air Conditioner - SEER 13 (Split System)	Per Installation	194.2	14	1830.91	90%	100%	1.38	0.1	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/c Ratio	Achievable Potential (MWh)
Manufactured	Cool Central	New	Central Air Conditioner - CEE Tier 3	CEE Tier 3 Central Air Conditioner - SEER/EER 16/13 (Split System)	Federal Standard 2015 Central Air Conditioner - SEER 13 (Split System)	Per Installation	160.0	14	1508.78	90%	100%	1.38	0.1	0
Manufactured	Cool Central	Existing	Central Air Conditioner - Enhanced	Enhanced Central Air Conditioner - SEER/EER 18/14 (Split System)	Federal Standard 2015 Central Air Conditioner - SEER 13 (Split System)	Per Installation	287.6	14	3051.52	90%	100%	1.56	0.1	0
Manufactured	Cool Central	New	Central Air Conditioner - Enhanced	Enhanced Central Air Conditioner - SEER/EER 18/14 (Split System)	Federal Standard 2015 Central Air Conditioner - SEER 13 (Split System)	Per Installation	237.0	14	2514.63	90%	100%	1.56	0.1	0
Manufactured	Cool Central	New	Construction - ICF/SIP	Insulating Concrete Form (ICF) or Structural Insulated Panels (SIP)	Standard Wood Framing	Per Home	138.8	40	2287.32	25%	100%	1.68	0.1	0
Manufactured	Cool Central	Existing	Duct Insulation	R-6 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	26.9	15	206.20	50%	69%	1.08	0.1	0
Manufactured	Cool Central	Existing	Duct Sealing	Duct Sealing	No Duct Sealing	Per Home	157.9	20	96.23	50%	34%	0.08	1.8	58
Manufactured	Cool Central	New	Duct Sealing	Duct Sealing	No Duct Sealing	Per Home	157.9	20	96.23	0%	34%	0.08	1.8	0
Manufactured	Cool Central	Existing	ENERGY STAR Central Air Conditioner	ENERGY STAR Central Air Conditioner - SEER/EER 14.5/12 (Split System)	Federal Standard 2015 Central Air Conditioner - SEER 13 (Split System)	Per Installation	107.1	14	915.46	90%	100%	1.25	0.1	0
Manufactured	Cool Central	New	ENERGY STAR Central Air Conditioner	ENERGY STAR Central Air Conditioner - SEER/EER 14.5/12 (Split System)	Federal Standard 2015 Central Air Conditioner - SEER 13 (Split System)	Per Installation	88.3	14	754.39	90%	100%	1.25	0.1	0
Manufactured	Cool Central	Existing	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	3.2	15	577.77	100%	12%	25.65	0.0	0
Manufactured	Cool Central	New	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	3.2	15	577.77	100%	12%	25.65	0.0	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Manufactured	Cool Central	Existing	Home Energy Reports	Home Energy Reports (Opower, Aclara, C3 Energy, and Simple Energy)	No report	Per Home	98.5	1	10.37	90%	100%	0.14	0.6	0
Manufactured	Cool Central	New	Home Energy Reports	Home Energy Reports (Opower, Aclara, C3 Energy, and Simple Energy)	No report	Per Home	98.5	1	10.37	90%	100%	0.14	0.6	0
Manufactured	Cool Central	Existing	Programmable Thermostat	Programmable Thermostat	Manual Thermostat	Per Home	25.9	11	64.00	0%	73%	0.42	0.3	0
Manufactured	Cool Central	New	Programmable Thermostat	Programmable Thermostat	Manual Thermostat	Per Home	21.4	11	31.15	95%	73%	0.25	0.5	0
Manufactured	Cool Central	Existing	Proper Sizing of Central Air Conditioner	Proper Sizing - Central Air Conditioner	Oversized Central Air Conditioner	Per Home	64.8	14	186.50	95%	95%	0.42	0.3	0
Manufactured	Cool Central	New	Proper Sizing of Central Air Conditioner	Proper Sizing - Central Air Conditioner	Oversized Central Air Conditioner	Per Home	53.4	14	186.50	95%	95%	0.51	0.2	0
Manufactured	Cool Central	Existing	Radiant Barriers	Install Radiant Barrier	No Radiant Barrier	Per Home	39.7	25	557.84	50%	90%	1.60	0.1	0
Manufactured	Cool Central	New	Radiant Barriers	Install Radiant Barrier	No Radiant Barrier	Per Home	32.7	25	557.84	75%	90%	1.94	0.1	0
Manufactured	Cool Central	Existing	Smart Thermostat	WiFi Thermostat	Programmable Thermostat	Per Home	97.2	11	197.59	25%	95%	0.34	0.3	0
Manufactured	Cool Central	New	Smart Thermostat	WiFi Thermostat	Programmable Thermostat	Per Home	80.1	11	197.59	95%	95%	0.42	0.3	0
Manufactured	Cool Central	Existing	Wall Insulation	R-13 Wall (Max Fill)	Average Existing Wall Insulation	Per Home	34.0	25	956.75	10%	62%	3.20	0.0	0
Manufactured	Cool Central	Existing	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	5.6	25	465.45	20%	14%	9.52	0.0	0
Manufactured	Cool Central	New	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	5.6	25	465.45	95%	14%	9.52	0.0	0
Manufactured	Cool Central	Existing	Window Film	Window Film	No Window Film	Per Home	23.3	20	566.90	38%	95%	3.01	0.0	0
Manufactured	Cool Central	New	Window Film	Window Film	No Window Film	Per Home	13.4	20	566.90	0%	95%	5.24	0.0	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Manufactured	Cool Central	Existing	Windows	U-0.35 (IECC 2009 - Zone 5)	Average Existing Window	Per Home	3.2	15	449.35	100%	12%	19.95	0.0	0
Manufactured	Cool Room	Existing	Air Sealing	Air Sealing	No Air Sealing	Per Home	11.6	15	465.27	56%	21%	5.68	0.0	0
Manufactured	Cool Room	New	Air Sealing	Air Sealing	No Air Sealing	Per Home	11.6	15	465.27	0%	21%	5.68	0.0	0
Manufactured	Cool Room	Existing	Ceiling / Attic Insulation	R-38 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	11.4	25	2791.63	75%	13%	27.87	0.0	0
Manufactured	Cool Room	Existing	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	3.8	25	399.82	40%	55%	12.07	0.0	0
Manufactured	Cool Room	New	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	3.8	25	399.82	60%	55%	12.07	0.0	0
Manufactured	Cool Room	New	Construction - ICF/SIP	Insulating Concrete Form (ICF) or Structural Insulated Panels (SIP)	Standard Wood Framing	Per Home	14.4	40	2287.32	25%	100%	16.25	0.0	0
Manufactured	Cool Room	Existing	Ductless Mini-Split HP / AC	Ductless Air Conditioner - SEER/EER 18/12.5	Federal Standard 2014 Room AC - CEER/EER 10.9/11.0 (8,000-13,999 Btuh)	Per Installation	39.2	9	1385.31	90%	100%	6.83	0.0	0
Manufactured	Cool Room	New	Ductless Mini-Split HP / AC	Ductless Air Conditioner - SEER/EER 18/12.5	Federal Standard 2014 Room AC - CEER/EER 10.9/11.0 (8,000-13,999 Btuh)	Per Installation	39.2	9	1385.31	90%	100%	6.83	0.0	0
Manufactured	Cool Room	Existing	ENERGY STAR Room Air Conditioner	ENERGY STAR Room AC - CEER/EER 11.2/11.3 (8,000-13,999 Btuh)	Federal Standard 2014 Room AC - CEER/EER 10.9/11.0 (8,000-13,999 Btuh)	Per Installation	2.7	9	40.00	90%	100%	2.90	0.0	0
Manufactured	Cool Room	New	ENERGY STAR Room Air Conditioner	ENERGY STAR Room AC - CEER/EER 11.2/11.3 (8,000-13,999 Btuh)	Federal Standard 2014 Room AC - CEER/EER 10.9/11.0 (8,000-13,999 Btuh)	Per Installation	2.7	9	40.00	90%	100%	2.90	0.0	0
Manufactured	Cool Room	Existing	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	3.2	15	577.77	100%	12%	25.65	0.0	0
Manufactured	Cool Room	New	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	3.2	15	577.77	100%	12%	25.65	0.0	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Manufactured	Cool Room	Existing	Radiant Barriers	Install Radiant Barrier	No Radiant Barrier	Per Home	3.4	25	557.84	50%	90%	18.74	0.0	0
Manufactured	Cool Room	New	Radiant Barriers	Install Radiant Barrier	No Radiant Barrier	Per Home	3.4	25	557.84	75%	90%	18.74	0.0	0
Manufactured	Cool Room	Existing	Room AC Retirement	Proper Disposal of Room AC	Existing Non-Efficient Room AC	Per Home	167.9	4	60.00	8%	65%	0.13	0.8	0
Manufactured	Cool Room	Existing	Wall Insulation	R-13 Wall (Max Fill)	Average Existing Wall Insulation	Per Home	17.1	25	956.75	10%	62%	6.35	0.0	0
Manufactured	Cool Room	Existing	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	2.8	25	465.45	20%	14%	18.90	0.0	0
Manufactured	Cool Room	New	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	2.8	25	465.45	95%	14%	18.90	0.0	0
Manufactured	Cool Room	Existing	Window Film	Window Film	No Window Film	Per Home	2.0	20	566.90	38%	95%	35.23	0.0	0
Manufactured	Cool Room	New	Window Film	Window Film	No Window Film	Per Home	1.4	20	566.90	0%	95%	50.56	0.0	0
Manufactured	Cool Room	Existing	Windows	U-0.35 (IECC 2009 - Zone 5)	Average Existing Window	Per Home	3.2	15	449.35	100%	12%	19.95	0.0	0
Manufactured	Copier	Existing	ENERGY STAR Copier	ENERGY STAR Copier	Standard Office Copier	Per Installation	81.4	6	1.00	90%	20%	0.00	29.3	4
Manufactured	Copier	New	ENERGY STAR Copier	ENERGY STAR Copier	Standard Office Copier	Per Installation	81.4	6	1.00	90%	20%	0.00	29.3	0
Manufactured	Dehumidifier	Existing	ENERGY STAR Dehumidifiers	ENERGY STAR Dehumidifier	Federal Standard 2013 Dehumidifier	Per Installation	169.6	12	20.21	90%	100%	0.02	5.4	23
Manufactured	Dehumidifier	New	ENERGY STAR Dehumidifiers	ENERGY STAR Dehumidifier	Federal Standard 2013 Dehumidifier	Per Installation	169.6	12	20.21	90%	100%	0.02	5.4	1
Manufactured	Dryer	Existing	ENERGY STAR Dryer - CEF/EF 3.93/4.04	ENERGY STAR Dryer - CEF/EF 3.93/4.04	Federal Standard 2015 Dryer - CEF/EF 3.73/3.83	Per Installation	27.4	13	51.91	90%	100%	0.29	0.4	0
Manufactured	Dryer	New	ENERGY STAR Dryer - CEF/EF 3.93/4.04	ENERGY STAR Dryer - CEF/EF 3.93/4.04	Federal Standard 2015 Dryer - CEF/EF 3.73/3.83	Per Installation	27.4	13	51.91	90%	100%	0.29	0.4	0
Manufactured	Dryer	Existing	Heat Pump Dryer	Heat Pump Dryer	Federal Standard 2015 Dryer - CEF/EF 3.73/3.83	Per Installation	277.6	13	409.33	90%	100%	0.23	0.5	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Manufactured	Dryer	New	Heat Pump Dryer	Heat Pump Dryer	Federal Standard 2015 Dryer - CEF/EF 3.73/3.83	Per Installation	277.6	13	409.33	90%	100%	0.23	0.5	0
Manufactured	Fax	Existing	ENERGY STAR Fax Machine	ENERGY STAR Fax Machine	Standard Fax Machine	Per Installation	15.6	4	60.00	90%	20%	1.39	0.1	0
Manufactured	Fax	New	ENERGY STAR Fax Machine	ENERGY STAR Fax Machine	Standard Fax Machine	Per Installation	15.6	4	60.00	90%	20%	1.39	0.1	0
Manufactured	Freezer	Existing	ENERGY STAR Freezers	ENERGY STAR Freezer	Federal Standard 2015 Freezer	Per Installation	34.3	12	6.61	90%	100%	0.03	3.3	77
Manufactured	Freezer	New	ENERGY STAR Freezers	ENERGY STAR Freezer	Federal Standard 2015 Freezer	Per Installation	34.3	12	6.61	90%	100%	0.03	3.3	3
Manufactured	Freezer	Existing	Refrigerator / Freezer Recycling with Replacement	Proper Disposal of Refrigerator/Freezer and Replacing with New Unit	Existing Non-Efficient Refrigerator/Freezer	Per Home	547.7	7	120.00	18%	94%	0.05	1.9	0
Manufactured	Freezer	Existing	Refrigerator / Freezer Recycling without Replacement	Proper Disposal of Refrigerator/Freezer	Existing Non-Efficient Refrigerator/Freezer	Per Home	1072.9	8	120.00	2%	94%	0.02	4.1	0
Manufactured	Heat Central	Existing	Air Sealing	Air Sealing	No Air Sealing	Per Home	1354.6	15	465.27	56%	21%	0.05	2.2	62
Manufactured	Heat Central	New	Air Sealing	Air Sealing	No Air Sealing	Per Home	1354.6	15	465.27	0%	21%	0.05	2.2	0
Manufactured	Heat Central	Existing	Basement / Crawlspace Wall Insulation	R-13 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	625.9	25	642.94	0%	35%	0.12	1.0	0
Manufactured	Heat Central	Existing	Basement / Crawlspace Wall Insulation	R-21 (Above Code)	R-13 (IECC 2009 - Zone 5)	Per Home	361.3	25	231.98	0%	77%	0.07	1.6	0
Manufactured	Heat Central	New	Basement / Crawlspace Wall Insulation	R-21 (Above Code)	R-13 (IECC 2009 - Zone 5)	Per Home	361.3	25	231.98	0%	77%	0.07	1.6	0
Manufactured	Heat Central	Existing	Ceiling / Attic Insulation	R-38 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	753.8	25	2791.63	75%	13%	0.42	0.3	0
Manufactured	Heat Central	Existing	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	249.4	25	399.82	40%	55%	0.18	0.6	0
Manufactured	Heat Central	New	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	249.4	25	399.82	60%	55%	0.18	0.6	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Manufactured	Heat Central	New	Construction - ICF/SIP	Insulating Concrete Form (ICF) or Structural Insulated Panels (SIP)	Standard Wood Framing	Per Home	720.5	40	2287.32	25%	100%	0.32	0.4	0
Manufactured	Heat Central	Existing	Duct Insulation	R-6 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	330.1	15	206.20	50%	69%	0.09	1.2	43
Manufactured	Heat Central	Existing	Duct Sealing	Duct Sealing	No Duct Sealing	Per Home	1561.2	20	96.23	50%	34%	0.01	14.7	106
Manufactured	Heat Central	New	Duct Sealing	Duct Sealing	No Duct Sealing	Per Home	1561.2	20	96.23	0%	34%	0.01	14.7	0
Manufactured	Heat Central	Existing	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	421.5	15	577.77	100%	12%	0.19	0.5	0
Manufactured	Heat Central	New	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	421.5	15	577.77	100%	12%	0.19	0.5	0
Manufactured	Heat Central	Existing	Floor Insulation	R-30 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	860.0	25	2712.33	100%	50%	0.36	0.3	0
Manufactured	Heat Central	Existing	Floor Insulation	R-38 (Above Code)	R-30 (IECC 2009 - Zone 5)	Per Home	296.2	25	549.87	100%	50%	0.21	0.6	0
Manufactured	Heat Central	New	Floor Insulation	R-38 (Above Code)	R-30 (IECC 2009 - Zone 5)	Per Home	296.2	25	549.87	100%	50%	0.21	0.6	0
Manufactured	Heat Central	Existing	Programmable Thermostat	Programmable Thermostat	Manual Thermostat	Per Home	242.1	11	64.00	0%	73%	0.04	2.2	0
Manufactured	Heat Central	New	Programmable Thermostat	Programmable Thermostat	Manual Thermostat	Per Home	199.5	11	31.15	95%	73%	0.03	3.7	2
Manufactured	Heat Central	Existing	Smart Thermostat	WiFi Thermostat	Programmable Thermostat	Per Home	396.8	11	197.59	25%	95%	0.08	1.2	68
Manufactured	Heat Central	New	Smart Thermostat	WiFi Thermostat	Programmable Thermostat	Per Home	327.0	11	197.59	95%	95%	0.10	1.0	0
Manufactured	Heat Central	Existing	Wall Insulation	R-13 Wall (Max Fill)	Average Existing Wall Insulation	Per Home	1133.5	25	956.75	10%	62%	0.10	1.2	27
Manufactured	Heat Central	Existing	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	185.4	25	465.45	20%	14%	0.29	0.4	0
Manufactured	Heat Central	New	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	185.4	25	465.45	95%	14%	0.29	0.4	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Manufactured	Heat Central	Existing	Windows	U-0.35 (IECC 2009 - Zone 5)	Average Existing Window	Per Home	421.5	15	449.35	100%	12%	0.15	0.7	0
Manufactured	Heat Pump	Existing	Air Sealing	Air Sealing	No Air Sealing	Per Home	822.9	15	465.27	56%	21%	0.08	1.4	59
Manufactured	Heat Pump	New	Air Sealing	Air Sealing	No Air Sealing	Per Home	822.9	15	465.27	0%	21%	0.08	1.4	0
Manufactured	Heat Pump	Existing	Air Source Heat Pump Maintenance	Tune-up/Maintenance on Air Source Heat Pump	No Tune-up Maintenance on Air Source Heat Pump	Per Home	293.7	7	100.00	95%	84%	0.08	1.2	191
Manufactured	Heat Pump	Existing	Basement / Crawlspace Wall Insulation	R-13 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	277.3	25	642.94	0%	35%	0.26	0.5	0
Manufactured	Heat Pump	Existing	Basement / Crawlspace Wall Insulation	R-21 (Above Code)	R-13 (IECC 2009 - Zone 5)	Per Home	160.1	25	231.98	0%	77%	0.16	0.7	0
Manufactured	Heat Pump	New	Basement / Crawlspace Wall Insulation	R-21 (Above Code)	R-13 (IECC 2009 - Zone 5)	Per Home	160.1	25	231.98	0%	77%	0.16	0.7	0
Manufactured	Heat Pump	Existing	Ceiling / Attic Insulation	R-38 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	334.0	25	2791.63	75%	13%	0.95	0.1	0
Manufactured	Heat Pump	Existing	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	110.5	25	399.82	40%	55%	0.41	0.3	0
Manufactured	Heat Pump	New	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	110.5	25	399.82	60%	55%	0.41	0.3	0
Manufactured	Heat Pump	Existing	Cold Climate Heat Pump	Cold Climate Heat Pump - SEER/EER 21.5/12 and HSPF 10.3 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	1303.5	12	2086.19	90%	100%	0.26	0.4	0
Manufactured	Heat Pump	New	Cold Climate Heat Pump	Cold Climate Heat Pump - SEER/EER 21.5/12 and HSPF 10.3 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	1074.2	12	1719.14	90%	100%	0.26	0.4	0
Manufactured	Heat Pump	New	Construction - ICF/SIP	Insulating Concrete Form (ICF) or Structural Insulated Panels (SIP)	Standard Wood Framing	Per Home	711.9	40	2287.32	25%	100%	0.33	0.4	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Manufactured	Heat Pump	Existing	Duct Insulation	R-6 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	290.0	15	206.20	50%	69%	0.10	1.1	56
Manufactured	Heat Pump	Existing	Duct Sealing	Duct Sealing	No Duct Sealing	Per Home	807.5	20	96.23	50%	34%	0.01	7.8	83
Manufactured	Heat Pump	New	Duct Sealing	Duct Sealing	No Duct Sealing	Per Home	807.5	20	96.23	0%	34%	0.01	7.8	0
Manufactured	Heat Pump	Existing	ENERGY STAR Air Source Heat Pump	ENERGY STAR Air Source Heat Pump - SEER/EER 14.5/12 and HSPF 8.2 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	33.2	12	222.21	90%	100%	1.07	0.1	0
Manufactured	Heat Pump	New	ENERGY STAR Air Source Heat Pump	ENERGY STAR Air Source Heat Pump - SEER/EER 14.5/12 and HSPF 8.2 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	27.3	12	183.11	90%	100%	1.07	0.1	0
Manufactured	Heat Pump	Existing	ENERGY STAR Ground Source Heat Pump	ENERGY STAR Ground Source Heat Pump - EER 17.1 and 3.6 COP (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	1753.6	15	8663.12	90%	100%	0.70	0.2	0
Manufactured	Heat Pump	New	ENERGY STAR Ground Source Heat Pump	ENERGY STAR Ground Source Heat Pump - EER 17.1 and 3.6 COP (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	1445.1	15	7138.90	90%	100%	0.70	0.2	0
Manufactured	Heat Pump	Existing	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	237.7	15	577.77	100%	12%	0.34	0.3	0
Manufactured	Heat Pump	New	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	237.7	15	577.77	100%	12%	0.34	0.3	0
Manufactured	Heat Pump	Existing	Floor Insulation	R-30 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	413.7	25	2712.33	100%	50%	0.75	0.2	0
Manufactured	Heat Pump	Existing	Floor Insulation	R-38 (Above Code)	R-30 (IECC 2009 - Zone 5)	Per Home	142.5	25	549.87	100%	50%	0.44	0.3	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/c Ratio	Achievable Potential (MWh)
Manufactured	Heat Pump	New	Floor Insulation	R-38 (Above Code)	R-30 (IECC 2009 - Zone 5)	Per Home	142.5	25	549.87	100%	50%	0.44	0.3	0
Manufactured	Heat Pump	Existing	Heat Pump - Air Source CEE Tier 2	CEE Tier 2 Air Source Heat Pump - SEER/EER 15/12.5 and HSPF 8.5 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	231.7	12	444.41	90%	100%	0.31	0.3	0
Manufactured	Heat Pump	New	Heat Pump - Air Source CEE Tier 2	CEE Tier 2 Air Source Heat Pump - SEER/EER 15/12.5 and HSPF 8.5 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	190.9	12	366.22	90%	100%	0.31	0.3	0
Manufactured	Heat Pump	Existing	Heat Pump - Air Source Enhanced	Enhanced Air Source Heat Pump - SEER/EER 18/14 and HSPF 9.5 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	863.4	12	3333.08	90%	100%	0.62	0.2	0
Manufactured	Heat Pump	New	Heat Pump - Air Source Enhanced	Enhanced Air Source Heat Pump - SEER/EER 18/14 and HSPF 9.5 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	711.5	12	2746.64	90%	100%	0.62	0.2	0
Manufactured	Heat Pump	Existing	Heat Pump - Air Source Premium	Premium Air Source Heat Pump - SEER/EER 16/13 and HSPF 9.0 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	542.3	12	888.82	90%	100%	0.26	0.4	0
Manufactured	Heat Pump	New	Heat Pump - Air Source Premium	Premium Air Source Heat Pump - SEER/EER 16/13 and HSPF 9.0 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	446.9	12	732.44	90%	100%	0.26	0.4	0
Manufactured	Heat Pump	Existing	Programmable Thermostat	Programmable Thermostat	Manual Thermostat	Per Home	218.9	11	64.00	0%	73%	0.05	2.0	0
Manufactured	Heat Pump	New	Programmable Thermostat	Programmable Thermostat	Manual Thermostat	Per Home	180.4	11	31.15	95%	73%	0.03	3.5	3



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Manufactured	Heat Pump	Existing	Radiant Barriers	Install Radiant Barrier	No Radiant Barrier	Per Home	72.3	25	557.84	50%	90%	0.88	0.1	0
Manufactured	Heat Pump	New	Radiant Barriers	Install Radiant Barrier	No Radiant Barrier	Per Home	59.6	25	557.84	75%	90%	1.07	0.1	0
Manufactured	Heat Pump	Existing	Smart Thermostat	WiFi Thermostat	Programmable Thermostat	Per Home	412.5	11	197.59	25%	95%	0.08	1.2	113
Manufactured	Heat Pump	New	Smart Thermostat	WiFi Thermostat	Programmable Thermostat	Per Home	339.9	11	197.59	95%	95%	0.10	1.0	10
Manufactured	Heat Pump	Existing	Wall Insulation	R-13 Wall (Max Fill)	Average Existing Wall Insulation	Per Home	536.3	25	956.75	10%	62%	0.20	0.6	0
Manufactured	Heat Pump	Existing	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	87.7	25	465.45	20%	14%	0.60	0.2	0
Manufactured	Heat Pump	New	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	87.7	25	465.45	95%	14%	0.60	0.2	0
Manufactured	Heat Pump	Existing	Window Film	Window Film	No Window Film	Per Home	23.1	20	566.90	38%	95%	3.04	0.0	0
Manufactured	Heat Pump	New	Window Film	Window Film	No Window Film	Per Home	13.2	20	566.90	0%	95%	5.29	0.0	0
Manufactured	Heat Pump	Existing	Windows	U-0.35 (IECC 2009 - Zone 5)	Average Existing Window	Per Home	237.7	15	449.35	100%	12%	0.27	0.4	0
Manufactured	Heat Room	Existing	Air Sealing	Air Sealing	No Air Sealing	Per Home	1354.6	15	465.27	56%	21%	0.05	2.2	9
Manufactured	Heat Room	New	Air Sealing	Air Sealing	No Air Sealing	Per Home	1354.6	15	465.27	0%	21%	0.05	2.2	0
Manufactured	Heat Room	Existing	Basement / Crawlspace Wall Insulation	R-13 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	625.9	25	642.94	0%	35%	0.12	1.0	0
Manufactured	Heat Room	Existing	Basement / Crawlspace Wall Insulation	R-21 (Above Code)	R-13 (IECC 2009 - Zone 5)	Per Home	361.3	25	231.98	0%	77%	0.07	1.6	0
Manufactured	Heat Room	New	Basement / Crawlspace Wall Insulation	R-21 (Above Code)	R-13 (IECC 2009 - Zone 5)	Per Home	361.3	25	231.98	0%	77%	0.07	1.6	0
Manufactured	Heat Room	Existing	Ceiling / Attic Insulation	R-38 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	753.8	25	2791.63	75%	13%	0.42	0.3	0
Manufactured	Heat Room	Existing	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	249.4	25	399.82	40%	55%	0.18	0.6	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/c Ratio	Achievable Potential (MWh)
Manufactured	Heat Room	New	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	249.4	25	399.82	60%	55%	0.18	0.6	0
Manufactured	Heat Room	New	Construction - ICF/SIP	Insulating Concrete Form (ICF) or Structural Insulated Panels (SIP)	Standard Wood Framing	Per Home	556.8	40	2287.32	25%	100%	0.42	0.3	0
Manufactured	Heat Room	Existing	Ductless Mini-Split HP / AC	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0	Standard Baseboard Heating - HSPF 3.41	Per Installation	2714.2	15	3957.61	90%	100%	0.21	0.5	0
Manufactured	Heat Room	New	Ductless Mini-Split HP / AC	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0	Standard Baseboard Heating - HSPF 3.41	Per Installation	2236.7	15	3261.29	90%	100%	0.21	0.5	0
Manufactured	Heat Room	Existing	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	237.7	15	577.77	100%	12%	0.34	0.3	0
Manufactured	Heat Room	New	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	237.7	15	577.77	100%	12%	0.34	0.3	0
Manufactured	Heat Room	Existing	Floor Insulation	R-30 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	439.4	25	2712.33	100%	50%	0.70	0.2	0
Manufactured	Heat Room	Existing	Floor Insulation	R-38 (Above Code)	R-30 (IECC 2009 - Zone 5)	Per Home	151.3	25	549.87	100%	50%	0.41	0.3	0
Manufactured	Heat Room	New	Floor Insulation	R-38 (Above Code)	R-30 (IECC 2009 - Zone 5)	Per Home	151.3	25	549.87	100%	50%	0.41	0.3	0
Manufactured	Heat Room	Existing	Wall Insulation	R-13 Wall (Max Fill)	Average Existing Wall Insulation	Per Home	1133.5	25	956.75	10%	62%	0.10	1.2	4
Manufactured	Heat Room	Existing	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	185.4	25	465.45	20%	14%	0.29	0.4	0
Manufactured	Heat Room	New	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	185.4	25	465.45	95%	14%	0.29	0.4	0
Manufactured	Heat Room	Existing	Windows	U-0.35 (IECC 2009 - Zone 5)	Average Existing Window	Per Home	237.7	15	449.35	100%	12%	0.27	0.4	0
Manufactured	Lighting Exterior	Existing	ENERGY STAR General Service CFL	High Efficiency General Service Lamp - CFL	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	48.5	5	1.40	90%	100%	0.01	10.9	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Manufactured	Lighting Exterior	New	ENERGY STAR General Service CFL	High Efficiency General Service Lamp -CFL	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	48.5	5	1.40	90%	100%	0.01	10.9	0
Manufactured	Lighting Exterior	Existing	ENERGY STAR General Service LED	Premium Efficiency General Service Lamp -LED	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	51.8	15	12.76	90%	100%	0.05	2.5	300
Manufactured	Lighting Exterior	New	ENERGY STAR General Service LED	Premium Efficiency General Service Lamp -LED	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	51.8	15	12.76	90%	100%	0.05	2.5	8
Manufactured	Lighting Exterior	Existing	Lighting General Service Lamp - EISA Standard 2020	EISA Standard 2020 General Service Lamp - Incandescent	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	48.5	5	1.40	90%	100%	0.01	10.9	0
Manufactured	Lighting Exterior	New	Lighting General Service Lamp - EISA Standard 2020	EISA Standard 2020 General Service Lamp - Incandescent	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	48.5	5	1.40	90%	100%	0.01	10.9	0
Manufactured	Lighting Exterior	Existing	Residential Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Home	26.2	10	253.78	20%	83%	1.75	0.1	0
Manufactured	Lighting Exterior	New	Residential Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Home	26.2	10	253.78	20%	83%	1.75	0.1	0
Manufactured	Lighting Interior Linear Fluorescent	Existing	ENERGY STAR Indoor Fluorescent Fixture	ENERGY STAR Indoor T8 Fluorescent Fixture	Standard Indoor T12 Fixture	Per Installation	13.4	13	52.45	90%	100%	0.60	0.2	0
Manufactured	Lighting Interior Linear Fluorescent	New	ENERGY STAR Indoor Fluorescent Fixture	ENERGY STAR Indoor T8 Fluorescent Fixture	Standard Indoor T12 Fixture	Per Installation	13.4	13	52.45	90%	100%	0.60	0.2	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Manufactured	Lighting Interior Linear Fluorescent	Existing	Residential Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Home	18.9	10	253.78	20%	83%	2.42	0.0	0
Manufactured	Lighting Interior Linear Fluorescent	New	Residential Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Home	18.9	10	253.78	20%	83%	2.42	0.0	0
Manufactured	Lighting Interior Specialty	Existing	ENERGY STAR Specialty CFL	High Efficiency Specialty Lamp -CFL	Standard Specialty Lamp - Incandescent	Per Installation	35.4	5	1.50	90%	100%	0.01	7.4	0
Manufactured	Lighting Interior Specialty	New	ENERGY STAR Specialty CFL	High Efficiency Specialty Lamp -CFL	Standard Specialty Lamp - Incandescent	Per Installation	35.4	5	1.50	90%	100%	0.01	7.4	0
Manufactured	Lighting Interior Specialty	Existing	ENERGY STAR Specialty LED	Premium Efficiency Specialty Lamp -LED	Standard Specialty Lamp - Incandescent	Per Installation	36.8	15	9.08	90%	100%	0.05	2.4	961
Manufactured	Lighting Interior Specialty	New	ENERGY STAR Specialty LED	Premium Efficiency Specialty Lamp -LED	Standard Specialty Lamp - Incandescent	Per Installation	36.8	15	9.08	90%	100%	0.05	2.4	20
Manufactured	Lighting Interior Specialty	Existing	Electroluminescent Nightlight	Electroluminescent Nightlight	Incandescent Nightlight	Per Home	30.4	8	4.20	25%	91%	0.03	3.4	48
Manufactured	Lighting Interior Specialty	New	Electroluminescent Nightlight	Electroluminescent Nightlight	Incandescent Nightlight	Per Home	30.4	8	2.70	25%	91%	0.02	5.3	1
Manufactured	Lighting Interior Specialty	Existing	Holiday Lights	LED Holiday Lights	Incandescent Holiday Lights	Per Home	10.6	10	7.00	50%	83%	0.12	0.9	0
Manufactured	Lighting Interior Specialty	New	Holiday Lights	LED Holiday Lights	Incandescent Holiday Lights	Per Home	10.6	10	7.00	50%	83%	0.12	0.9	0
Manufactured	Lighting Interior Specialty	Existing	LED Nightlight	LED Nightlight	Incandescent Nightlight	Per Home	26.3	10	2.00	25%	60%	0.01	7.4	0
Manufactured	Lighting Interior Specialty	New	LED Nightlight	LED Nightlight	Incandescent Nightlight	Per Home	26.3	10	0.50	25%	60%	0.00	29.6	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Manufactured	Lighting Interior Specialty	Existing	Residential Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Home	13.3	10	253.78	20%	83%	3.44	0.0	0
Manufactured	Lighting Interior Specialty	New	Residential Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Home	13.3	10	253.78	20%	83%	3.44	0.0	0
Manufactured	Lighting Interior Standard	Existing	ENERGY STAR General Service CFL	High Efficiency General Service Lamp -CFL	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	27.3	5	1.10	90%	100%	0.01	7.8	0
Manufactured	Lighting Interior Standard	New	ENERGY STAR General Service CFL	High Efficiency General Service Lamp -CFL	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	27.3	5	1.10	90%	100%	0.01	7.8	0
Manufactured	Lighting Interior Standard	Existing	ENERGY STAR General Service LED	Premium Efficiency General Service Lamp -LED	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	29.3	15	10.47	90%	100%	0.07	1.7	2,871
Manufactured	Lighting Interior Standard	New	ENERGY STAR General Service LED	Premium Efficiency General Service Lamp -LED	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	29.3	15	10.47	90%	100%	0.07	1.7	69
Manufactured	Lighting Interior Standard	Existing	Lighting General Service Lamp - EISA Standard 2020	EISA Standard 2020 General Service Lamp - Incandescent	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	27.3	5	1.10	90%	100%	0.01	7.8	0
Manufactured	Lighting Interior Standard	New	Lighting General Service Lamp - EISA Standard 2020	EISA Standard 2020 General Service Lamp - Incandescent	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	27.3	5	1.10	90%	100%	0.01	7.8	0
Manufactured	Lighting Interior Standard	Existing	Residential Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Home	14.7	10	253.78	20%	83%	3.12	0.0	0
Manufactured	Lighting Interior Standard	New	Residential Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Home	14.7	10	253.78	20%	83%	3.12	0.0	0
Manufactured	Monitor	Existing	ENERGY STAR Monitor	ENERGY STAR Monitor	Standard Monitor	Per Installation	23.8	4	1.00	90%	24%	0.02	6.0	6
Manufactured	Monitor	New	ENERGY STAR Monitor	ENERGY STAR Monitor	Standard Monitor	Per Installation	23.8	4	1.00	90%	24%	0.02	6.0	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Manufactured	Multifunction Device	Existing	ENERGY STAR Multifunction	ENERGY STAR Multifunction Device "All-In-One" Imaging Equipment	Standard Multifunction Device "All-In-One" Imaging Equipment	Per Installation	109.0	6	1.00	90%	100%	0.00	39.3	10
Manufactured	Multifunction Device	New	ENERGY STAR Multifunction	ENERGY STAR Multifunction Device "All-In-One" Imaging Equipment	Standard Multifunction Device "All-In-One" Imaging Equipment	Per Installation	109.0	6	1.00	90%	100%	0.00	39.3	0
Manufactured	Plug Load Other	Existing	ENERGY STAR Air Purifier/Cleaner	ENERGY STAR Air Purifier/Cleaner	Standard Air Purifier/Cleaner	Per Home	34.0	9	0.09	100%	30%	0.00	195.8	109
Manufactured	Plug Load Other	New	ENERGY STAR Air Purifier/Cleaner	ENERGY STAR Air Purifier/Cleaner	Standard Air Purifier/Cleaner	Per Home	34.0	9	0.09	100%	30%	0.00	195.8	3
Manufactured	Plug Load Other	Existing	ENERGY STAR Water Cooler	ENERGY STAR Water Cooler	Standard Water Cooler	Per Home	2.6	10	0.01	95%	58%	0.00	287.2	15
Manufactured	Plug Load Other	New	ENERGY STAR Water Cooler	ENERGY STAR Water Cooler	Standard Water Cooler	Per Home	2.6	10	0.01	95%	58%	0.00	287.2	0
Manufactured	Pool Pump	Existing	Variable Speed Pool Pumps (with Load Shifting Option)	Pool Pump with Variable Speed Drive (VSD)	Standard 1 Speed Pool Pump	Per Installation	1915.2	10	750.00	90%	100%	0.07	1.4	0
Manufactured	Pool Pump	New	Variable Speed Pool Pumps (with Load Shifting Option)	Pool Pump with Variable Speed Drive (VSD)	Standard 1 Speed Pool Pump	Per Installation	1915.2	10	750.00	90%	100%	0.07	1.4	0
Manufactured	Refrigerator	Existing	ENERGY STAR Refrigerators	ENERGY STAR Refrigerator	Federal Standard 2015 Refrigerator	Per Installation	42.6	12	25.25	90%	100%	0.10	1.1	0
Manufactured	Refrigerator	New	ENERGY STAR Refrigerators	ENERGY STAR Refrigerator	Federal Standard 2015 Refrigerator	Per Installation	42.6	12	25.25	90%	100%	0.10	1.1	0
Manufactured	Refrigerator	Existing	Refrigerator - CEE Tier 2	CEE Tier 2 Refrigerator	Federal Standard 2015 Refrigerator	Per Installation	81.8	12	48.46	90%	100%	0.10	1.1	0
Manufactured	Refrigerator	New	Refrigerator - CEE Tier 2	CEE Tier 2 Refrigerator	Federal Standard 2015 Refrigerator	Per Installation	81.8	12	48.46	90%	100%	0.10	1.1	0
Manufactured	Refrigerator	Existing	Refrigerator - CEE Tier 3	CEE Tier 3 Refrigerator	Federal Standard 2015 Refrigerator	Per Installation	108.3	12	64.20	90%	100%	0.10	1.1	741
Manufactured	Refrigerator	New	Refrigerator - CEE Tier 3	CEE Tier 3 Refrigerator	Federal Standard 2015 Refrigerator	Per Installation	108.3	12	64.20	90%	100%	0.10	1.1	32



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Manufactured	Refrigerator	Existing	Refrigerator / Freezer Recycling with Replacement	Proper Disposal of Refrigerator/Freezer and Replacing with New Unit	Existing Non-Efficient Refrigerator/Freezer	Per Home	547.7	7	120.00	18%	94%	0.05	1.9	0
Manufactured	Refrigerator	Existing	Refrigerator / Freezer Recycling without Replacement	Proper Disposal of Refrigerator/Freezer	Existing Non-Efficient Refrigerator/Freezer	Per Home	1072.9	8	120.00	2%	94%	0.02	4.1	0
Manufactured	TV	Existing	ENERGY STAR Televisions < 50"	ENERGY STAR Televisions < 50"	Standard Television < 50"	Per Installation	19.2	6	1.00	90%	15%	0.01	6.9	7
Manufactured	TV	New	ENERGY STAR Televisions < 50"	ENERGY STAR Televisions < 50"	Standard Television < 50"	Per Installation	19.2	6	1.00	90%	15%	0.01	6.9	0
Manufactured	TV	Existing	Smart Strip Plug Outlet	Advanced Power Strip - Load Sensing: TV	Standard Power Strip	Per Home	40.7	4	32.97	56%	95%	0.29	0.3	0
Manufactured	TV	New	Smart Strip Plug Outlet	Advanced Power Strip - Load Sensing: TV	Standard Power Strip	Per Home	40.7	4	15.91	56%	95%	0.14	0.6	0
Manufactured	TV	Existing	Smart Strip Plug Outlet	Advanced Power Strip with Infrared Sensor: TV	Standard Power Strip	Per Home	63.7	4	32.97	92%	95%	0.19	0.5	0
Manufactured	TV	New	Smart Strip Plug Outlet	Advanced Power Strip with Infrared Sensor: TV	Standard Power Strip	Per Home	63.7	4	15.91	92%	95%	0.09	1.0	27
Manufactured	TV	Existing	Smart Strip Plug Outlet	Advanced Power Strip with Occupancy Sensor: TV	Standard Power Strip	Per Home	46.5	4	99.99	0%	95%	0.78	0.1	0
Manufactured	TV	New	Smart Strip Plug Outlet	Advanced Power Strip with Occupancy Sensor: TV	Standard Power Strip	Per Home	46.5	4	82.93	0%	95%	0.65	0.1	0
Manufactured	TV Bigscreen	Existing	ENERGY STAR Televisions > 50"	ENERGY STAR Televisions > 50"	Standard Television > 50"	Per Installation	22.8	6	1.00	90%	44%	0.01	8.2	6
Manufactured	TV Bigscreen	New	ENERGY STAR Televisions > 50"	ENERGY STAR Televisions > 50"	Standard Television > 50"	Per Installation	22.8	6	1.00	90%	44%	0.01	8.2	0
Manufactured	TV Bigscreen	Existing	Smart Strip Plug Outlet	Advanced Power Strip - Load Sensing: TV Bigscreen	Standard Power Strip	Per Home	40.7	4	32.97	5%	95%	0.29	0.3	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Manufactured	TV Bigscreen	New	Smart Strip Plug Outlet	Advanced Power Strip - Load Sensing: TV Bigscreen	Standard Power Strip	Per Home	40.7	4	15.91	5%	95%	0.14	0.6	0
Manufactured	TV Bigscreen	Existing	Smart Strip Plug Outlet	Advanced Power Strip with Infrared Sensor: TV Bigscreen	Standard Power Strip	Per Home	63.7	4	32.97	8%	95%	0.19	0.5	0
Manufactured	TV Bigscreen	New	Smart Strip Plug Outlet	Advanced Power Strip with Infrared Sensor: TV Bigscreen	Standard Power Strip	Per Home	63.7	4	15.91	8%	95%	0.09	1.0	0
Manufactured	TV Bigscreen	Existing	Smart Strip Plug Outlet	Advanced Power Strip with Occupancy Sensor: TV Bigscreen	Standard Power Strip	Per Home	46.5	4	99.99	0%	95%	0.78	0.1	0
Manufactured	TV Bigscreen	New	Smart Strip Plug Outlet	Advanced Power Strip with Occupancy Sensor: TV Bigscreen	Standard Power Strip	Per Home	46.5	4	82.93	0%	95%	0.65	0.1	0
Manufactured	Ventilation And Circulation	Existing	Brushless Fan Motor	Brushless Fan Motor	Standard Motor	Per Home	317.1	18	360.00	75%	90%	0.15	0.9	0
Manufactured	Ventilation And Circulation	New	Brushless Fan Motor	Brushless Fan Motor	Standard Motor	Per Home	261.3	18	153.00	100%	90%	0.08	1.7	9
Manufactured	Ventilation And Circulation	Existing	Furnace Whistle	Furnace Whistle	No Furnace Whistle	Per Home	90.5	14	3.99	80%	90%	0.01	18.5	176
Manufactured	Ventilation And Circulation	Existing	High Efficiency Furnace Fan (on existing furnace)	High Efficiency Furnace Fan	Existing Furnace Motor	Per Home	317.1	15	360.00	75%	90%	0.16	0.8	0
Manufactured	Ventilation And Circulation	Existing	Residential Whole House Fan	Whole House Fan	No Whole House Fan	Per Home	101.6	15	1153.72	50%	91%	1.60	0.1	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Manufactured	Ventilation And Circulation	New	Residential Whole House Fan	Whole House Fan	No Whole House Fan	Per Home	101.6	15	1153.72	50%	91%	1.60	0.1	0
Manufactured	Water Heat GT 55 Gal	Existing	CO2 Heat Pump Water Heater	CO2 Heat Pump Water Heater	Federal Standard 2015 Heat Pump Water Heater > 55 GAL - EF 1.97	Per Installation	1298.5	14	5020.00	90%	100%	0.57	0.2	0
Manufactured	Water Heat GT 55 Gal	New	CO2 Heat Pump Water Heater	CO2 Heat Pump Water Heater	Federal Standard 2015 Heat Pump Water Heater > 55 GAL - EF 1.97	Per Installation	1298.5	14	5020.00	90%	100%	0.57	0.2	0
Manufactured	Water Heat GT 55 Gal	Existing	Desuperheater (on existing GSHP)	Desuperheater (on existing GSHP)	No Desuperheater	Per Home	567.5	30	250.00	20%	79%	0.05	2.6	0
Manufactured	Water Heat GT 55 Gal	Existing	Drain Water Heat Recovery Device	Drain Water Heat Recovery	No Heat Exchanger	Per Home	375.1	25	463.82	30%	90%	0.14	0.9	0
Manufactured	Water Heat GT 55 Gal	New	Drain Water Heat Recovery Device	Drain Water Heat Recovery	No Heat Exchanger	Per Home	375.1	25	463.82	60%	90%	0.14	0.9	0
Manufactured	Water Heat GT 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Federal Standard 2011 Clothes Washer - MEF 1.26 and WF 9.5 (Electric DHW & Dryer)	Per Home	232.9	11	201.86	99%	72%	0.15	0.7	0
Manufactured	Water Heat GT 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Federal Standard 2011 Clothes Washer - MEF 1.26 and WF 9.5 (Electric DHW & Dryer)	Per Home	232.9	11	201.86	99%	72%	0.15	0.7	0
Manufactured	Water Heat GT 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Federal Standard 2016 Clothes Washer - MEF 1.72 and WF 8.0 (Electric DHW & Dryer)	Per Home	66.7	11	76.38	99%	72%	0.19	0.5	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Manufactured	Water Heat GT 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Federal Standard 2016 Clothes Washer - MEF 1.72 and WF 8.0 (Electric DHW & Dryer)	Per Home	66.7	11	76.38	99%	72%	0.19	0.5	0
Manufactured	Water Heat GT 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2011 Clothes Washer - MEF 1.26 and WF 9.5 (Electric DHW & Dryer)	Per Home	297.7	11	310.97	99%	5%	0.18	0.6	0
Manufactured	Water Heat GT 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2011 Clothes Washer - MEF 1.26 and WF 9.5 (Electric DHW & Dryer)	Per Home	297.7	11	310.97	99%	5%	0.18	0.6	0
Manufactured	Water Heat GT 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2016 Clothes Washer - MEF 1.72 and WF 8.0 (Electric DHW & Dryer)	Per Home	131.5	11	185.49	99%	5%	0.24	0.4	0
Manufactured	Water Heat GT 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2016 Clothes Washer - MEF 1.72 and WF 8.0 (Electric DHW & Dryer)	Per Home	131.5	11	185.49	99%	5%	0.24	0.4	0
Manufactured	Water Heat GT 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2018 Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Per Home	67.8	11	109.11	99%	5%	0.27	0.4	0
Manufactured	Water Heat GT 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2018 Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Per Home	67.8	11	109.11	99%	5%	0.27	0.4	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Manufactured	Water Heat GT 55 Gal	Existing	ENERGY STAR Dishwashers (Electric Water Heating)	ENERGY STAR Dishwasher - 295 kWh/yr and 4.25 gal/cycle	Federal Standard 2014 Dishwasher - 307 kWh/yr and 5.0 gal/cycle	Per Home	9.5	10	7.92	76%	56%	0.15	0.7	0
Manufactured	Water Heat GT 55 Gal	New	ENERGY STAR Dishwashers (Electric Water Heating)	ENERGY STAR Dishwasher - 295 kWh/yr and 4.25 gal/cycle	Federal Standard 2014 Dishwasher - 307 kWh/yr and 5.0 gal/cycle	Per Home	9.5	10	7.92	76%	56%	0.15	0.7	0
Manufactured	Water Heat GT 55 Gal	Existing	ENERGY STAR Dishwashers (Gas Water Heating)	ENERGY STAR Dishwasher - 295 kWh/yr and 4.25 gal/cycle	Federal Standard 2014 Dishwasher - 307 kWh/yr and 5.0 gal/cycle	Per Home	9.5	10	7.92	0%	56%	0.15	0.7	0
Manufactured	Water Heat GT 55 Gal	New	ENERGY STAR Dishwashers (Gas Water Heating)	ENERGY STAR Dishwasher - 295 kWh/yr and 4.25 gal/cycle	Federal Standard 2014 Dishwasher - 307 kWh/yr and 5.0 gal/cycle	Per Home	9.5	10	7.92	0%	56%	0.15	0.7	0
Manufactured	Water Heat GT 55 Gal	Existing	Heat Pump Water Heater	Heat Pump Water Heater	Federal Standard 2015 Heat Pump Water Heater > 55 GAL - EF 1.97	Per Installation	36.0	14	100.00	90%	100%	0.41	0.3	0
Manufactured	Water Heat GT 55 Gal	New	Heat Pump Water Heater	Heat Pump Water Heater	Federal Standard 2015 Heat Pump Water Heater > 55 GAL - EF 1.97	Per Installation	36.0	14	100.00	90%	100%	0.41	0.3	0
Manufactured	Water Heat GT 55 Gal	Existing	Heater Pipe Insulation	R-4 Wrap	No insulation	Per Home	30.0	13	9.00	95%	80%	0.05	2.3	0
Manufactured	Water Heat GT 55 Gal	Existing	Low Flow Faucet Aerator (Bathroom/Kitchen)	0.5 GPM	2.2 GPM	Per Home	421.5	12	0.75	95%	95%	0.00	353.9	0
Manufactured	Water Heat GT 55 Gal	New	Low Flow Faucet Aerator (Bathroom/Kitchen)	0.5 GPM	2.2 GPM	Per Home	421.5	12	0.75	95%	95%	0.00	353.9	0
Manufactured	Water Heat GT 55 Gal	Existing	Low Flow Faucet Aerator (Bathroom/Kitchen)	1.0 GPM	2.2 GPM	Per Home	297.5	12	0.50	95%	80%	0.00	374.7	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Manufactured	Water Heat GT 55 Gal	New	Low Flow Faucet Aerator (Bathroom/Kitchen)	1.0 GPM	2.2 GPM	Per Home	297.5	12	0.50	95%	80%	0.00	374.7	0
Manufactured	Water Heat GT 55 Gal	Existing	Low Flow Faucet Aerator (Bathroom/Kitchen)	1.5 GPM	2.2 GPM	Per Home	173.6	12	0.25	95%	61%	0.00	437.2	0
Manufactured	Water Heat GT 55 Gal	New	Low Flow Faucet Aerator (Bathroom/Kitchen)	1.5 GPM	2.2 GPM	Per Home	173.6	12	0.25	95%	65%	0.00	437.2	0
Manufactured	Water Heat GT 55 Gal	Existing	Low Flow Faucet Aerator (Bathroom/Kitchen)	2.2 GPM	Existing Faucet Aerator (3.0 GPM)	Per Home	198.3	12	4.05	95%	15%	0.00	31.0	0
Manufactured	Water Heat GT 55 Gal	Existing	Low Flow Showerhead	1.5 GPM	2.5 GPM	Per Home	334.1	9	6.47	95%	30%	0.00	25.6	0
Manufactured	Water Heat GT 55 Gal	New	Low Flow Showerhead	1.5 GPM	2.5 GPM	Per Home	334.1	9	4.32	95%	85%	0.00	38.3	0
Manufactured	Water Heat GT 55 Gal	Existing	Low Flow Showerhead	1.75 GPM	2.5 GPM	Per Home	250.6	9	5.39	95%	35%	0.00	23.0	0
Manufactured	Water Heat GT 55 Gal	New	Low Flow Showerhead	1.75 GPM	2.5 GPM	Per Home	250.6	9	3.24	95%	75%	0.00	38.3	0
Manufactured	Water Heat GT 55 Gal	Existing	Low Flow Showerhead	2.0 GPM	2.5 GPM	Per Home	167.1	9	4.32	95%	45%	0.00	19.2	0
Manufactured	Water Heat GT 55 Gal	New	Low Flow Showerhead	2.0 GPM	2.5 GPM	Per Home	167.1	9	2.16	95%	65%	0.00	38.3	0
Manufactured	Water Heat GT 55 Gal	Existing	Low Flow Showerhead	2.5 GPM	Existing Showerhead (3.0 GPM)	Per Home	167.1	9	2.16	95%	25%	0.00	38.3	0
Manufactured	Water Heat GT 55 Gal	Existing	Showerstart	Add Thermostatic Shower Restriction Valve	No Thermostatic Shower Restriction Valve	Per Home	124.1	10	26.97	90%	100%	0.04	2.5	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Manufactured	Water Heat GT 55 Gal	New	Showerstart	Add Thermostatic Shower Restriction Valve	No Thermostatic Shower Restriction Valve	Per Home	124.1	10	26.97	90%	100%	0.04	2.5	0
Manufactured	Water Heat GT 55 Gal	Existing	Solar Water Heaters	Solar Water Heaters	Federal Standard 2015 Heat Pump Water Heater > 55 GAL - EF 1.97	Per Installation	164.6	15	6534.00	90%	100%	5.61	0.0	0
Manufactured	Water Heat GT 55 Gal	New	Solar Water Heaters	Solar Water Heaters	Federal Standard 2015 Heat Pump Water Heater > 55 GAL - EF 1.97	Per Installation	164.6	15	6534.00	90%	100%	5.61	0.0	0
Manufactured	Water Heat GT 55 Gal	Existing	Water Heater Tank Wrap	Install Insulation (R-10)	No Tank Insulation	Per Home	231.0	7	50.00	25%	92%	0.05	1.9	0
Manufactured	Water Heat GT 55 Gal	New	Water Heater Tank Wrap	Install Insulation (R-10)	No Tank Insulation	Per Home	231.0	7	50.00	0%	92%	0.05	1.9	0
Manufactured	Water Heat GT 55 Gal	Existing	Water Heater Temperature Setback	120 degrees	130 degrees	Per Home	105.9	4	1.00	95%	15%	0.00	26.3	0
Manufactured	Water Heat GT 55 Gal	New	Water Heater Temperature Setback	120 degrees	130 degrees	Per Home	105.9	4	1.00	95%	15%	0.00	26.3	0
Manufactured	Water Heat LE 55 Gal	Existing	CO2 Heat Pump Water Heater	CO2 Heat Pump Water Heater	Federal Standard 2015 Storage Water Heater = 55 GAL - EF 0.95	Per Installation	2362.0	14	5900.00	90%	100%	0.37	0.3	0
Manufactured	Water Heat LE 55 Gal	New	CO2 Heat Pump Water Heater	CO2 Heat Pump Water Heater	Federal Standard 2015 Storage Water Heater = 55 GAL - EF 0.95	Per Installation	2362.0	14	5900.00	90%	100%	0.37	0.3	0
Manufactured	Water Heat LE 55 Gal	Existing	Desuperheater (on existing GSHP)	Desuperheater (on existing GSHP)	No Desuperheater	Per Home	567.5	30	250.00	20%	79%	0.05	2.6	273
Manufactured	Water Heat LE 55 Gal	Existing	Drain Water Heat Recovery Device	Drain Water Heat Recovery	No Heat Exchanger	Per Home	375.1	25	463.82	30%	90%	0.14	0.9	0
Manufactured	Water Heat LE 55 Gal	New	Drain Water Heat Recovery Device	Drain Water Heat Recovery	No Heat Exchanger	Per Home	375.1	25	463.82	60%	90%	0.14	0.9	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Manufactured	Water Heat LE 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Federal Standard 2011 Clothes Washer - MEF 1.26 and WF 9.5 (Electric DHW & Dryer)	Per Home	232.9	11	201.86	99%	72%	0.15	0.7	0
Manufactured	Water Heat LE 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Federal Standard 2011 Clothes Washer - MEF 1.26 and WF 9.5 (Electric DHW & Dryer)	Per Home	232.9	11	201.86	99%	72%	0.15	0.7	0
Manufactured	Water Heat LE 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Federal Standard 2016 Clothes Washer - MEF 1.72 and WF 8.0 (Electric DHW & Dryer)	Per Home	66.7	11	76.38	99%	72%	0.19	0.5	0
Manufactured	Water Heat LE 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Federal Standard 2016 Clothes Washer - MEF 1.72 and WF 8.0 (Electric DHW & Dryer)	Per Home	66.7	11	76.38	99%	72%	0.19	0.5	0
Manufactured	Water Heat LE 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2011 Clothes Washer - MEF 1.26 and WF 9.5 (Electric DHW & Dryer)	Per Home	297.7	11	310.97	99%	5%	0.18	0.6	0
Manufactured	Water Heat LE 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2011 Clothes Washer - MEF 1.26 and WF 9.5 (Electric DHW & Dryer)	Per Home	297.7	11	310.97	99%	5%	0.18	0.6	0
Manufactured	Water Heat LE 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2016 Clothes Washer - MEF 1.72 and WF 8.0 (Electric DHW & Dryer)	Per Home	131.5	11	185.49	99%	5%	0.24	0.4	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Manufactured	Water Heat LE 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2016 Clothes Washer - MEF 1.72 and WF 8.0 (Electric DHW & Dryer)	Per Home	131.5	11	185.49	99%	5%	0.24	0.4	0
Manufactured	Water Heat LE 55 Gal	Existing	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2018 Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Per Home	67.8	11	109.11	99%	5%	0.27	0.4	0
Manufactured	Water Heat LE 55 Gal	New	ENERGY STAR Clothes Washers (Electric Water Heating)	ENERGY STAR Most Efficient Clothes Washer - MEF 2.4 and WF 4.5 (Electric DHW & Dryer)	Federal Standard 2018 Clothes Washer - MEF 2.0 and WF 6.0 (Electric DHW & Dryer)	Per Home	67.8	11	109.11	99%	5%	0.27	0.4	0
Manufactured	Water Heat LE 55 Gal	Existing	ENERGY STAR Dishwashers (Electric Water Heating)	ENERGY STAR Dishwasher - 295 kWh/yr and 4.25 gal/cycle	Federal Standard 2014 Dishwasher - 307 kWh/yr and 5.0 gal/cycle	Per Home	9.5	10	7.92	76%	56%	0.15	0.7	0
Manufactured	Water Heat LE 55 Gal	New	ENERGY STAR Dishwashers (Electric Water Heating)	ENERGY STAR Dishwasher - 295 kWh/yr and 4.25 gal/cycle	Federal Standard 2014 Dishwasher - 307 kWh/yr and 5.0 gal/cycle	Per Home	9.5	10	7.92	76%	56%	0.15	0.7	0
Manufactured	Water Heat LE 55 Gal	Existing	ENERGY STAR Dishwashers (Gas Water Heating)	ENERGY STAR Dishwasher - 295 kWh/yr and 4.25 gal/cycle	Federal Standard 2014 Dishwasher - 307 kWh/yr and 5.0 gal/cycle	Per Home	9.5	10	7.92	0%	56%	0.15	0.7	0
Manufactured	Water Heat LE 55 Gal	New	ENERGY STAR Dishwashers (Gas Water Heating)	ENERGY STAR Dishwasher - 295 kWh/yr and 4.25 gal/cycle	Federal Standard 2014 Dishwasher - 307 kWh/yr and 5.0 gal/cycle	Per Home	9.5	10	7.92	0%	56%	0.15	0.7	0
Manufactured	Water Heat LE 55 Gal	Existing	Efficient Electric Water Heaters	Efficient Electric Water Heaters	Federal Standard 2015 Storage Water Heater = 55 GAL - EF 0.95	Per Installation	65.4	14	116.00	90%	100%	0.26	0.4	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Manufactured	Water Heat LE 55 Gal	New	Efficient Electric Water Heaters	Efficient Electric Water Heaters	Federal Standard 2015 Storage Water Heater = 55 GAL - EF 0.95	Per Installation	65.3	14	116.00	90%	100%	0.26	0.4	0
Manufactured	Water Heat LE 55 Gal	Existing	Heat Pump Water Heater	Heat Pump Water Heater	Federal Standard 2015 Storage Water Heater = 55 GAL - EF 0.95	Per Installation	1440.7	14	945.00	90%	100%	0.10	1.1	3,111
Manufactured	Water Heat LE 55 Gal	New	Heat Pump Water Heater	Heat Pump Water Heater	Federal Standard 2015 Storage Water Heater = 55 GAL - EF 0.95	Per Installation	1438.5	14	945.00	90%	100%	0.10	1.1	107
Manufactured	Water Heat LE 55 Gal	Existing	Heater Pipe Insulation	R-4 Wrap	No insulation	Per Home	30.0	13	9.00	95%	80%	0.05	2.3	72
Manufactured	Water Heat LE 55 Gal	Existing	Low Flow Faucet Aerator (Bathroom/Kitchen)	0.5 GPM	2.2 GPM	Per Home	421.5	12	0.75	95%	95%	0.00	353.9	2,109
Manufactured	Water Heat LE 55 Gal	New	Low Flow Faucet Aerator (Bathroom/Kitchen)	0.5 GPM	2.2 GPM	Per Home	421.5	12	0.75	95%	95%	0.00	353.9	56
Manufactured	Water Heat LE 55 Gal	Existing	Low Flow Faucet Aerator (Bathroom/Kitchen)	1.0 GPM	2.2 GPM	Per Home	297.5	12	0.50	95%	80%	0.00	374.7	0
Manufactured	Water Heat LE 55 Gal	New	Low Flow Faucet Aerator (Bathroom/Kitchen)	1.0 GPM	2.2 GPM	Per Home	297.5	12	0.50	95%	80%	0.00	374.7	0
Manufactured	Water Heat LE 55 Gal	Existing	Low Flow Faucet Aerator (Bathroom/Kitchen)	1.5 GPM	2.2 GPM	Per Home	173.6	12	0.25	95%	61%	0.00	437.2	0
Manufactured	Water Heat LE 55 Gal	New	Low Flow Faucet Aerator (Bathroom/Kitchen)	1.5 GPM	2.2 GPM	Per Home	173.6	12	0.25	95%	65%	0.00	437.2	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Manufactured	Water Heat LE 55 Gal	Existing	Low Flow Faucet Aerator (Bathroom/Kitchen)	2.2 GPM	Existing Faucet Aerator (3.0 GPM)	Per Home	198.3	12	4.05	95%	15%	0.00	31.0	157
Manufactured	Water Heat LE 55 Gal	Existing	Low Flow Showerhead	1.5 GPM	2.5 GPM	Per Home	334.1	9	6.47	95%	25%	0.00	25.6	440
Manufactured	Water Heat LE 55 Gal	New	Low Flow Showerhead	1.5 GPM	2.5 GPM	Per Home	334.1	9	4.32	95%	85%	0.00	38.3	40
Manufactured	Water Heat LE 55 Gal	Existing	Low Flow Showerhead	1.75 GPM	2.5 GPM	Per Home	250.6	9	5.39	95%	35%	0.00	23.0	0
Manufactured	Water Heat LE 55 Gal	New	Low Flow Showerhead	1.75 GPM	2.5 GPM	Per Home	250.6	9	3.24	95%	75%	0.00	38.3	0
Manufactured	Water Heat LE 55 Gal	Existing	Low Flow Showerhead	2.0 GPM	2.5 GPM	Per Home	167.1	9	4.32	95%	45%	0.00	19.2	0
Manufactured	Water Heat LE 55 Gal	New	Low Flow Showerhead	2.0 GPM	2.5 GPM	Per Home	167.1	9	2.16	95%	65%	0.00	38.3	0
Manufactured	Water Heat LE 55 Gal	Existing	Low Flow Showerhead	2.5 GPM	Existing Showerhead (3.0 GPM)	Per Home	167.1	9	2.16	95%	25%	0.00	38.3	220
Manufactured	Water Heat LE 55 Gal	Existing	Showerstart	Add Thermostatic Shower Restriction Valve	No Thermostatic Shower Restriction Valve	Per Home	124.1	10	26.97	90%	100%	0.04	2.5	163
Manufactured	Water Heat LE 55 Gal	New	Showerstart	Add Thermostatic Shower Restriction Valve	No Thermostatic Shower Restriction Valve	Per Home	124.1	10	26.97	90%	100%	0.04	2.5	4
Manufactured	Water Heat LE 55 Gal	Existing	Solar Water Heaters	Solar Water Heaters	Federal Standard 2015 Storage Water Heater = 55 GAL - EF 0.95	Per Installation	1534.4	15	5236.93	90%	100%	0.48	0.2	0
Manufactured	Water Heat LE 55 Gal	New	Solar Water Heaters	Solar Water Heaters	Federal Standard 2015 Storage Water Heater = 55 GAL - EF 0.95	Per Installation	1532.1	15	5236.93	90%	100%	0.48	0.2	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Manufactured	Water Heat LE 55 Gal	Existing	Water Heater Tank Wrap	Install Insulation (R-10)	No Tank Insulation	Per Home	296.7	7	50.00	25%	92%	0.04	2.4	156
Manufactured	Water Heat LE 55 Gal	New	Water Heater Tank Wrap	Install Insulation (R-10)	No Tank Insulation	Per Home	296.7	7	50.00	0%	92%	0.04	2.4	0
Manufactured	Water Heat LE 55 Gal	Existing	Water Heater Temperature Setback	120 degrees	130 degrees	Per Home	105.9	4	1.00	95%	15%	0.00	26.3	62
Manufactured	Water Heat LE 55 Gal	New	Water Heater Temperature Setback	120 degrees	130 degrees	Per Home	105.9	4	1.00	95%	15%	0.00	26.3	2
Multi-family	Computer Desktop	Existing	ENERGY STAR Computer - Desktop	ENERGY STAR Computer - Desktop	Standard Desktop	Per Installation	70.7	4	1.00	90%	73%	0.01	17.8	490
Multi-family	Computer Desktop	New	ENERGY STAR Computer - Desktop	ENERGY STAR Computer - Desktop	Standard Desktop	Per Installation	70.7	4	1.00	90%	73%	0.01	17.8	15
Multi-family	Computer Desktop	Existing	Smart Strip Plug Outlet	Advanced Power Strip - Load Sensing: Computer Desktop	Standard Power Strip	Per Home	40.7	4	32.97	39%	95%	0.29	0.3	0
Multi-family	Computer Desktop	New	Smart Strip Plug Outlet	Advanced Power Strip - Load Sensing: Computer Desktop	Standard Power Strip	Per Home	40.7	4	15.91	39%	95%	0.14	0.6	0
Multi-family	Computer Desktop	Existing	Smart Strip Plug Outlet	Advanced Power Strip with Infrared Sensor: Computer Desktop	Standard Power Strip	Per Home	63.7	4	32.97	0%	95%	0.19	0.5	0
Multi-family	Computer Desktop	New	Smart Strip Plug Outlet	Advanced Power Strip with Infrared Sensor: Computer Desktop	Standard Power Strip	Per Home	63.7	4	15.91	0%	95%	0.09	1.0	0
Multi-family	Computer Desktop	Existing	Smart Strip Plug Outlet	Advanced Power Strip with Occupancy Sensor: Computer Desktop	Standard Power Strip	Per Home	46.5	4	99.99	100%	95%	0.78	0.1	0
Multi-family	Computer Desktop	New	Smart Strip Plug Outlet	Advanced Power Strip with Occupancy Sensor: Computer Desktop	Standard Power Strip	Per Home	46.5	4	82.93	100%	95%	0.65	0.1	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Multi-family	Computer Laptop	Existing	ENERGY STAR Computer - Laptop	ENERGY STAR Computer - Laptop	Standard Laptop	Per Installation	21.5	4	1.00	90%	25%	0.02	5.4	36
Multi-family	Computer Laptop	New	ENERGY STAR Computer - Laptop	ENERGY STAR Computer - Laptop	Standard Laptop	Per Installation	21.5	4	1.00	90%	25%	0.02	5.4	1
Multi-family	Cool Central	Existing	Air Sealing	Air Sealing	No Air Sealing	Per Home	44.6	15	399.94	38%	34%	0.10	1.1	28
Multi-family	Cool Central	New	Air Sealing	Air Sealing	No Air Sealing	Per Home	44.6	15	399.94	0%	34%	0.10	1.1	0
Multi-family	Cool Central	Existing	Ceiling / Attic Insulation	R-38 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	23.9	25	1571.36	50%	13%	0.75	0.2	0
Multi-family	Cool Central	Existing	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	4.2	25	225.05	15%	55%	0.61	0.2	0
Multi-family	Cool Central	New	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	4.2	25	225.05	25%	55%	0.61	0.2	0
Multi-family	Cool Central	Existing	Central AC Maintenance	Tune-up/Maintenance on Central AC	No Tune-up Maintenance on Central AC	Per Home	289.0	7	100.00	95%	86%	0.08	1.4	0
Multi-family	Cool Central	Existing	Central Air Conditioner - CEE Tier 3	CEE Tier 3 Central Air Conditioner - SEER/EER 16/13 (Split System)	Federal Standard 2015 Central Air Conditioner - SEER 13 (Split System)	Per Installation	187.9	14	1771.74	90%	100%	1.38	0.1	0
Multi-family	Cool Central	New	Central Air Conditioner - CEE Tier 3	CEE Tier 3 Central Air Conditioner - SEER/EER 16/13 (Split System)	Federal Standard 2015 Central Air Conditioner - SEER 13 (Split System)	Per Installation	154.8	14	1460.01	90%	100%	1.38	0.1	0
Multi-family	Cool Central	Existing	Central Air Conditioner - Enhanced	Enhanced Central Air Conditioner - SEER/EER 18/14 (Split System)	Federal Standard 2015 Central Air Conditioner - SEER 13 (Split System)	Per Installation	278.4	14	2952.90	90%	100%	1.56	0.1	0
Multi-family	Cool Central	New	Central Air Conditioner - Enhanced	Enhanced Central Air Conditioner - SEER/EER 18/14 (Split System)	Federal Standard 2015 Central Air Conditioner - SEER 13 (Split System)	Per Installation	229.4	14	2433.35	90%	100%	1.56	0.1	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Multi-family	Cool Central	New	Construction - ICF/SIP	Insulating Concrete Form (ICF) or Structural Insulated Panels (SIP)	Standard Wood Framing	Per Home	134.3	40	1966.15	25%	100%	1.50	0.1	0
Multi-family	Cool Central	Existing	Duct Insulation	R-6 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	179.4	15	177.25	10%	69%	0.06	1.9	74
Multi-family	Cool Central	Existing	Duct Sealing	Duct Sealing	No Duct Sealing	Per Home	157.9	20	82.72	10%	34%	0.02	6.5	32
Multi-family	Cool Central	New	Duct Sealing	Duct Sealing	No Duct Sealing	Per Home	157.9	20	82.72	0%	34%	0.02	6.5	0
Multi-family	Cool Central	Existing	ENERGY STAR Central Air Conditioner	ENERGY STAR Central Air Conditioner - SEER/EER 14.5/12 (Split System)	Federal Standard 2015 Central Air Conditioner - SEER 13 (Split System)	Per Installation	103.7	14	885.87	90%	100%	1.25	0.1	0
Multi-family	Cool Central	New	ENERGY STAR Central Air Conditioner	ENERGY STAR Central Air Conditioner - SEER/EER 14.5/12 (Split System)	Federal Standard 2015 Central Air Conditioner - SEER 13 (Split System)	Per Installation	85.4	14	730.01	90%	100%	1.25	0.1	0
Multi-family	Cool Central	Existing	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	2.9	15	522.52	100%	12%	0.71	0.1	0
Multi-family	Cool Central	New	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	2.9	15	522.52	100%	12%	0.71	0.1	0
Multi-family	Cool Central	Existing	Home Energy Reports	Home Energy Reports (Opower, Aclara, C3 Energy, and Simple Energy)	No report	Per Home	90.7	1	10.37	90%	100%	0.15	0.6	0
Multi-family	Cool Central	New	Home Energy Reports	Home Energy Reports (Opower, Aclara, C3 Energy, and Simple Energy)	No report	Per Home	90.7	1	10.37	90%	100%	0.15	0.6	0
Multi-family	Cool Central	Existing	Programmable Thermostat	Programmable Thermostat	Manual Thermostat	Per Home	25.1	11	64.00	0%	77%	0.43	0.3	0
Multi-family	Cool Central	New	Programmable Thermostat	Programmable Thermostat	Manual Thermostat	Per Home	20.7	11	31.15	0%	77%	0.26	0.5	0
Multi-family	Cool Central	Existing	Proper Sizing of Central Air Conditioner	Proper Sizing - Central Air Conditioner	Oversized Central Air Conditioner	Per Home	62.7	14	186.50	95%	95%	0.44	0.3	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Multi-family	Cool Central	New	Proper Sizing of Central Air Conditioner	Proper Sizing - Central Air Conditioner	Oversized Central Air Conditioner	Per Home	51.7	14	186.50	95%	95%	0.53	0.2	0
Multi-family	Cool Central	Existing	Smart Thermostat	WiFi Thermostat	Programmable Thermostat	Per Home	94.0	11	197.59	0%	95%	0.36	0.3	0
Multi-family	Cool Central	New	Smart Thermostat	WiFi Thermostat	Programmable Thermostat	Per Home	77.5	11	197.59	0%	95%	0.43	0.3	0
Multi-family	Cool Central	Existing	Wall Insulation	R-13 Wall (Max Fill)	Average Existing Wall Insulation	Per Home	70.6	25	771.96	10%	45%	1.24	0.1	0
Multi-family	Cool Central	Existing	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	4.5	25	375.55	5%	14%	9.52	0.0	0
Multi-family	Cool Central	New	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	4.5	25	375.55	95%	14%	9.52	0.0	0
Multi-family	Cool Central	Existing	Window Film	Window Film	No Window Film	Per Home	22.5	20	512.69	20%	95%	2.81	0.0	0
Multi-family	Cool Central	New	Window Film	Window Film	No Window Film	Per Home	20.5	20	512.69	0%	95%	3.09	0.0	0
Multi-family	Cool Central	Existing	Windows	U-0.35 (IECC 2009 - Zone 5)	Average Existing Window	Per Home	2.9	15	406.38	100%	12%	19.95	0.0	0
Multi-family	Cool Room	Existing	Air Sealing	Air Sealing	No Air Sealing	Per Home	17.0	15	399.94	38%	34%	0.07	1.5	34
Multi-family	Cool Room	New	Air Sealing	Air Sealing	No Air Sealing	Per Home	17.0	15	399.94	0%	34%	0.07	1.5	0
Multi-family	Cool Room	Existing	Ceiling / Attic Insulation	R-38 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	12.1	25	1571.36	50%	13%	0.54	0.2	0
Multi-family	Cool Room	Existing	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	2.1	25	225.05	15%	55%	0.44	0.3	0
Multi-family	Cool Room	New	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	2.1	25	225.05	25%	55%	0.44	0.3	0
Multi-family	Cool Room	New	Construction - ICF/SIP	Insulating Concrete Form (ICF) or Structural Insulated Panels (SIP)	Standard Wood Framing	Per Home	13.7	40	1966.15	25%	100%	14.61	0.0	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Multi-family	Cool Room	Existing	Ductless Mini-Split HP / AC	Ductless Air Conditioner - SEER/EER 18/12.5	Federal Standard 2014 Room AC - CEER/EER 10.9/11.0 (8,000-13,999 Btuh)	Per Installation	37.6	9	1329.29	90%	100%	6.83	0.0	0
Multi-family	Cool Room	New	Ductless Mini-Split HP / AC	Ductless Air Conditioner - SEER/EER 18/12.5	Federal Standard 2014 Room AC - CEER/EER 10.9/11.0 (8,000-13,999 Btuh)	Per Installation	37.6	9	1329.29	90%	100%	6.83	0.0	0
Multi-family	Cool Room	Existing	ENERGY STAR Room Air Conditioner	ENERGY STAR Room AC - CEER/EER 11.2/11.3 (8,000-13,999 Btuh)	Federal Standard 2014 Room AC - CEER/EER 10.9/11.0 (8,000-13,999 Btuh)	Per Installation	2.6	9	40.00	90%	100%	3.02	0.0	0
Multi-family	Cool Room	New	ENERGY STAR Room Air Conditioner	ENERGY STAR Room AC - CEER/EER 11.2/11.3 (8,000-13,999 Btuh)	Federal Standard 2014 Room AC - CEER/EER 10.9/11.0 (8,000-13,999 Btuh)	Per Installation	2.6	9	40.00	90%	100%	3.02	0.0	0
Multi-family	Cool Room	Existing	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	2.9	15	522.52	100%	12%	0.76	0.1	0
Multi-family	Cool Room	New	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	2.9	15	522.52	100%	12%	0.76	0.1	0
Multi-family	Cool Room	Existing	Room AC Retirement	Proper Disposal of Room AC	Existing Non-Efficient Room AC	Per Home	167.9	4	60.00	13%	65%	0.13	0.8	0
Multi-family	Cool Room	Existing	Wall Insulation	R-13 Wall (Max Fill)	Average Existing Wall Insulation	Per Home	35.6	25	771.96	10%	45%	2.47	0.1	0
Multi-family	Cool Room	Existing	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	2.3	25	375.55	5%	14%	18.90	0.0	0
Multi-family	Cool Room	New	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	2.3	25	375.55	95%	14%	18.90	0.0	0
Multi-family	Cool Room	Existing	Window Film	Window Film	No Window Film	Per Home	1.9	20	512.69	20%	95%	33.33	0.0	0
Multi-family	Cool Room	New	Window Film	Window Film	No Window Film	Per Home	2.1	20	512.69	0%	95%	30.25	0.0	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Multi-family	Cool Room	Existing	Windows	U-0.35 (IECC 2009 - Zone 5)	Average Existing Window	Per Home	2.9	15	406.38	100%	12%	19.95	0.0	0
Multi-family	Copier	Existing	ENERGY STAR Copier	ENERGY STAR Copier	Standard Office Copier	Per Installation	81.4	6	1.00	90%	20%	0.00	29.3	21
Multi-family	Copier	New	ENERGY STAR Copier	ENERGY STAR Copier	Standard Office Copier	Per Installation	81.4	6	1.00	90%	20%	0.00	29.3	1
Multi-family	Dehumidifier	Existing	ENERGY STAR Dehumidifiers	ENERGY STAR Dehumidifier	Federal Standard 2013 Dehumidifier	Per Installation	169.6	12	20.21	90%	100%	0.02	5.4	58
Multi-family	Dehumidifier	New	ENERGY STAR Dehumidifiers	ENERGY STAR Dehumidifier	Federal Standard 2013 Dehumidifier	Per Installation	169.6	12	20.21	90%	100%	0.02	5.4	3
Multi-family	Dryer	Existing	ENERGY STAR Dryer - CEF/EF 3.93/4.04	ENERGY STAR Dryer - CEF/EF 3.93/4.04	Federal Standard 2015 Dryer - CEF/EF 3.73/3.83	Per Installation	27.4	13	51.91	90%	100%	0.29	0.4	0
Multi-family	Dryer	New	ENERGY STAR Dryer - CEF/EF 3.93/4.04	ENERGY STAR Dryer - CEF/EF 3.93/4.04	Federal Standard 2015 Dryer - CEF/EF 3.73/3.83	Per Installation	27.4	13	51.91	90%	100%	0.29	0.4	0
Multi-family	Dryer	Existing	Heat Pump Dryer	Heat Pump Dryer	Federal Standard 2015 Dryer - CEF/EF 3.73/3.83	Per Installation	277.6	13	409.33	90%	100%	0.23	0.5	0
Multi-family	Dryer	New	Heat Pump Dryer	Heat Pump Dryer	Federal Standard 2015 Dryer - CEF/EF 3.73/3.83	Per Installation	277.6	13	409.33	90%	100%	0.23	0.5	0
Multi-family	Fax	Existing	ENERGY STAR Fax Machine	ENERGY STAR Fax Machine	Standard Fax Machine	Per Installation	15.6	4	60.00	90%	20%	1.39	0.1	0
Multi-family	Fax	New	ENERGY STAR Fax Machine	ENERGY STAR Fax Machine	Standard Fax Machine	Per Installation	15.6	4	60.00	90%	20%	1.39	0.1	0
Multi-family	Freezer	Existing	ENERGY STAR Freezers	ENERGY STAR Freezer	Federal Standard 2015 Freezer	Per Installation	34.6	12	6.61	90%	100%	0.03	3.4	101
Multi-family	Freezer	New	ENERGY STAR Freezers	ENERGY STAR Freezer	Federal Standard 2015 Freezer	Per Installation	34.6	12	6.61	90%	100%	0.03	3.4	4
Multi-family	Freezer	Existing	Refrigerator / Freezer Recycling with Replacement	Proper Disposal of Refrigerator/Freezer and Replacing with New Unit	Existing Non-Efficient Refrigerator/Freezer	Per Home	547.7	7	120.00	18%	94%	0.05	1.9	255
Multi-family	Freezer	Existing	Refrigerator / Freezer Recycling without Replacement	Proper Disposal of Refrigerator/Freezer	Existing Non-Efficient Refrigerator/Freezer	Per Home	1072.9	8	120.00	2%	94%	0.02	4.1	47

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Multi-family	Heat Central	Existing	Air Sealing	Air Sealing	No Air Sealing	Per Home	1981.2	15	399.94	38%	34%	0.03	3.7	579
Multi-family	Heat Central	New	Air Sealing	Air Sealing	No Air Sealing	Per Home	1981.2	15	399.94	0%	34%	0.03	3.7	0
Multi-family	Heat Central	Existing	Ceiling / Attic Insulation	R-38 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	798.5	25	1571.36	50%	13%	0.22	0.5	0
Multi-family	Heat Central	Existing	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	140.4	25	225.05	15%	55%	0.18	0.6	0
Multi-family	Heat Central	New	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	140.4	25	225.05	25%	55%	0.18	0.6	0
Multi-family	Heat Central	New	Construction - ICF/SIP	Insulating Concrete Form (ICF) or Structural Insulated Panels (SIP)	Standard Wood Framing	Per Home	619.4	40	1966.15	25%	100%	0.32	0.4	0
Multi-family	Heat Central	Existing	Duct Insulation	R-6 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	863.3	15	177.25	10%	69%	0.03	3.9	136
Multi-family	Heat Central	Existing	Duct Sealing	Duct Sealing	No Duct Sealing	Per Home	1561.2	20	82.72	10%	34%	0.01	17.6	121
Multi-family	Heat Central	New	Duct Sealing	Duct Sealing	No Duct Sealing	Per Home	1561.2	20	82.72	0%	34%	0.01	17.6	0
Multi-family	Heat Central	Existing	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	381.2	15	522.52	100%	12%	0.19	0.5	0
Multi-family	Heat Central	New	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	381.2	15	522.52	100%	12%	0.19	0.5	0
Multi-family	Heat Central	Existing	Floor Insulation	R-30 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	818.4	25	1526.72	25%	50%	0.21	0.6	0
Multi-family	Heat Central	Existing	Floor Insulation	R-38 (Above Code)	R-30 (IECC 2009 - Zone 5)	Per Home	166.7	25	309.51	25%	50%	0.21	0.6	0
Multi-family	Heat Central	New	Floor Insulation	R-38 (Above Code)	R-30 (IECC 2009 - Zone 5)	Per Home	166.7	25	309.51	25%	50%	0.21	0.6	0
Multi-family	Heat Central	Existing	Programmable Thermostat	Programmable Thermostat	Manual Thermostat	Per Home	208.1	11	64.00	0%	77%	0.05	1.9	0
Multi-family	Heat Central	New	Programmable Thermostat	Programmable Thermostat	Manual Thermostat	Per Home	171.5	11	31.15	0%	77%	0.03	3.2	0
Multi-family	Heat Central	Existing	Smart Thermostat	WiFi Thermostat	Programmable Thermostat	Per Home	341.1	11	197.59	0%	95%	0.10	1.0	0
Multi-family	Heat Central	New	Smart Thermostat	WiFi Thermostat	Programmable Thermostat	Per Home	281.1	11	197.59	0%	95%	0.12	0.8	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Multi-family	Heat Central	Existing	Wall Insulation	R-13 Wall (Max Fill)	Average Existing Wall Insulation	Per Home	2352.6	25	771.96	10%	45%	0.04	3.1	227
Multi-family	Heat Central	Existing	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	149.6	25	375.55	5%	14%	0.29	0.4	0
Multi-family	Heat Central	New	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	149.6	25	375.55	95%	14%	0.29	0.4	0
Multi-family	Heat Central	Existing	Windows	U-0.35 (IECC 2009 - Zone 5)	Average Existing Window	Per Home	381.2	15	406.38	100%	12%	0.15	0.7	0
Multi-family	Heat Pump	Existing	Air Sealing	Air Sealing	No Air Sealing	Per Home	1203.6	15	399.94	38%	34%	0.05	2.3	59
Multi-family	Heat Pump	New	Air Sealing	Air Sealing	No Air Sealing	Per Home	1203.6	15	399.94	0%	34%	0.05	2.3	0
Multi-family	Heat Pump	Existing	Air Source Heat Pump Maintenance	Tune-up/Maintenance on Air Source Heat Pump	No Tune-up Maintenance on Air Source Heat Pump	Per Home	284.2	7	100.00	95%	86%	0.08	1.2	119
Multi-family	Heat Pump	Existing	Ceiling / Attic Insulation	R-38 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	353.8	25	1571.36	50%	13%	0.51	0.2	0
Multi-family	Heat Pump	Existing	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	62.2	25	225.05	15%	55%	0.41	0.3	0
Multi-family	Heat Pump	New	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	62.2	25	225.05	25%	55%	0.41	0.3	0
Multi-family	Heat Pump	Existing	Cold Climate Heat Pump	Cold Climate Heat Pump - SEER/EER 21.5/12 and HSPF 10.3 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	1261.4	12	2018.77	90%	100%	0.26	0.4	0
Multi-family	Heat Pump	New	Cold Climate Heat Pump	Cold Climate Heat Pump - SEER/EER 21.5/12 and HSPF 10.3 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	1039.4	12	1663.58	90%	100%	0.26	0.4	0
Multi-family	Heat Pump	New	Construction - ICF/SIP	Insulating Concrete Form (ICF) or Structural Insulated Panels (SIP)	Standard Wood Framing	Per Home	688.9	40	1966.15	25%	100%	0.29	0.4	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/c Ratio	Achievable Potential (MWh)
Multi-family	Heat Pump	Existing	Duct Insulation	R-6 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	1306.9	15	177.25	10%	69%	0.02	5.6	34
Multi-family	Heat Pump	Existing	Duct Sealing	Duct Sealing	No Duct Sealing	Per Home	807.5	20	82.72	10%	34%	0.01	9.1	10
Multi-family	Heat Pump	New	Duct Sealing	Duct Sealing	No Duct Sealing	Per Home	807.5	20	82.72	0%	34%	0.01	9.1	0
Multi-family	Heat Pump	Existing	ENERGY STAR Air Source Heat Pump	ENERGY STAR Air Source Heat Pump - SEER/EER 14.5/12 and HSPF 8.2 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	32.1	12	215.02	90%	100%	1.07	0.1	0
Multi-family	Heat Pump	New	ENERGY STAR Air Source Heat Pump	ENERGY STAR Air Source Heat Pump - SEER/EER 14.5/12 and HSPF 8.2 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	26.4	12	177.19	90%	100%	1.07	0.1	0
Multi-family	Heat Pump	Existing	ENERGY STAR Ground Source Heat Pump	ENERGY STAR Ground Source Heat Pump - EER 17.1 and 3.6 COP (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	1697.0	15	8383.13	90%	100%	0.70	0.2	0
Multi-family	Heat Pump	New	ENERGY STAR Ground Source Heat Pump	ENERGY STAR Ground Source Heat Pump - EER 17.1 and 3.6 COP (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	1398.4	15	6908.17	90%	100%	0.70	0.2	0
Multi-family	Heat Pump	Existing	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	215.0	15	522.52	100%	12%	0.34	0.3	0
Multi-family	Heat Pump	New	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	215.0	15	522.52	100%	12%	0.34	0.3	0
Multi-family	Heat Pump	Existing	Floor Insulation	R-30 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	393.6	25	1526.72	25%	50%	0.44	0.3	0
Multi-family	Heat Pump	Existing	Floor Insulation	R-38 (Above Code)	R-30 (IECC 2009 - Zone 5)	Per Home	80.2	25	309.51	25%	50%	0.44	0.3	0
Multi-family	Heat Pump	New	Floor Insulation	R-38 (Above Code)	R-30 (IECC 2009 - Zone 5)	Per Home	80.2	25	309.51	25%	50%	0.44	0.3	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Multi-family	Heat Pump	Existing	Heat Pump - Air Source CEE Tier 2	CEE Tier 2 Air Source Heat Pump - SEER/EER 15/12.5 and HSPF 8.5 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	224.2	12	430.05	90%	100%	0.31	0.3	0
Multi-family	Heat Pump	New	Heat Pump - Air Source CEE Tier 2	CEE Tier 2 Air Source Heat Pump - SEER/EER 15/12.5 and HSPF 8.5 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	184.8	12	354.38	90%	100%	0.31	0.3	0
Multi-family	Heat Pump	Existing	Heat Pump - Air Source Enhanced	Enhanced Air Source Heat Pump - SEER/EER 18/14 and HSPF 9.5 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	835.5	12	3225.35	90%	100%	0.62	0.2	0
Multi-family	Heat Pump	New	Heat Pump - Air Source Enhanced	Enhanced Air Source Heat Pump - SEER/EER 18/14 and HSPF 9.5 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	688.5	12	2657.87	90%	100%	0.62	0.2	0
Multi-family	Heat Pump	Existing	Heat Pump - Air Source Premium	Premium Air Source Heat Pump - SEER/EER 16/13 and HSPF 9.0 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	524.7	12	860.09	90%	100%	0.26	0.4	0
Multi-family	Heat Pump	New	Heat Pump - Air Source Premium	Premium Air Source Heat Pump - SEER/EER 16/13 and HSPF 9.0 (Split System)	Federal Standard 2015 Air Source Heat Pump - SEER/EER 14/12 and HSPF 8.2 (Split System)	Per Installation	432.4	12	708.77	90%	100%	0.26	0.4	0
Multi-family	Heat Pump	Existing	Programmable Thermostat	Programmable Thermostat	Manual Thermostat	Per Home	211.8	11	64.00	0%	77%	0.05	2.0	0
Multi-family	Heat Pump	New	Programmable Thermostat	Programmable Thermostat	Manual Thermostat	Per Home	174.5	11	31.15	0%	77%	0.03	3.3	0

Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Multi-family	Heat Pump	Existing	Smart Thermostat	WiFi Thermostat	Programmable Thermostat	Per Home	399.1	11	197.59	0%	95%	0.08	1.2	0
Multi-family	Heat Pump	New	Smart Thermostat	WiFi Thermostat	Programmable Thermostat	Per Home	328.9	11	197.59	0%	95%	0.10	1.0	0
Multi-family	Heat Pump	Existing	Wall Insulation	R-13 Wall (Max Fill)	Average Existing Wall Insulation	Per Home	1113.0	25	771.96	10%	45%	0.08	1.5	18
Multi-family	Heat Pump	Existing	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	70.8	25	375.55	5%	14%	0.60	0.2	0
Multi-family	Heat Pump	New	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	70.8	25	375.55	95%	14%	0.60	0.2	0
Multi-family	Heat Pump	Existing	Window Film	Window Film	No Window Film	Per Home	22.3	20	512.69	20%	95%	2.84	0.0	0
Multi-family	Heat Pump	New	Window Film	Window Film	No Window Film	Per Home	20.3	20	512.69	0%	95%	3.12	0.0	0
Multi-family	Heat Pump	Existing	Windows	U-0.35 (IECC 2009 - Zone 5)	Average Existing Window	Per Home	215.0	15	406.38	100%	12%	0.27	0.4	0
Multi-family	Heat Room	Existing	Air Sealing	Air Sealing	No Air Sealing	Per Home	1981.2	15	399.94	38%	34%	0.03	3.7	1,190
Multi-family	Heat Room	New	Air Sealing	Air Sealing	No Air Sealing	Per Home	1981.2	15	399.94	0%	34%	0.03	3.7	0
Multi-family	Heat Room	Existing	Ceiling / Attic Insulation	R-38 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	798.5	25	1571.36	50%	13%	0.22	0.5	0
Multi-family	Heat Room	Existing	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	140.4	25	225.05	15%	55%	0.18	0.6	0
Multi-family	Heat Room	New	Ceiling / Attic Insulation	R-49 (Above Code)	R-38 (IECC 2009 - Zone 5)	Per Home	140.4	25	225.05	25%	55%	0.18	0.6	0
Multi-family	Heat Room	New	Construction - ICF/SIP	Insulating Concrete Form (ICF) or Structural Insulated Panels (SIP)	Standard Wood Framing	Per Home	427.2	40	1966.15	25%	100%	0.47	0.2	0
Multi-family	Heat Room	Existing	Ductless Mini-Split HP / AC	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0	Standard Baseboard Heating - HSPF 3.41	Per Installation	2526.8	15	3684.39	90%	100%	0.21	0.5	0
Multi-family	Heat Room	New	Ductless Mini-Split HP / AC	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0	Standard Baseboard Heating - HSPF 3.41	Per Installation	1715.9	15	2501.95	90%	100%	0.21	0.5	0



Segment	End Use	Construction Vintage	Measure Name	Measure Description	Baseline Description	Unit Description	Savings per Unit (kWh)	Measure Life	Incremental Cost (\$)	Technical Feasibility	Incomplete Factor	Levelized Cost (\$/kWh)	TRC B/C Ratio	Achievable Potential (MWh)
Multi-family	Heat Room	Existing	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	215.0	15	522.52	100%	12%	0.34	0.3	0
Multi-family	Heat Room	New	ENERGY STAR Windows	U-0.30 (ENERGY STAR Qualified - Above Code)	U-0.35 (IECC 2009 - Zone 5)	Per Home	215.0	15	522.52	100%	12%	0.34	0.3	0
Multi-family	Heat Room	Existing	Floor Insulation	R-30 (IECC 2009 - Zone 5)	Average Existing Insulation	Per Home	418.2	25	1526.72	25%	50%	0.42	0.3	0
Multi-family	Heat Room	Existing	Floor Insulation	R-38 (Above Code)	R-30 (IECC 2009 - Zone 5)	Per Home	85.2	25	309.51	25%	50%	0.41	0.3	0
Multi-family	Heat Room	New	Floor Insulation	R-38 (Above Code)	R-30 (IECC 2009 - Zone 5)	Per Home	85.2	25	309.51	25%	50%	0.41	0.3	0
Multi-family	Heat Room	Existing	Wall Insulation	R-13 Wall (Max Fill)	Average Existing Wall Insulation	Per Home	2352.6	25	771.96	10%	45%	0.04	3.1	462
Multi-family	Heat Room	Existing	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	149.6	25	375.55	5%	14%	0.29	0.4	0
Multi-family	Heat Room	New	Wall Insulation	R-21 + R-5 Sheathing (Above Code)	R-21 Wall (IECC 2009 - Zone 5)	Per Home	149.6	25	375.55	95%	14%	0.29	0.4	0
Multi-family	Heat Room	Existing	Windows	U-0.35 (IECC 2009 - Zone 5)	Average Existing Window	Per Home	215.0	15	406.38	100%	12%	0.27	0.4	0
Multi-family	Lighting Exterior	Existing	ENERGY STAR General Service CFL	High Efficiency General Service Lamp -CFL	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	45.9	5	1.08	90%	100%	0.01	13.4	0
Multi-family	Lighting Exterior	New	ENERGY STAR General Service CFL	High Efficiency General Service Lamp -CFL	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	45.9	5	1.08	90%	100%	0.01	13.4	0
Multi-family	Lighting Exterior	Existing	ENERGY STAR General Service LED	Premium Efficiency General Service Lamp -LED	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	48.6	15	10.68	90%	100%	0.04	2.8	452
Multi-family	Lighting Exterior	New	ENERGY STAR General Service LED	Premium Efficiency General Service Lamp -LED	EISA Standard 2014 General Service Lamp - Incandescent	Per Installation	48.6	15	10.68	90%	100%	0.04	2.8	12