Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Low Income Multi Family	Computer	Computer - Home Office ENERGY STAR	ENERGY STAR Office Computer	Standard Office Computer	Per Unit	Existing	76	4	$8	100%	1,397
Low Income Multi Family	Computer	Computer - Home Office ENERGY STAR	ENERGY STAR Office Computer	Standard Office Computer	Per Unit	New	76	4	$8	100%	101
Low Income Multi Family	Computer	Computer - Home Office Standard	Standard Office Computer	Standard Office Computer	Per Unit	Existing	0.00	4	$0.00	100%	0
Low Income Multi Family	Computer	Computer - Home Office Standard	Standard Office Computer	Standard Office Computer	Per Unit	New	0.00	4	$0.00	100%	0
Low Income Multi Family	Cooking Oven	Oven - Convection	Convection Oven	Standard Oven	Per Unit	Existing	102	19	$176	100%	0
Low Income Multi Family	Cooking Oven	Oven - Convection	Convection Oven	Standard Oven	Per Unit	New	102	19	$176	100%	0
Low Income Multi Family	Cooking Oven	Oven - Standard	Standard Oven	Standard Oven	Per Unit	Existing	0.00	19	$0.00	100%	0
Low Income Multi Family	Cooking Oven	Oven - Standard	Standard Oven	Standard Oven	Per Unit	New	0.00	19	$0.00	100%	0
Low Income Multi Family	Cooking Range	Cooking Range - Standard	Standard Cooking Range	Standard Cooking Range	Per Unit	Existing	0.00	19	$0.00	100%	0
Low Income Multi Family	Cooking Range	Cooking Range - Standard	Standard Cooking Range	Standard Cooking Range	Per Unit	New	0.00	19	$0.00	100%	0
Low Income Multi Family	Cool Central	Attic Fan	Attic Fan For Summer Cooling	No Attic Fan with Central Cooling	Per Attic Fan	Existing	66	19	$249	82%	1,134
Low Income Multi Family	Cool Central	Central Air Conditioners - Below Standard	Below Standard SEER 10	Below Standard SEER 10	Per Household	Existing	0.00	8	$0.00	100%	0
Low Income Multi Family	Cool Central	Central Air Conditioners - Below Standard	Below Standard SEER 10	Below Standard SEER 10	Per Household	New	0.00	8	$0.00	100%	0
Low Income Multi Family	Cool Central	Central Air Conditioners - CEE Tier 2	CEE Tier 2 SEER/EER 15/12.5 (Split System)	Federal Standard 13 SEER	Per Household	Existing	160	15	$476	100%	0
Low Income Multi Family	Cool Central	Central Air Conditioners - CEE Tier 2	CEE Tier 2 SEER/EER 15/12.5 (Split System)	Federal Standard 13 SEER	Per Household	New	109	15	$476	100%	0
Low Income Multi Family	Cool Central	Central Air Conditioners - CEE Tier 3	CEE Tier 3 SEER/EER 16/13 (Split System)	Federal Standard 13 SEER	Per Household	Existing	225	15	$714	100%	2,528
Low Income Multi Family	Cool Central	Central Air Conditioners - CEE Tier 3	CEE Tier 3 SEER/EER 16/13 (Split System)	Federal Standard 13 SEER	Per Household	New	153	15	$714	100%	0
Low Income Multi Family	Cool Central	Central Air Conditioners - ENERGY STAR	ENERGY STAR SEER/EER 14.5/12 (Split System)	Federal Standard 13 SEER	Per Household	Existing	124	15	$357	100%	0
Low Income Multi Family	Cool Central	Central Air Conditioners - ENERGY STAR	ENERGY STAR SEER/EER 14.5/12 (Split System)	Federal Standard 13 SEER	Per Household	New	84	15	$357	100%	0
Low Income Multi Family	Cool Central	Central Air Conditioners - Enhanced	Enhanced SEER/EER 18/14 (Split System)	Federal Standard 13 SEER	Per Household	Existing	333	15	$1,192	100%	0
Low Income Multi Family	Cool Central	Central Air Conditioners - Enhanced	Enhanced SEER/EER 18/14 (Split System)	Federal Standard 13 SEER	Per Household	New	228	15	$1,192	100%	0
Low Income Multi Family	Cool Central	Central Air Conditioners - Standard	Federal Standard SEER 13	Federal Standard 13 SEER	Per Household	Existing	0.00	15	$0.00	100%	0
Low Income Multi Family	Cool Central	Central Air Conditioners - Standard	Federal Standard SEER 13	Federal Standard 13 SEER	Per Household	New	0.00	15	$0.00	100%	0
Low Income Multi Family	Cool Central	Cool Roofs	Lighter Colored Shingles (White)	Standard Roof Shingles	Per Roof SqFT	Existing	0.33	20	$0.25	21%	0
Low Income Multi Family	Cool Central	Cool Roofs	Lighter Colored Shingles (White)	Standard Roof Shingles	Per Roof SqFT	New	0.22	20	$0.25	21%	0
Low Income Multi Family	Cool Central	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	0.34	20	$0.92	32%	46
Low Income Multi Family	Cool Central	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	New	0.24	20	$0.92	32%	2
Low Income Multi Family	Cool Central	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	0.61	20	$3	40%	101
Low Income Multi Family	Cool Central	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	New	0.44	20	$3	40%	5
Low Income Multi Family	Cool Central	Duct Sealing	4 CFM/100sqft of CFA	8 CFM/100sqft of CFA	Per Duct Sealing Installation	New	40	18	$333	54%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Low Income Multi Family	Cool Central	Duct Sealing	4 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	179	18	$960	24%	741
Low Income Multi Family	Cool Central	Duct Sealing	8 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	119	18	$587	54%	1,187
Low Income Multi Family	Cool Central	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof sqft	New	0.08	30	$13	88%	0
Low Income Multi Family	Cool Central	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	Existing	119	11	$611	13%	0
Low Income Multi Family	Cool Central	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	New	53	11	$611	20%	0
Low Income Multi Family	Cool Central	Infiltration Reduction	4.0 ACH50	7.0 ACH50	Per Building SqFt	New	0.05	11	$0.25	42%	35
Low Income Multi Family	Cool Central	Infiltration Reduction	4.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.15	11	$0.44	19%	653
Low Income Multi Family	Cool Central	Infiltration Reduction	7.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.07	11	$0.19	63%	1,079
Low Income Multi Family	Cool Central	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-38 (To Code Zone 5)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.08	20	$0.99	7%	89
Low Income Multi Family	Cool Central	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (To Code Zone 6)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.09	20	$1	7%	92
Low Income Multi Family	Cool Central	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	Existing	0.01	20	$0.25	17%	0
Low Income Multi Family	Cool Central	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	New	0.00	20	$0.25	17%	0
Low Income Multi Family	Cool Central	Insulation - Basement Wall	Insulation Basement Wall (R-10 Zone 5)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.00	20	$1	7%	0
Low Income Multi Family	Cool Central	Insulation - Basement Wall	Insulation Basement Wall (R-15 Zone 6)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.00	20	$1	14%	0
Low Income Multi Family	Cool Central	Insulation - Duct	Insulation Duct (R-8)	No Duct Insulation	Per Duct Insulation Installation	Existing	37	20	$375	71%	0
Low Income Multi Family	Cool Central	Insulation - Floor	Insulation Floor (R-30)	Average Existing Insulation (R-1.8)	Per Insulated SqFt	Existing	0.00	20	$0.90	57%	0
Low Income Multi Family	Cool Central	Insulation - Rim/Band Joist	Insulation Rim and Band Joist (R-10)	No Rim And Band Joist Insulation	Per Insulated SqFt	Existing	0.14	20	$1	8%	26
Low Income Multi Family	Cool Central	Insulation - Siding	Vinyl Siding with Foam Backing (R-3)	No Siding Insulation	Per Insulated SqFt	Existing	0.12	20	$0.51	14%	161
Low Income Multi Family	Cool Central	Insulation - Slab	Insulation Slab (R-15, 4ft)	Code Insulation (R-10, 4ft)	Per Insulated SqFt	New	0.00	20	$0.44	28%	0
Low Income Multi Family	Cool Central	Insulation - Wall	Insulation Wall (R-13)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.24	20	$1	3%	52
Low Income Multi Family	Cool Central	Insulation - Wall	Insulation Wall (R-20 or R-13 w/ R-5 sheathing) (To Code)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.28	20	$1	1%	20
Low Income Multi Family	Cool Central	Insulation - Wall	Insulation Wall (R-21 + R-5 sheathing)	Code Insulation (R-20 or R-13 w/ R-5 sheathing)	Per Insulated SqFt	New	0.01	20	$0.16	90%	10
Low Income Multi Family	Cool Central	Quality Install CAC	Quality Installation (QI)	Standard Installation	Per QI Install	Existing	125	5	$300	45%	0
Low Income Multi Family	Cool Central	Quality Install CAC	Quality Installation (QI)	Standard Installation	Per QI Install	New	85	5	$300	45%	0
Low Income Multi Family	Cool Central	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	Existing	122	30	$675	49%	932
Low Income Multi Family	Cool Central	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	New	83	30	$480	82%	102
Low Income Multi Family	Cool Central	Solar Attic Fan	Solar Electric Attic Ventilation	Standard Passive Ventilation	Per Solar Fan	Existing	71	19	$331	10%	0
Low Income Multi Family	Cool Central	Solar Attic Fan	Solar Electric Attic Ventilation	Standard Passive Ventilation	Per Solar Fan	New	49	19	$331	10%	0
Low Income Multi Family	Cool Central	Thermostat - Multi-Zone	Individual Room Temperature Control for Major Occupied Rooms	Programmable Thermostat - Central Control Only	Per Programmable Control System	New	55	11	$895	62%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Low Income Multi Family	Cool Central	Thermostat - Programmable	Setback Thermostat 5-1-1, 5-2 or 7-Day	Manual Thermostat	Per Programmable Control	Existing	41	15	$33	42%	196
Low Income Multi Family	Cool Central	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	Existing	41	15	$167	44%	342
Low Income Multi Family	Cool Central	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	New	28	15	$167	62%	27
Low Income Multi Family	Cool Central	Tune-up - Air Conditioner	Air Conditioner Maintenance (Tune-up)	Unmaintained Air Conditioner	Per Tune-up	Existing	89	5	$200	71%	0
Low Income Multi Family	Cool Central	Whole-House Fan	Whole-House Fan to Offset Central Cooling	No Whole-House Fan	Per House Fan	Existing	179	20	$366	10%	360
Low Income Multi Family	Cool Central	Whole-House Fan	Whole-House Fan to Offset Central Cooling	No Whole-House Fan	Per House Fan	New	122	20	$366	10%	18
Low Income Multi Family	Cool Central	Window - Film	Window Film (SHGC Reduction=45%)	No Window Film	Per Window SqFt	Existing	0.89	10	$4	76%	0
Low Income Multi Family	Cool Central	Window - Shade	Window Shade/Blind or Thermal Drapes	No Interior Shading Device	Per Window SqFt	Existing	0.59	3	$7	38%	0
Low Income Multi Family	Cool Central	Window - Upgrade	Code Window U-Factor = 0.35 (2009 IECC)	Existing Windows U-Factor	Per Window SqFt	Existing	0.45	20	$19	24%	0
Low Income Multi Family	Cool Central	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	0.12	20	$3	73%	0
Low Income Multi Family	Cool Central	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	0.09	20	$3	82%	0
Low Income Multi Family	Cool Central	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	0.32	20	$28	63%	0
Low Income Multi Family	Cool Central	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	0.23	20	$28	68%	0
Low Income Multi Family	Cool Room	Cool Roofs	Lighter Colored Shingles (White)	Standard Roof Shingles	Per Roof SqFT	Existing	0.06	20	$0.25	21%	0
Low Income Multi Family	Cool Room	Cool Roofs	Lighter Colored Shingles (White)	Standard Roof Shingles	Per Roof SqFT	New	0.06	20	$0.25	21%	0
Low Income Multi Family	Cool Room	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	0.09	20	$0.92	32%	3
Low Income Multi Family	Cool Room	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	New	0.08	20	$0.92	32%	0
Low Income Multi Family	Cool Room	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	0.17	20	$3	40%	7
Low Income Multi Family	Cool Room	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	New	0.15	20	$3	40%	1
Low Income Multi Family	Cool Room	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof sqft	New	0.01	30	$13	88%	0
Low Income Multi Family	Cool Room	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	Existing	37	11	$611	13%	0
Low Income Multi Family	Cool Room	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	New	24	11	$611	20%	0
Low Income Multi Family	Cool Room	Infiltration Reduction	4.0 ACH50	7.0 ACH50	Per Building SqFt	New	0.02	11	$0.25	42%	0
Low Income Multi Family	Cool Room	Infiltration Reduction	4.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.04	11	$0.44	19%	51
Low Income Multi Family	Cool Room	Infiltration Reduction	7.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.02	11	$0.19	63%	84
Low Income Multi Family	Cool Room	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-38 (To Code Zone 5)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.02	20	$0.99	7%	0
Low Income Multi Family	Cool Room	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (To Code Zone 6)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.02	20	$1	7%	0
Low Income Multi Family	Cool Room	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	Existing	0.00	20	$0.25	17%	0
Low Income Multi Family	Cool Room	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	New	0.00	20	$0.25	17%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Low Income Multi Family	Cool Room	Insulation - Basement Wall	Insulation Basement Wall (R-10 Zone 5)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.00	20	$1	7%	0
Low Income Multi Family	Cool Room	Insulation - Basement Wall	Insulation Basement Wall (R-15 Zone 6)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.00	20	$1	14%	0
Low Income Multi Family	Cool Room	Insulation - Floor	Insulation Floor (R-30)	Average Existing Insulation (R-1.8)	Per Insulated SqFt	Existing	0.00	20	$0.90	57%	0
Low Income Multi Family	Cool Room	Insulation - Rim/Band Joist	Insulation Rim and Band Joist (R-10)	No Rim And Band Joist Insulation	Per Insulated SqFt	Existing	0.03	20	$1	8%	2
Low Income Multi Family	Cool Room	Insulation - Siding	Vinyl Siding with Foam Backing (R-3)	No Siding Insulation	Per Insulated SqFt	Existing	0.03	20	$0.51	14%	11
Low Income Multi Family	Cool Room	Insulation - Slab	Insulation Slab (R-15, 4ft)	Code Insulation (R-10, 4ft)	Per Insulated SqFt	New	0.00	20	$0.44	28%	0
Low Income Multi Family	Cool Room	Insulation - Wall	Insulation Wall (R-13)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.06	20	$1	3%	4
Low Income Multi Family	Cool Room	Insulation - Wall	Insulation Wall (R-20 or R-13 w/ R-5 sheathing) (To Code)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.07	20	$1	1%	1
Low Income Multi Family	Cool Room	Insulation - Wall	Insulation Wall (R-21 + R-5 sheathing)	Code Insulation (R-20 or R-13 w/ R-5 sheathing)	Per Insulated SqFt	New	0.00	20	$0.16	90%	1
Low Income Multi Family	Cool Room	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	Existing	37	30	$675	49%	0
Low Income Multi Family	Cool Room	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	New	37	30	$480	82%	0
Low Income Multi Family	Cool Room	Removal of Secondary Window Air Conditioner Unit	Proper Disposal of Window Air Conditioner Unit	Existing Non-Efficient Window Air Conditioner Unit	Per Recyled Unit	Existing	378	3	$30	22%	568
Low Income Multi Family	Cool Room	Room AC - Below Standard	Below Standard 7.7 EER; 8,000-13,999 Btu	Below Standard 7.7 EER; 8,000-13,999 Btu	Per Unit	Existing	0.00	5	$0.00	100%	0
Low Income Multi Family	Cool Room	Room AC - Below Standard	Below Standard 7.7 EER; 8,000-13,999 Btu	Below Standard 7.7 EER; 8,000-13,999 Btu	Per Unit	New	0.00	5	$0.00	100%	0
Low Income Multi Family	Cool Room	Room AC - CEE Tier 1	CEE TIER 1 = 11.3 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Unit	Existing	39	9	$308	100%	0
Low Income Multi Family	Cool Room	Room AC - CEE Tier 1	CEE TIER 1 = 11.3 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Unit	New	39	9	$308	100%	0
Low Income Multi Family	Cool Room	Room AC - CEE Tier 2	CEE TIER 2 = 11.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Unit	Existing	50	9	$575	100%	0
Low Income Multi Family	Cool Room	Room AC - CEE Tier 2	CEE TIER 2 = 11.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Unit	New	50	9	$575	100%	0
Low Income Multi Family	Cool Room	Room AC - ENERGY STAR	ENERGY STAR = 10.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Unit	Existing	27	9	$41	100%	143
Low Income Multi Family	Cool Room	Room AC - ENERGY STAR	ENERGY STAR = 10.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Unit	New	27	9	$41	100%	16
Low Income Multi Family	Cool Room	Room AC - Standard	Federal Standard 9.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Unit	Existing	0.00	9	$0.00	100%	0
Low Income Multi Family	Cool Room	Room AC - Standard	Federal Standard 9.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Unit	New	0.00	9	$0.00	100%	0
Low Income Multi Family	Cool Room	Window - Film	Window Film (SHGC Reduction=45%)	No Window Film	Per Window SqFt	Existing	0.27	10	$4	76%	0
Low Income Multi Family	Cool Room	Window - Shade	Window Shade/Blind or Thermal Drapes	No Interior Shading Device	Per Window SqFt	Existing	0.18	3	$7	38%	0
Low Income Multi Family	Cool Room	Window - Upgrade	Code Window U-Factor = 0.35 (2009 IECC)	Existing Windows U-Factor	Per Window SqFt	Existing	0.12	20	$19	24%	0
Low Income Multi Family	Cool Room	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	0.03	20	$3	73%	0
Low Income Multi Family	Cool Room	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	0.03	20	$3	82%	0
Low Income Multi Family	Cool Room	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	0.09	20	$28	61%	0
Low Income Multi Family	Cool Room	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	0.08	20	$28	68%	0
Low Income Multi Family	Copier	Copier - Standard	Standard Copier	Standard Copier	Per Unit	Existing	0.00	6	$0.00	100%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Low Income Multi Family	Copier	Copier - Standard	Standard Copier	Standard Copier	Per Unit	New	0.00	6	$0.00	100%	0
Low Income Multi Family	Copier	Copiers - Home Office ENERGY STAR	ENERGY STAR Office Copiers	Standard Copier	Per Unit	Existing	73	6	$1,505	100%	0
Low Income Multi Family	Copier	Copiers - Home Office ENERGY STAR	ENERGY STAR Office Copiers	Standard Copier	Per Unit	New	73	6	$1,505	100%	0
Low Income Multi Family	Dehumidifier	Dehumidifier - Standard	Standard Dehumidifier	Standard Dehumidifier	Per Unit	Existing	0.00	12	$0.00	100%	0
Low Income Multi Family	Dehumidifier	Dehumidifier - Standard	Standard Dehumidifier	Standard Dehumidifier	Per Unit	New	0.00	12	$0.00	100%	0
Low Income Multi Family	Dehumidifier	Dehumidifiers - ENERGY STAR	ENERGY STAR Dehumidifiers	Standard Dehumidifier	Per Unit	Existing	117	12	$34	100%	992
Low Income Multi Family	Dehumidifier	Dehumidifiers - ENERGY STAR	ENERGY STAR Dehumidifiers	Standard Dehumidifier	Per Unit	New	117	12	$34	100%	116
Low Income Multi Family	Dryer	Clothes Dryer - Moisture Sensor	Clothes Dryer w/ Moisture Sensor	Standard Dryer without Moisture Sensor	Per Unit	Existing	107	11	$137	100%	0
Low Income Multi Family	Dryer	Clothes Dryer - Moisture Sensor	Clothes Dryer w/ Moisture Sensor	Standard Dryer without Moisture Sensor	Per Unit	New	107	11	$137	100%	0
Low Income Multi Family	Dryer	Clothes Dryer - Standard without Moisture Sensor	Standard Dryer without Moisture Sensor	Standard Dryer without Moisture Sensor	Per Unit	Existing	0.00	11	$0.00	100%	0
Low Income Multi Family	Dryer	Clothes Dryer - Standard without Moisture Sensor	Standard Dryer without Moisture Sensor	Standard Dryer without Moisture Sensor	Per Unit	New	0.00	11	$0.00	100%	0
Low Income Multi Family	Dryer	Clothes Dryer - Steam	Steam Clothes Dryer	Standard Dryer without Moisture Sensor	Per Unit	Existing	107	11	$372	98%	0
Low Income Multi Family	Dryer	Clothes Dryer - Steam	Steam Clothes Dryer	Standard Dryer without Moisture Sensor	Per Unit	New	107	11	$372	98%	0
Low Income Multi Family	Freezer	Freezer - Below Standard	Below Standard Freezer	Below Standard Freezer	Per Unit	Existing	0.00	6	$0.00	100%	0
Low Income Multi Family	Freezer	Freezer - Below Standard	Below Standard Freezer	Below Standard Freezer	Per Unit	New	0.00	6	$0.00	100%	0
Low Income Multi Family	Freezer	Freezer - ENERGY STAR	ENERGY STAR Freezer	Standard Freezer - Federal Standard 2001	Per Unit	Existing	55	12	$75	100%	0
Low Income Multi Family	Freezer	Freezer - ENERGY STAR	ENERGY STAR Freezer	Standard Freezer - Federal Standard 2001	Per Unit	New	55	12	$75	100%	0
Low Income Multi Family	Freezer	Freezer - Federal Standard September 2014	Standard Freezer - Federal Standard 2014 (NAECA)	Standard Freezer - Federal Standard 2001	Per Unit	Existing	159	12	$214	100%	0
Low Income Multi Family	Freezer	Freezer - Federal Standard September 2014	Standard Freezer - Federal Standard 2014 (NAECA)	Standard Freezer - Federal Standard 2001	Per Unit	New	159	12	$214	100%	0
Low Income Multi Family	Freezer	Freezer - Standard 2001	Standard Freezer - Federal Standard 2001	Standard Freezer - Federal Standard 2001	Per Unit	Existing	0.00	12	$0.00	100%	0
Low Income Multi Family	Freezer	Freezer - Standard 2001	Standard Freezer - Federal Standard 2001	Standard Freezer - Federal Standard 2001	Per Unit	New	0.00	12	$0.00	100%	0
Low Income Multi Family	Freezer	Removal of Secondary Stand-Alone Freezer	Proper Disposal of Stand-Alone Freezer	Existing Non-Efficient Stand-Alone Freezer	Per Recyled Unit	Existing	916	5	$30	24%	1,154
Low Income Multi Family	Heat Central	Central Heat - Standard	Standard Central Heat	Standard Central Heat	Per Household	Existing	0.00	10	$0.00	100%	0
Low Income Multi Family	Heat Central	Central Heat - Standard	Standard Central Heat	Standard Central Heat	Per Household	New	0.00	10	$0.00	100%	0
Low Income Multi Family	Heat Central	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	6.17	20	$0.92	32%	209
Low Income Multi Family	Heat Central	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	New	6.17	20	$0.92	32%	14
Low Income Multi Family	Heat Central	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	11	20	$3	40%	422
Low Income Multi Family	Heat Central	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	New	11	20	$3	40%	32
Low Income Multi Family	Heat Central	Duct Sealing	4 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	1,284	18	$960	18%	875
Low Income Multi Family	Heat Central	Duct Sealing	8 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	856	18	$587	25%	837

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Low Income Multi Family	Heat Central	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof sqft	New	0.15	30	$13	88%	0
Low Income Multi Family	Heat Central	Heat Exchanger - Air-to-Air	Air-to-Air Heat Exchanger	No Air-to-Air Heat Exchanger	Per Heat Exchanger	Existing	1,712	18	$1,085	0%	0
Low Income Multi Family	Heat Central	Heat Exchanger - Air-to-Air	Air-to-Air Heat Exchanger	No Air-to-Air Heat Exchanger	Per Heat Exchanger	New	1,191	18	$1,085	75%	0
Low Income Multi Family	Heat Central	Heat Pump - Ductless Mini-Split	ENERGY STAR 14.5 SEER, 8.2 HSPF	Electric Baseboard Heating	Per Ductless Heat Pump	Existing	2,603	15	$2,727	38%	0
Low Income Multi Family	Heat Central	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	Existing	856	11	$611	13%	0
Low Income Multi Family	Heat Central	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	New	387	11	$611	20%	0
Low Income Multi Family	Heat Central	Infiltration Reduction	4.0 ACH50	7.0 ACH50	Per Building SqFt	New	0.39	11	$0.25	42%	0
Low Income Multi Family	Heat Central	Infiltration Reduction	4.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	1.13	11	$0.44	19%	987
Low Income Multi Family	Heat Central	Infiltration Reduction	7.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.56	11	$0.19	63%	1,813
Low Income Multi Family	Heat Central	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-38 (To Code Zone 5)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	1.45	20	$0.99	7%	428
Low Income Multi Family	Heat Central	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (To Code Zone 6)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	1.70	20	$1	7%	455
Low Income Multi Family	Heat Central	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	Existing	0.24	20	$0.25	17%	0
Low Income Multi Family	Heat Central	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	New	0.24	20	$0.25	17%	0
Low Income Multi Family	Heat Central	Insulation - Basement Wall	Insulation Basement Wall (R-10 Zone 5)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	4.24	20	$1	7%	765
Low Income Multi Family	Heat Central	Insulation - Basement Wall	Insulation Basement Wall (R-15 Zone 6)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	4.93	20	$1	14%	1,888
Low Income Multi Family	Heat Central	Insulation - Duct	Insulation Duct (R-8)	No Duct Insulation	Per Duct Insulation Installation	Existing	363	20	$375	71%	0
Low Income Multi Family	Heat Central	Insulation - Floor	Insulation Floor (R-30)	Average Existing Insulation (R-1.8)	Per Insulated SqFt	Existing	1.24	20	$0.90	57%	3,014
Low Income Multi Family	Heat Central	Insulation - Rim/Band Joist	Insulation Rim and Band Joist (R-10)	No Rim And Band Joist Insulation	Per Insulated SqFt	Existing	2.53	20	$1	8%	122
Low Income Multi Family	Heat Central	Insulation - Siding	Vinyl Siding with Foam Backing (R-3)	No Siding Insulation	Per Insulated SqFt	Existing	2.20	20	$0.51	14%	727
Low Income Multi Family	Heat Central	Insulation - Slab	Insulation Slab (R-15, 4ft)	Code Insulation (R-10, 4ft)	Per Insulated SqFt	New	0.79	20	$0.44	28%	74
Low Income Multi Family	Heat Central	Insulation - Wall	Insulation Wall (R-13)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	4.37	20	$1	3%	221
Low Income Multi Family	Heat Central	Insulation - Wall	Insulation Wall (R-20 or R-13 w/ R-5 sheathing) (To Code)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	5.12	20	$1	1%	86
Low Income Multi Family	Heat Central	Insulation - Wall	Insulation Wall (R-21 + R-5 sheathing)	Code Insulation (R-20 or R-13 w/ R-5 sheathing)	Per Insulated SqFt	New	0.36	20	$0.16	90%	55
Low Income Multi Family	Heat Central	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	Existing	171	30	$675	49%	0
Low Income Multi Family	Heat Central	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	New	119	30	$480	82%	0
Low Income Multi Family	Heat Central	Thermostat - Multi-Zone	Individual Room Temperature Control for Major Occupied Rooms	Programmable Thermostat - Central Control Only	Per Programmable Control System	New	405	11	$895	62%	0
Low Income Multi Family	Heat Central	Thermostat - Programmable	Setback Thermostat 5-1-1, 5-2 or 7-Day	Manual Thermostat	Per Programmable Control	Existing	299	15	$33	42%	354
Low Income Multi Family	Heat Central	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	Existing	300	15	$167	44%	516

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Low Income Multi Family	Heat Central	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	New	209	15	$167	62%	0
Low Income Multi Family	Heat Central	Window - Upgrade	Code Window U-Factor = 0.35 (2009 IECC)	Existing Windows U-Factor	Per Window SqFt	Existing	8.14	20	$19	24%	0
Low Income Multi Family	Heat Central	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	2.26	20	$3	73%	0
Low Income Multi Family	Heat Central	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	2.26	20	$3	82%	0
Low Income Multi Family	Heat Central	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	5.88	20	$28	61%	0
Low Income Multi Family	Heat Central	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	5.88	20	$28	68%	0
Low Income Multi Family	Heat Pump	Attic Fan	Attic Fan For Summer Cooling	No Attic Fan with Central Cooling	Per Attic Fan	Existing	67	19	$249	82%	0
Low Income Multi Family	Heat Pump	Cool Roofs	Lighter Colored Shingles (White)	Standard Roof Shingles	Per Roof SqFT	Existing	0.06	20	$0.25	21%	0
Low Income Multi Family	Heat Pump	Cool Roofs	Lighter Colored Shingles (White)	Standard Roof Shingles	Per Roof SqFT	New	0.04	20	$0.25	21%	0
Low Income Multi Family	Heat Pump	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	3.27	20	$0.92	32%	0
Low Income Multi Family	Heat Pump	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	New	2.81	20	$0.92	32%	0
Low Income Multi Family	Heat Pump	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	5.87	20	$3	40%	0
Low Income Multi Family	Heat Pump	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	New	5.05	20	$3	40%	0
Low Income Multi Family	Heat Pump	Duct Sealing	4 CFM/100sqft of CFA	8 CFM/100sqft of CFA	Per Duct Sealing Installation	New	307	18	$333	54%	0
Low Income Multi Family	Heat Pump	Duct Sealing	4 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	1,133	18	$960	24%	0
Low Income Multi Family	Heat Pump	Duct Sealing	8 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	755	18	$587	54%	0
Low Income Multi Family	Heat Pump	ECM Motor - Air Source Heat Pump	Air Source Heat Pump ECM Fan	Standard Motor	Per ECM	Existing	280	15	$200	62%	0
Low Income Multi Family	Heat Pump	ECM Motor - Air Source Heat Pump	Air Source Heat Pump ECM Fan	Standard Motor	Per ECM	New	222	15	$200	90%	0
Low Income Multi Family	Heat Pump	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof sqft	New	0.24	30	$13	88%	0
Low Income Multi Family	Heat Pump	Heat Exchanger - Air-to-Air	Air-to-Air Heat Exchanger	No Air-to-Air Heat Exchanger	Per Heat Exchanger	Existing	1,511	18	$1,085	56%	0
Low Income Multi Family	Heat Pump	Heat Exchanger - Air-to-Air	Air-to-Air Heat Exchanger	No Air-to-Air Heat Exchanger	Per Heat Exchanger	New	1,230	18	$1,085	75%	0
Low Income Multi Family	Heat Pump	Heat Pump - Below Standard	Below Standard SEER 10 and HSPF 7.2	Below Standard SEER 10 and HSPF 7.2	Per Household	Existing	0.00	9	$0.00	100%	0
Low Income Multi Family	Heat Pump	Heat Pump - Below Standard	Below Standard SEER 10 and HSPF 7.2	Below Standard SEER 10 and HSPF 7.2	Per Household	New	0.00	9	$0.00	100%	0
Low Income Multi Family	Heat Pump	Heat Pump - CEE Tier 2	CEE Tier 2 SEER/EER 15/12.5 and HSPF 8.5 (Split System)	Federal Standard SEER 13 and HSPF 7.7	Per Household	Existing	701	18	$548	100%	0
Low Income Multi Family	Heat Pump	Heat Pump - CEE Tier 2	CEE Tier 2 SEER/EER 15/12.5 and HSPF 8.5 (Split System)	Federal Standard SEER 13 and HSPF 7.7	Per Household	New	567	18	$548	100%	0
Low Income Multi Family	Heat Pump	Heat Pump - ENERGY STAR	ENERGY STAR SEER/EER 14.5/12 and HSPF 8.2 (Split System)	Federal Standard SEER 13 and HSPF 7.7	Per Household	Existing	475	18	$411	100%	0
Low Income Multi Family	Heat Pump	Heat Pump - ENERGY STAR	ENERGY STAR SEER/EER 14.5/12 and HSPF 8.2 (Split System)	Federal Standard SEER 13 and HSPF 7.7	Per Household	New	381	18	$411	100%	0
Low Income Multi Family	Heat Pump	Heat Pump - Enhanced	Enhanced SEER/EER 16/13 and HSPF 9.0 (Split System)	Federal Standard SEER 13 and HSPF 7.7	Per Household	Existing	1,056	18	$822	100%	0
Low Income Multi Family	Heat Pump	Heat Pump - Enhanced	Enhanced SEER/EER 16/13 and HSPF 9.0 (Split System)	Federal Standard SEER 13 and HSPF 7.7	Per Household	New	856	18	$822	100%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Low Income Multi Family	Heat Pump	Heat Pump - Ground Source	GSHP ENERGY STAR EER 17.1 and 3.6 COP	Federal Standard SEER 13 and HSPF 7.7	Per Household	Existing	2,576	18	$6,657	25%	0
Low Income Multi Family	Heat Pump	Heat Pump - Ground Source	GSHP ENERGY STAR EER 17.1 and 3.6 COP	Federal Standard SEER 13 and HSPF 7.7	Per Household	New	2,108	18	$6,739	25%	0
Low Income Multi Family	Heat Pump	Heat Pump - Standard	Federal Standard SEER 13 and HSPF 7.7	Federal Standard SEER 13 and HSPF 7.7	Per Household	Existing	0.00	18	$0.00	100%	0
Low Income Multi Family	Heat Pump	Heat Pump - Standard	Federal Standard SEER 13 and HSPF 7.7	Federal Standard SEER 13 and HSPF 7.7	Per Household	New	0.00	18	$0.00	100%	0
Low Income Multi Family	Heat Pump	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	Existing	755	11	$611	13%	0
Low Income Multi Family	Heat Pump	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	New	399	11	$611	20%	0
Low Income Multi Family	Heat Pump	Infiltration Reduction	4.0 ACH50	7.0 ACH50	Per Building SqFt	New	0.40	11	$0.25	42%	0
Low Income Multi Family	Heat Pump	Infiltration Reduction	4.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	1.00	11	$0.44	19%	0
Low Income Multi Family	Heat Pump	Infiltration Reduction	7.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.50	11	$0.19	63%	0
Low Income Multi Family	Heat Pump	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-38 (To Code Zone 5)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.77	20	$0.99	7%	0
Low Income Multi Family	Heat Pump	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (To Code Zone 6)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.90	20	$1	7%	0
Low Income Multi Family	Heat Pump	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	Existing	0.13	20	$0.25	17%	0
Low Income Multi Family	Heat Pump	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	New	0.11	20	$0.25	17%	0
Low Income Multi Family	Heat Pump	Insulation - Basement Wall	Insulation Basement Wall (R-10 Zone 5)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	1.88	20	$1	7%	0
Low Income Multi Family	Heat Pump	Insulation - Basement Wall	Insulation Basement Wall (R-15 Zone 6)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	2.19	20	$1	14%	0
Low Income Multi Family	Heat Pump	Insulation - Duct	Insulation Duct (R-8)	No Duct Insulation	Per Duct Insulation Installation	Existing	307	20	$375	71%	0
Low Income Multi Family	Heat Pump	Insulation - Floor	Insulation Floor (R-30)	Average Existing Insulation (R-1.8)	Per Insulated SqFt	Existing	0.65	20	$0.90	57%	0
Low Income Multi Family	Heat Pump	Insulation - Rim/Band Joist	Insulation Rim and Band Joist (R-10)	No Rim And Band Joist Insulation	Per Insulated SqFt	Existing	1.34	20	$1	8%	0
Low Income Multi Family	Heat Pump	Insulation - Siding	Vinyl Siding with Foam Backing (R-3)	No Siding Insulation	Per Insulated SqFt	Existing	1.17	20	$0.51	14%	0
Low Income Multi Family	Heat Pump	Insulation - Slab	Insulation Slab (R-15, 4ft)	Code Insulation (R-10, 4ft)	Per Insulated SqFt	New	0.30	20	$0.44	28%	0
Low Income Multi Family	Heat Pump	Insulation - Wall	Insulation Wall (R-13)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	2.31	20	$1	3%	0
Low Income Multi Family	Heat Pump	Insulation - Wall	Insulation Wall (R-20 or R-13 w/ R-5 sheathing) (To Code)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	2.71	20	$1	1%	0
Low Income Multi Family	Heat Pump	Insulation - Wall	Insulation Wall (R-21 + R-5 sheathing)	Code Insulation (R-20 or R-13 w/ R-5 sheathing)	Per Insulated SqFt	New	0.16	20	$0.16	90%	0
Low Income Multi Family	Heat Pump	Quality Install Heat Pump	Quality Installation (QI)	Standard Installation	Per QI Install	Existing	872	5	$300	45%	0
Low Income Multi Family	Heat Pump	Quality Install Heat Pump	Quality Installation (QI)	Standard Installation	Per QI Install	New	710	5	$300	45%	0
Low Income Multi Family	Heat Pump	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	Existing	771	30	$675	49%	0
Low Income Multi Family	Heat Pump	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	New	628	30	$480	82%	0
Low Income Multi Family	Heat Pump	Solar Attic Fan	Solar Electric Attic Ventilation	Standard Passive Ventilation	Per Solar Fan	Existing	72	19	$331	10%	0
Low Income Multi Family	Heat Pump	Solar Attic Fan	Solar Electric Attic Ventilation	Standard Passive Ventilation	Per Solar Fan	New	59	19	$331	10%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Low Income Multi Family	Heat Pump	Thermostat - Multi-Zone	Individual Room Temperature Control for Major Occupied Rooms	Programmable Thermostat - Central Control Only	Per Programmable Control System	New	418	11	$895	62%	0
Low Income Multi Family	Heat Pump	Thermostat - Programmable	Setback Thermostat 5-1-1, 5-2 or 7-Day	Manual Thermostat	Per Programmable Control	Existing	264	15	$33	42%	0
Low Income Multi Family	Heat Pump	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	Existing	265	15	$167	44%	0
Low Income Multi Family	Heat Pump	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	New	215	15	$167	62%	0
Low Income Multi Family	Heat Pump	Tune-up - Air Source Heat Pump	Air Source Heat Pump Maintenance (Tune-up)	Unmaintained Air Source Heat Pump	Per Tune-up	Existing	524	5	$200	71%	0
Low Income Multi Family	Heat Pump	Tune-up - Ground Source Heat Pump	Ground Source Heat Pump Maintenance (Tune-up)	Unmaintained Ground Source Heat Pump	Per Tune-up	Existing	377	5	$200	0%	0
Low Income Multi Family	Heat Pump	Whole-House Fan	Whole-House Fan to Offset Central Cooling	No Whole-House Fan	Per House Fan	Existing	181	20	$366	10%	0
Low Income Multi Family	Heat Pump	Whole-House Fan	Whole-House Fan to Offset Central Cooling	No Whole-House Fan	Per House Fan	New	147	20	$366	10%	0
Low Income Multi Family	Heat Pump	Window - Film	Window Film (SHGC Reduction=45%)	No Window Film	Per Window SqFt	Existing	0.89	10	$4	76%	0
Low Income Multi Family	Heat Pump	Window - Shade	Window Shade/Blind or Thermal Drapes	No Interior Shading Device	Per Window SqFt	Existing	0.59	3	$7	38%	0
Low Income Multi Family	Heat Pump	Window - Upgrade	Code Window U-Factor = 0.35 (2009 IECC)	Existing Windows U-Factor	Per Window SqFt	Existing	4.31	20	$19	24%	0
Low Income Multi Family	Heat Pump	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	1.19	20	$3	73%	0
Low Income Multi Family	Heat Pump	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	1.10	20	$3	82%	0
Low Income Multi Family	Heat Pump	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	3.11	20	$28	61%	0
Low Income Multi Family	Heat Pump	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	2.86	20	$28	68%	0
Low Income Multi Family	Heat Room	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	1.54	20	$0.92	32%	56
Low Income Multi Family	Heat Room	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	New	1.54	20	$0.92	32%	4
Low Income Multi Family	Heat Room	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	2.77	20	$3	40%	0
Low Income Multi Family	Heat Room	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	New	2.77	20	$3	40%	0
Low Income Multi Family	Heat Room	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof sqft	New	0.04	30	$13	88%	0
Low Income Multi Family	Heat Room	Heat Pump - Ductless Mini-Split	ENERGY STAR 14.5 SEER, 8.2 HSPF	Electric Baseboard Heating	Per Ductless Heat Pump	Existing	2,603	15	$2,727	38%	0
Low Income Multi Family	Heat Room	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	Existing	659	11	$611	13%	0
Low Income Multi Family	Heat Room	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	New	298	11	$611	20%	0
Low Income Multi Family	Heat Room	Infiltration Reduction	4.0 ACH50	7.0 ACH50	Per Building SqFt	New	0.30	11	$0.25	42%	0
Low Income Multi Family	Heat Room	Infiltration Reduction	4.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.87	11	$0.44	19%	0
Low Income Multi Family	Heat Room	Infiltration Reduction	7.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.43	11	$0.19	63%	1,768
Low Income Multi Family	Heat Room	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-38 (To Code Zone 5)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.36	20	$0.99	7%	0
Low Income Multi Family	Heat Room	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (To Code Zone 6)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.42	20	$1	7%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Low Income Multi Family	Heat Room	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	Existing	0.06	20	$0.25	17%	0
Low Income Multi Family	Heat Room	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	New	0.06	20	$0.25	17%	0
Low Income Multi Family	Heat Room	Insulation - Basement Wall	Insulation Basement Wall (R-10 Zone 5)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	1.06	20	$1	7%	0
Low Income Multi Family	Heat Room	Insulation - Basement Wall	Insulation Basement Wall (R-15 Zone 6)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	1.23	20	$1	14%	0
Low Income Multi Family	Heat Room	Insulation - Floor	Insulation Floor (R-30)	Average Existing Insulation (R-1.8)	Per Insulated SqFt	Existing	0.31	20	$0.90	57%	0
Low Income Multi Family	Heat Room	Insulation - Rim/Band Joist	Insulation Rim and Band Joist (R-10)	No Rim And Band Joist Insulation	Per Insulated SqFt	Existing	0.63	20	$1	8%	0
Low Income Multi Family	Heat Room	Insulation - Siding	Vinyl Siding with Foam Backing (R-3)	No Siding Insulation	Per Insulated SqFt	Existing	0.55	20	$0.51	14%	0
Low Income Multi Family	Heat Room	Insulation - Slab	Insulation Slab (R-15, 4ft)	Code Insulation (R-10, 4ft)	Per Insulated SqFt	New	0.19	20	$0.44	28%	0
Low Income Multi Family	Heat Room	Insulation - Wall	Insulation Wall (R-13)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	1.09	20	$1	3%	0
Low Income Multi Family	Heat Room	Insulation - Wall	Insulation Wall (R-20 or R-13 w/ R-5 sheathing) (To Code)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	1.28	20	$1	1%	0
Low Income Multi Family	Heat Room	Insulation - Wall	Insulation Wall (R-21 + R-5 sheathing)	Code Insulation (R-20 or R-13 w/ R-5 sheathing)	Per Insulated SqFt	New	0.09	20	$0.16	90%	0
Low Income Multi Family	Heat Room	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	Existing	131	30	$675	49%	0
Low Income Multi Family	Heat Room	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	New	91	30	$480	82%	0
Low Income Multi Family	Heat Room	Room Heat - Standard	Standard Room Heat	Standard Room Heat	Per Household	Existing	0.00	10	$0.00	100%	0
Low Income Multi Family	Heat Room	Room Heat - Standard	Standard Room Heat	Standard Room Heat	Per Household	New	0.00	10	$0.00	100%	0
Low Income Multi Family	Heat Room	Window - Upgrade	Code Window U-Factor = 0.35 (2009 IECC)	Existing Windows U-Factor	Per Window SqFt	Existing	2.03	20	$19	24%	0
Low Income Multi Family	Heat Room	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	0.56	20	$3	73%	0
Low Income Multi Family	Heat Room	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	0.56	20	$3	82%	0
Low Income Multi Family	Heat Room	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	1.47	20	$28	61%	0
Low Income Multi Family	Heat Room	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	1.47	20	$28	68%	0
Low Income Multi Family	Home Audio System	Home Audio System - ENERGY STAR	ENERGY STAR Home Audio System	Standard Home Audio System	Per Unit	Existing	22	7	$20	100%	0
Low Income Multi Family	Home Audio System	Home Audio System - ENERGY STAR	ENERGY STAR Home Audio System	Standard Home Audio System	Per Unit	New	22	7	$20	100%	0
Low Income Multi Family	Home Audio System	Home Audio System - Standard	Standard Home Audio System	Standard Home Audio System	Per Unit	Existing	0.00	7	$0.00	100%	0
Low Income Multi Family	Home Audio System	Home Audio System - Standard	Standard Home Audio System	Standard Home Audio System	Per Unit	New	0.00	7	$0.00	100%	0
Low Income Multi Family	Lighting Exterior	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	Existing	11	11	$611	13%	0
Low Income Multi Family	Lighting Exterior	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	New	11	11	$611	20%	0
Low Income Multi Family	Lighting Exterior	Lighitng Controls - Daylighting Controls (Photocell) - Outdoors	Lighitng Controls - Daylighting Controls (Photocell) - Outdoors	No Daylighting Controls	Per Photocell Control	Existing	11	10	$64	25%	0
Low Income Multi Family	Lighting Exterior	Lighitng Controls - Daylighting Controls (Photocell) - Outdoors	Lighitng Controls - Daylighting Controls (Photocell) - Outdoors	No Daylighting Controls	Per Photocell Control	New	11	10	$64	25%	0
Low Income Multi Family	Lighting Exterior	Lighting - CFL	Exterior - CFL	EISA Standard	Per Lamp	Existing	35	3	$4	100%	0
Low Income Multi Family	Lighting Exterior	Lighting - CFL	Exterior - CFL	EISA Standard	Per Lamp	New	35	3	$4	100%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Low Income Multi Family	Lighting Exterior	Lighting - EISA Backstop	Exterior - EISA Backstop	EISA Standard	Per Lamp	Existing	32	2	$0.00	100%	0
Low Income Multi Family	Lighting Exterior	Lighting - EISA Backstop	Exterior - EISA Backstop	EISA Standard	Per Lamp	New	32	2	$0.00	100%	0
Low Income Multi Family	Lighting Exterior	Lighting - EISA Standard	Exterior - EISA Standard	EISA Standard	Per Lamp	Existing	0.00	2	$0.00	100%	0
Low Income Multi Family	Lighting Exterior	Lighting - EISA Standard	Exterior - EISA Standard	EISA Standard	Per Lamp	New	0.00	2	$0.00	100%	0
Low Income Multi Family	Lighting Exterior	Lighting - Incandescent	Exterior - Incandescent	Incandescent	Per Lamp	Existing	0.00	2	$0.00	100%	0
Low Income Multi Family	Lighting Exterior	Lighting - Incandescent	Exterior - Incandescent	Incandescent	Per Lamp	New	0.00	2	$0.00	100%	0
Low Income Multi Family	Lighting Exterior	Lighting - LED	Exterior - LED	EISA Standard	Per Lamp	Existing	51	12	$36	100%	1,073
Low Income Multi Family	Lighting Exterior	Lighting - LED	Exterior - LED	EISA Standard	Per Lamp	New	51	12	$36	100%	73
Low Income Multi Family	Lighting Interior Specialty	LED Christmas Lighting	LED Christmas Lighting	Incandescent Christmas Lighting	Per LED String	Existing	6.08	5	$18	82%	0
Low Income Multi Family	Lighting Interior Specialty	LED Christmas Lighting	LED Christmas Lighting	Incandescent Christmas Lighting	Per LED String	New	6.08	5	$18	82%	0
Low Income Multi Family	Lighting Interior Specialty	Lighting - CFL	Interior Specialty - CFL	EISA Standard	Per Lamp	Existing	31	6	$6	65%	3,772
Low Income Multi Family	Lighting Interior Specialty	Lighting - CFL	Interior Specialty - CFL	EISA Standard	Per Lamp	New	31	6	$6	65%	271
Low Income Multi Family	Lighting Interior Specialty	Lighting - Incandescent	Interior Specialty - Incandescent	Incandescent	Per Lamp	Existing	0.00	2	$0.00	100%	0
Low Income Multi Family	Lighting Interior Specialty	Lighting - Incandescent	Interior Specialty - Incandescent	Incandescent	Per Lamp	New	0.00	2	$0.00	100%	0
Low Income Multi Family	Lighting Interior Specialty	Lighting - LED	Interior Specialty - LED	EISA Standard	Per Lamp	Existing	37	12	$28	50%	6,393
Low Income Multi Family	Lighting Interior Specialty	Lighting - LED	Interior Specialty - LED	EISA Standard	Per Lamp	New	37	12	$28	50%	416
Low Income Multi Family	Lighting Interior Standard	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	Existing	55	11	$611	13%	0
Low Income Multi Family	Lighting Interior Standard	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	New	55	11	$611	20%	0
Low Income Multi Family	Lighting Interior Standard	Lighitng Controls - Daylighting Controls (Photocell) - Indoors	Lighitng Controls - Daylighting Controls (Photocell) - Indoors	No Daylighting Controls	Per Photocell Control	Existing	11	10	$64	14%	0
Low Income Multi Family	Lighting Interior Standard	Lighitng Controls - Daylighting Controls (Photocell) - Indoors	Lighitng Controls - Daylighting Controls (Photocell) - Indoors	No Daylighting Controls	Per Photocell Control	New	11	10	$64	14%	0
Low Income Multi Family	Lighting Interior Standard	Lighting - CFL	Interior Standard - CFL	EISA Standard	Per Lamp	Existing	15	5	-0.2101	100%	0
Low Income Multi Family	Lighting Interior Standard	Lighting - CFL	Interior Standard - CFL	EISA Standard	Per Lamp	New	15	5	-0.2101	100%	0
Low Income Multi Family	Lighting Interior Standard	Lighting - EISA Backstop	Interior Standard - EISA Backstop	EISA Standard	Per Lamp	Existing	14	2	$0.00	100%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Low Income Multi Family	Lighting Interior Standard	Lighting - EISA Backstop	Interior Standard - EISA Backstop	EISA Standard	Per Lamp	New	14	2	$0.00	100%	0
Low Income Multi Family	Lighting Interior Standard	Lighting - EISA Standard	Interior Standard - EISA Standard	EISA Standard	Per Lamp	Existing	0.00	2	$0.00	100%	0
Low Income Multi Family	Lighting Interior Standard	Lighting - EISA Standard	Interior Standard - EISA Standard	EISA Standard	Per Lamp	New	0.00	2	$0.00	100%	0
Low Income Multi Family	Lighting Interior Standard	Lighting - Incandescent	Interior Standard - Incandescent	Incandescent	Per Lamp	Existing	0.00	2	$0.00	100%	0
Low Income Multi Family	Lighting Interior Standard	Lighting - Incandescent	Interior Standard - Incandescent	Incandescent	Per Lamp	New	0.00	2	$0.00	100%	0
Low Income Multi Family	Lighting Interior Standard	Lighting - LED	Interior Standard - LED	EISA Standard	Per Lamp	Existing	22	12	$24	100%	5,279
Low Income Multi Family	Lighting Interior Standard	Lighting - LED	Interior Standard - LED	EISA Standard	Per Lamp	New	22	12	$24	100%	363
Low Income Multi Family	Lighting Interior Standard	Lighting Controls - Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Occupancy Sensor	Existing	20	10	$56	17%	0
Low Income Multi Family	Lighting Interior Standard	Lighting Controls - Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Occupancy Sensor	New	20	10	$56	17%	0
Low Income Multi Family	Microwave	Microwave - Standard	Standard Microwave	Standard Microwave	Per Unit	Existing	0.00	10	$0.00	100%	0
Low Income Multi Family	Microwave	Microwave - Standard	Standard Microwave	Standard Microwave	Per Unit	New	0.00	10	$0.00	100%	0
Low Income Multi Family	Monitor	Monitor - Home Office ENERGY STAR	ENERGY STAR Office Monitor	Standard Office Monitor	Per Unit	Existing	14	5	$0.00	100%	0
Low Income Multi Family	Monitor	Monitor - Home Office ENERGY STAR	ENERGY STAR Office Monitor	Standard Office Monitor	Per Unit	New	14	5	$0.00	100%	0
Low Income Multi Family	Monitor	Monitor - Home Office Standard	Standard Office Monitor	Standard Office Monitor	Per Unit	Existing	0.00	5	$0.00	100%	0
Low Income Multi Family	Monitor	Monitor - Home Office Standard	Standard Office Monitor	Standard Office Monitor	Per Unit	New	0.00	5	$0.00	100%	0
Low Income Multi Family	Other Plug Load	DVD System - ENERGY STAR	ENERGY STAR DVD System	Standard DVD System	Per Unit	Existing	18	3	$0.99	100%	446
Low Income Multi Family	Other Plug Load	DVD System - ENERGY STAR	ENERGY STAR DVD System	Standard DVD System	Per Unit	New	18	3	$0.99	100%	31
Low Income Multi Family	Other Plug Load	DVD System - Standard	Standard DVD System	Standard DVD System	Per Unit	Existing	0.00	3	$0.00	100%	0
Low Income Multi Family	Other Plug Load	DVD System - Standard	Standard DVD System	Standard DVD System	Per Unit	New	0.00	3	$0.00	100%	0
Low Income Multi Family	Plug Load Other	Battery Chargers	Energy Star Battery Chargers	Standard Battery Chargers	Per Battary Charger	Existing	12	3	$4	36%	0
Low Income Multi Family	Plug Load Other	Battery Chargers	Energy Star Battery Chargers	Standard Battery Chargers	Per Battary Charger	New	12	3	$4	36%	0
Low Income Multi Family	Plug Load Other	Ceiling Fans	ENERGY STAR Ceiling Fans with Light Kit	Standard Ceiling Fan	Per Ceiling Fan	Existing	65	10	$119	51%	0
Low Income Multi Family	Plug Load Other	Ceiling Fans	ENERGY STAR Ceiling Fans with Light Kit	Standard Ceiling Fan	Per Ceiling Fan	New	65	10	$119	51%	0
Low Income Multi Family	Plug Load Other	Ceiling Fans	ENERGY STAR Ceiling Fans without Light Kit	Standard Ceiling Fan	Per Ceiling Fan	Existing	4.33	10	$1	51%	89
Low Income Multi Family	Plug Load Other	Ceiling Fans	ENERGY STAR Ceiling Fans without Light Kit	Standard Ceiling Fan	Per Ceiling Fan	New	4.33	10	$1	51%	6
Low Income Multi Family	Plug Load Other	Cordless Phone - ENERGY STAR	ENERGY STAR Cordless Phone	Standard Cordless Phone	Per Cordless Phone	Existing	25	5	$1	29%	303

Table A.3.1. MidAm Residential Electric Measure Details

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Low Income Multi Family	Plug Load Other	Cordless Phone - ENERGY STAR	ENERGY STAR Cordless Phone	Standard Cordless Phone	Per Cordless Phone	New	25	5	$1	29%	21
Low Income Multi Family	Plug Load Other	Home Office - Server	ENERGY STAR Home Server	Standard Office Server	Per Home Server	Existing	24	4	$8	4%	0
Low Income Multi Family	Plug Load Other	Home Office - Server	ENERGY STAR Home Server	Standard Office Server	Per Home Server	New	24	4	$8	4%	0
Low Income Multi Family	Plug Load Other	Plug Load - Other	Plug Load Other	Plug Load Other	Per Household	Existing	0.00	5	$0.00	100%	0
Low Income Multi Family	Plug Load Other	Plug Load - Other	Plug Load Other	Plug Load Other	Per Household	New	0.00	5	$0.00	100%	0
Low Income Multi Family	Plug Load Other	Smart Strip	Smart Strip	Standard Power Strip	Per Smart Strip	Existing	100	5	$22	62%	2,502
Low Income Multi Family	Plug Load Other	Smart Strip	Smart Strip	Standard Power Strip	Per Smart Strip	New	100	5	$22	62%	171
Low Income Multi Family	Printer	Printer - Home Office ENERGY STAR	ENERGY STAR Office Printer	Standard Printer	Per Unit	Existing	32	5	$13	100%	0
Low Income Multi Family	Printer	Printer - Home Office ENERGY STAR	ENERGY STAR Office Printer	Standard Printer	Per Unit	New	32	5	$13	100%	0
Low Income Multi Family	Printer	Printer - Standard	Standard Printer	Standard Printer	Per Unit	Existing	0.00	5	$0.00	100%	0
Low Income Multi Family	Printer	Printer - Standard	Standard Printer	Standard Printer	Per Unit	New	0.00	5	$0.00	100%	0
Low Income Multi Family	Refrigerator	Refrigerator - Below Standard	Below Standard Refrigerator	Below Standard Refrigerator	Per Unit	Existing	0.00	7	$0.00	100%	0
Low Income Multi Family	Refrigerator	Refrigerator - Below Standard	Below Standard Refrigerator	Below Standard Refrigerator	Per Unit	New	0.00	7	$0.00	100%	0
Low Income Multi Family	Refrigerator	Refrigerator - CEE Tier 2	CEE Tier 2 Refrigerator	Standard Refrigerator - Federal Standard 2001	Per Unit	Existing	142	13	$429	100%	0
Low Income Multi Family	Refrigerator	Refrigerator - CEE Tier 2	CEE Tier 2 Refrigerator	Standard Refrigerator - Federal Standard 2001	Per Unit	New	142	13	$429	100%	0
Low Income Multi Family	Refrigerator	Refrigerator - CEE Tier 3	CEE Tier 3 Refrigerator	Standard Refrigerator - Federal Standard 2001	Per Unit	Existing	170	13	$580	100%	0
Low Income Multi Family	Refrigerator	Refrigerator - CEE Tier 3	CEE Tier 3 Refrigerator	Standard Refrigerator - Federal Standard 2001	Per Unit	New	170	13	$580	100%	0
Low Income Multi Family	Refrigerator	Refrigerator - ENERGY STAR	ENERGY STAR Refrigerator	Standard Refrigerator - Federal Standard 2001	Per Unit	Existing	113	13	$251	100%	0
Low Income Multi Family	Refrigerator	Refrigerator - ENERGY STAR	ENERGY STAR Refrigerator	Standard Refrigerator - Federal Standard 2001	Per Unit	New	113	13	$251	100%	0
Low Income Multi Family	Refrigerator	Refrigerator - Federal Standard September 2014	Federal Standard In 2014 (NAECA)	Standard Refrigerator - Federal Standard 2001	Per Unit	Existing	56	13	$124	100%	0
Low Income Multi Family	Refrigerator	Refrigerator - Federal Standard September 2014	Federal Standard In 2014 (NAECA)	Standard Refrigerator - Federal Standard 2001	Per Unit	New	56	13	$124	100%	0
Low Income Multi Family	Refrigerator	Refrigerator - Standard 2001	Standard Refrigerator - Federal Standard 2001	Standard Refrigerator - Federal Standard 2001	Per Unit	Existing	0.00	13	$0.00	100%	0
Low Income Multi Family	Refrigerator	Refrigerator - Standard 2001	Standard Refrigerator - Federal Standard 2001	Standard Refrigerator - Federal Standard 2001	Per Unit	New	0.00	13	$0.00	100%	0
Low Income Multi Family	Refrigerator	Removal of Secondary Refrigerator/Freezer	Proper Disposal of Refrigerator/Freezer Combo	Existing Non-Efficient Refrigerator/Freezer	Per Recyled Unit	Existing	1,140	5	$30	16%	7,466
Low Income Multi Family	Set Top Box	Digital Set Top Receiver - ENERGY STAR	ENERGY STAR Digital Set Top Receiver	Standard Digital Set Top Receiver	Per Unit	Existing	164	5	$12	100%	3,047
Low Income Multi Family	Set Top Box	Digital Set Top Receiver - ENERGY STAR	ENERGY STAR Digital Set Top Receiver	Standard Digital Set Top Receiver	Per Unit	New	164	5	$12	100%	233
Low Income Multi Family	Set Top Box	Digital Set Top Receiver - Standard	Standard Digital Set Top Receiver	Standard Digital Set Top Receiver	Per Unit	Existing	0.00	5	$0.00	100%	0
Low Income Multi Family	Set Top Box	Digital Set Top Receiver - Standard	Standard Digital Set Top Receiver	Standard Digital Set Top Receiver	Per Unit	New	0.00	5	$0.00	100%	0
Low Income Multi Family	Television	TV - ENERGY STAR	ENERGY STAR TV	Standard TV	Per Unit	Existing	118	5	$55	100%	0
Low Income Multi Family	Television	TV - ENERGY STAR	ENERGY STAR TV	Standard TV	Per Unit	New	118	5	$55	100%	0

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Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Low Income Multi Family	Television	TV - Standard	Standard TV	Standard TV	Per Unit	Existing	0.00	5	$0.00	100%	0
Low Income Multi Family	Television	TV - Standard	Standard TV	Standard TV	Per Unit	New	0.00	5	$0.00	100%	0
Low Income Multi Family	Ventilation And Circulation	ECM Motor - Air Conditioner/Electric/Gas Furnace ECM Fan	Air Conditioner/Electric/Gas Furnace ECM Fan	Standard Motor	Per ECM	Existing	280	15	$200	62%	5,111
Low Income Multi Family	Ventilation And Circulation	ECM Motor - Air Conditioner/Electric/Gas Furnace ECM Fan	Air Conditioner/Electric/Gas Furnace ECM Fan	Standard Motor	Per ECM	New	222	15	$200	90%	411
Low Income Multi Family	Ventilation And Circulation	Motor - Standard	Standard Motor - Ventilation And Circulation	Standard Motor	Per Household	Existing	0.00	20	$0.00	100%	0
Low Income Multi Family	Ventilation And Circulation	Motor - Standard	Standard Motor - Ventilation And Circulation	Standard Motor	Per Household	New	0.00	20	$0.00	100%	0
Low Income Multi Family	Water Heat	Clothes Washer	Clothes Washer Enhanced Efficiency MEF = 3.10 and WF = 3.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	428	11	$789	27%	0
Low Income Multi Family	Water Heat	Clothes Washer	Clothes Washer Enhanced Efficiency MEF = 3.10 and WF = 3.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	428	11	$789	27%	0
Low Income Multi Family	Water Heat	Clothes Washer	Clothes Washer CEE Tier 2 MEF = 2.2 and WF = 4.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	308	11	$391	24%	0
Low Income Multi Family	Water Heat	Clothes Washer	Clothes Washer CEE Tier 2 MEF = 2.2 and WF = 4.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	308	11	$391	25%	0
Low Income Multi Family	Water Heat	Clothes Washer	Clothes Washer CEE Tier 3 MEF = 2.4 and WF = 4.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	343	11	$565	26%	0
Low Income Multi Family	Water Heat	Clothes Washer	Clothes Washer CEE Tier 3 MEF = 2.4 and WF = 4.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	343	11	$565	26%	0
Low Income Multi Family	Water Heat	Clothes Washer	Clothes Washer ENERGY STAR MEF = 2.0 and WF = 6.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	267	11	$134	20%	470
Low Income Multi Family	Water Heat	Clothes Washer	Clothes Washer ENERGY STAR MEF = 2.0 and WF = 6.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	267	11	$134	20%	32
Low Income Multi Family	Water Heat	Clothes Washer	Steam Clothes Washer	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	428	11	$789	27%	0
Low Income Multi Family	Water Heat	Clothes Washer	Steam Clothes Washer	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	428	11	$789	27%	0
Low Income Multi Family	Water Heat	Desuperheaters - Air Conditioner	Add-on Desuperheaters to Air Conditioner	No Desuperheater	Per Desuperheater	Existing	233	10	$600	43%	0
Low Income Multi Family	Water Heat	Desuperheaters - Air Source Heat Pump	Add-on Desuperheaters to Air Source Heat Pump	No Desuperheater	Per Desuperheater	Existing	466	10	$600	0%	0
Low Income Multi Family	Water Heat	Desuperheaters - Ground Source Heat Pump	Add-on Desuperheaters to Ground Source Heat Pump	No Desuperheater	Per Desuperheater	Existing	466	10	$600	0%	0
Low Income Multi Family	Water Heat	Dishwasher	Dishwasher Enhanced Efficiency (EF 1.00) 200 kWh/yr and 4.00 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle	Per Dishwasher	Existing	155	11	$1,067	21%	0
Low Income Multi Family	Water Heat	Dishwasher	Dishwasher Enhanced Efficiency (EF 1.00) 200 kWh/yr and 4.00 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle	Per Dishwasher	New	155	11	$1,067	21%	0
Low Income Multi Family	Water Heat	Dishwasher	ENERGY STAR 295 kWh/yr and 4.25 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle	Per Dishwasher	Existing	60	11	$272	7%	0
Low Income Multi Family	Water Heat	Dishwasher	ENERGY STAR 295 kWh/yr and 4.25 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle	Per Dishwasher	New	60	11	$272	7%	0

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Low Income Multi Family	Water Heat	Drain-Water Heat Recovery	Drain-Water Heat Recovery	No Drain Water Heat Recovery	Per Drain-Water Heat Recovery System	Existing	545	40	$935	10%	368
Low Income Multi Family	Water Heat	Drain-Water Heat Recovery	Drain-Water Heat Recovery	No Drain Water Heat Recovery	Per Drain-Water Heat Recovery System	New	512	40	$935	71%	180
Low Income Multi Family	Water Heat	Faucet Aerators	0.5 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	Existing	104	10	$1	85%	801
Low Income Multi Family	Water Heat	Faucet Aerators	0.5 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	New	99	10	$1	90%	55
Low Income Multi Family	Water Heat	Faucet Aerators	1.5 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	Existing	43	10	$1	26%	5
Low Income Multi Family	Water Heat	Faucet Aerators	1.5 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	New	41	10	$1	28%	0
Low Income Multi Family	Water Heat	Faucet Aerators	2.0 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	Existing	12	10	$0.53	14%	0
Low Income Multi Family	Water Heat	Faucet Aerators	2.0 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	New	11	10	$0.53	15%	0
Low Income Multi Family	Water Heat	Faucet Aerators	2.2 GPM (Federal Code)	Existing Faucet Aerator GPM	Per Faucet Aerator	Existing	49	10	$3	9%	40
Low Income Multi Family	Water Heat	Hot Tub Covers	Hot Tub Covers R-21	Existing Cover R-10	Per Hot Tub Cover	Existing	172	6	$524	1%	0
Low Income Multi Family	Water Heat	Low-Flow Showerheads	1.5 GPM - Showerhead	2.5 GPM (Federal Code)	Per Showerhead	Existing	308	10	$8	80%	2,225
Low Income Multi Family	Water Heat	Low-Flow Showerheads	1.5 GPM - Showerhead	2.5 GPM (Federal Code)	Per Showerhead	New	293	10	$8	80%	144
Low Income Multi Family	Water Heat	Low-Flow Showerheads	2.0 GPM - Showerhead	2.5 GPM (Federal Code)	Per Showerhead	Existing	154	10	$13	38%	27
Low Income Multi Family	Water Heat	Low-Flow Showerheads	2.0 GPM - Showerhead	2.5 GPM (Federal Code)	Per Showerhead	New	146	10	$13	38%	2
Low Income Multi Family	Water Heat	Low-Flow Showerheads	2.5 GPM (Federal Code)	Existing Showerhead GPM	Per Showerhead	Existing	154	10	$24	23%	323
Low Income Multi Family	Water Heat	Solar Hot Water (SHW)	Solar Thermal Collector	Standard Storage Hot Water Heater	Per Solar Water System	Existing	1,165	15	$6,238	15%	0
Low Income Multi Family	Water Heat	Solar Hot Water (SHW)	Solar Thermal Collector	Standard Storage Hot Water Heater	Per Solar Water System	New	1,094	15	$4,878	15%	0
Low Income Multi Family	Water Heat	Water Heater - Below Standard	EF = 0.88 Below Standard Water Heater	EF = 0.88 Below Standard Water Heater	Per Unit	Existing	0.00	7	$0.00	100%	0
Low Income Multi Family	Water Heat	Water Heater - Below Standard	EF = 0.88 Below Standard Water Heater	EF = 0.88 Below Standard Water Heater	Per Unit	New	0.00	7	$0.00	100%	0
Low Income Multi Family	Water Heat	Water Heater - Heat Pump	Heat Pump Water Heater ENERGY STAR EF = 2.0	EF = 0.92 Federal Standard 2001	Per Unit	Existing	1,244	13	$1,281	60%	0
Low Income Multi Family	Water Heat	Water Heater - Heat Pump	Heat Pump Water Heater ENERGY STAR EF = 2.0	EF = 0.92 Federal Standard 2001	Per Unit	New	1,185	13	$1,281	60%	0
Low Income Multi Family	Water Heat	Water Heater - Pipe Insulation	Hot Water Pipe Insulation (R-4)	No Pipe Insulation	Per Pipe Insulation	Existing	69	13	$6	30%	157
Low Income Multi Family	Water Heat	Water Heater - Pipe Insulation	Hot Water Pipe Insulation (R-4)	No Pipe Insulation	Per Pipe Insulation	New	69	13	$6	45%	16
Low Income Multi Family	Water Heat	Water Heater - Storage 2001 Standard	EF = 0.92 Federal Standard 2001	EF = 0.92 Federal Standard 2001	Per Unit	Existing	0.00	13	$0.00	100%	0
Low Income Multi Family	Water Heat	Water Heater - Storage 2001 Standard	EF = 0.92 Federal Standard 2001	EF = 0.92 Federal Standard 2001	Per Unit	New	0.00	13	$0.00	100%	0
Low Income Multi Family	Water Heat	Water Heater - Storage 2015 Standard	Water Heater - Storage Federal Standard April 2015 EF = 0.95	EF = 0.92 Federal Standard 2001	Per Unit	Existing	74	13	$43	100%	0
Low Income Multi Family	Water Heat	Water Heater - Storage 2015 Standard	Water Heater - Storage Federal Standard April 2015 EF = 0.95	EF = 0.92 Federal Standard 2001	Per Unit	New	71	13	$43	100%	0
Low Income Multi Family	Water Heat	Water Heater - Tank Blanket/Insulation	Install Insulation (R-11)	No Tank Insulation	Per Tank Wrap	Existing	151	13	$17	10%	114
Low Income Multi Family	Water Heat	Water Heater - Tankless	Tankless EF= 0.98	EF = 0.92 Federal Standard 2001	Per Unit	Existing	147	20	$260	0%	0
Low Income Multi Family	Water Heat	Water Heater - Tankless	Tankless EF= 0.98	EF = 0.92 Federal Standard 2001	Per Unit	New	140	20	$260	0%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Low Income Multi Family	Water Heat	Water Heater - Thermostat Setback	120 Degrees	135 Degrees	Per Set-Back	Existing	445	4	$10	7%	239
Low Income Multi Family	Water Heat	Water Heater - Thermostat Setback	120 Degrees	135 Degrees	Per Set-Back	New	418	4	$10	7%	15
Low Income Single Family	Computer	Computer - Home Office ENERGY STAR	ENERGY STAR Office Computer	Standard Office Computer	Per Unit	Existing	76	4	$8	100%	4,810
Low Income Single Family	Computer	Computer - Home Office ENERGY STAR	ENERGY STAR Office Computer	Standard Office Computer	Per Unit	New	76	4	$8	100%	348
Low Income Single Family	Computer	Computer - Home Office Standard	Standard Office Computer	Standard Office Computer	Per Unit	Existing	0.00	4	$0.00	100%	0
Low Income Single Family	Computer	Computer - Home Office Standard	Standard Office Computer	Standard Office Computer	Per Unit	New	0.00	4	$0.00	100%	0
Low Income Single Family	Cooking Oven	Oven - Convection	Convection Oven	Standard Oven	Per Unit	Existing	102	19	$176	100%	0
Low Income Single Family	Cooking Oven	Oven - Convection	Convection Oven	Standard Oven	Per Unit	New	102	19	$176	100%	0
Low Income Single Family	Cooking Oven	Oven - Standard	Standard Oven	Standard Oven	Per Unit	Existing	0.00	19	$0.00	100%	0
Low Income Single Family	Cooking Oven	Oven - Standard	Standard Oven	Standard Oven	Per Unit	New	0.00	19	$0.00	100%	0
Low Income Single Family	Cooking Range	Cooking Range - Standard	Standard Cooking Range	Standard Cooking Range	Per Unit	Existing	0.00	19	$0.00	100%	0
Low Income Single Family	Cooking Range	Cooking Range - Standard	Standard Cooking Range	Standard Cooking Range	Per Unit	New	0.00	19	$0.00	100%	0
Low Income Single Family	Cool Central	Attic Fan	Attic Fan For Summer Cooling	No Attic Fan with Central Cooling	Per Attic Fan	Existing	124	19	$249	82%	2,429
Low Income Single Family	Cool Central	Central Air Conditioners - Below Standard	Below Standard SEER 10	Below Standard SEER 10	Per Household	Existing	0.00	8	$0.00	100%	0
Low Income Single Family	Cool Central	Central Air Conditioners - Below Standard	Below Standard SEER 10	Below Standard SEER 10	Per Household	New	0.00	8	$0.00	100%	0
Low Income Single Family	Cool Central	Central Air Conditioners - CEE Tier 2	CEE Tier 2 SEER/EER 15/12.5 (Split System)	Federal Standard 13 SEER	Per Household	Existing	279	15	$714	100%	0
Low Income Single Family	Cool Central	Central Air Conditioners - CEE Tier 2	CEE Tier 2 SEER/EER 15/12.5 (Split System)	Federal Standard 13 SEER	Per Household	New	212	15	$714	100%	0
Low Income Single Family	Cool Central	Central Air Conditioners - CEE Tier 3	CEE Tier 3 SEER/EER 16/13 (Split System)	Federal Standard 13 SEER	Per Household	Existing	392	15	$1,071	100%	0
Low Income Single Family	Cool Central	Central Air Conditioners - CEE Tier 3	CEE Tier 3 SEER/EER 16/13 (Split System)	Federal Standard 13 SEER	Per Household	New	298	15	$1,071	100%	406
Low Income Single Family	Cool Central	Central Air Conditioners - ENERGY STAR	ENERGY STAR SEER/EER 14.5/12 (Split System)	Federal Standard 13 SEER	Per Household	Existing	216	15	$535	100%	0
Low Income Single Family	Cool Central	Central Air Conditioners - ENERGY STAR	ENERGY STAR SEER/EER 14.5/12 (Split System)	Federal Standard 13 SEER	Per Household	New	164	15	$535	100%	0
Low Income Single Family	Cool Central	Central Air Conditioners - Enhanced	Enhanced SEER/EER 18/14 (Split System)	Federal Standard 13 SEER	Per Household	Existing	581	15	$1,788	100%	7,036
Low Income Single Family	Cool Central	Central Air Conditioners - Enhanced	Enhanced SEER/EER 18/14 (Split System)	Federal Standard 13 SEER	Per Household	New	442	15	$1,788	100%	0
Low Income Single Family	Cool Central	Central Air Conditioners - Standard	Federal Standard SEER 13	Federal Standard 13 SEER	Per Household	Existing	0.00	15	$0.00	100%	0
Low Income Single Family	Cool Central	Central Air Conditioners - Standard	Federal Standard SEER 13	Federal Standard 13 SEER	Per Household	New	0.00	15	$0.00	100%	0
Low Income Single Family	Cool Central	Construction - ICF	Insulated Concrete Forms - Concrete Construction	Standard Wood Framing	Per Building SqFt	New	0.11	40	$2	67%	0
Low Income Single Family	Cool Central	Construction - SIP	Structural Insulated Panels - Specialty Framing	Standard Wood Framing	Per Building SqFt	New	0.11	40	$0.76	67%	166
Low Income Single Family	Cool Central	Cool Roofs	Lighter Colored Shingles (White)	Standard Roof Shingles	Per Roof SqFT	Existing	0.33	20	$0.25	45%	0
Low Income Single Family	Cool Central	Cool Roofs	Lighter Colored Shingles (White)	Standard Roof Shingles	Per Roof SqFT	New	0.23	20	$0.25	45%	0
Low Income Single Family	Cool Central	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	0.34	20	$0.92	61%	11

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Low Income Single Family	Cool Central	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	New	0.24	20	$0.92	61%	1
Low Income Single Family	Cool Central	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	0.61	20	$3	76%	378
Low Income Single Family	Cool Central	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	New	0.44	20	$3	76%	18
Low Income Single Family	Cool Central	Duct Sealing	4 CFM/100sqft of CFA	8 CFM/100sqft of CFA	Per Duct Sealing Installation	New	79	18	$333	65%	70
Low Income Single Family	Cool Central	Duct Sealing	4 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	335	18	$960	33%	2,236
Low Income Single Family	Cool Central	Duct Sealing	8 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	223	18	$587	65%	2,270
Low Income Single Family	Cool Central	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof sqft	New	0.15	30	$13	88%	0
Low Income Single Family	Cool Central	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	Existing	223	11	$611	48%	1,561
Low Income Single Family	Cool Central	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	New	102	11	$611	64%	0
Low Income Single Family	Cool Central	Infiltration Reduction	4.0 ACH50	7.0 ACH50	Per Building SqFt	New	0.06	11	$0.25	42%	60
Low Income Single Family	Cool Central	Infiltration Reduction	4.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.19	11	$0.44	19%	995
Low Income Single Family	Cool Central	Infiltration Reduction	7.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.09	11	$0.19	63%	1,909
Low Income Single Family	Cool Central	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-38 (To Code Zone 5)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.08	20	$0.99	27%	286
Low Income Single Family	Cool Central	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (To Code Zone 6)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.09	20	$1	27%	332
Low Income Single Family	Cool Central	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	Existing	0.01	20	$0.25	45%	0
Low Income Single Family	Cool Central	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	New	0.00	20	$0.25	45%	0
Low Income Single Family	Cool Central	Insulation - Basement Wall	Insulation Basement Wall (R-10 Zone 5)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.00	20	$1	12%	0
Low Income Single Family	Cool Central	Insulation - Basement Wall	Insulation Basement Wall (R-15 Zone 6)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.00	20	$1	24%	0
Low Income Single Family	Cool Central	Insulation - Duct	Insulation Duct (R-8)	No Duct Insulation	Per Duct Insulation Installation	Existing	70	20	$248	71%	1,038
Low Income Single Family	Cool Central	Insulation - Floor	Insulation Floor (R-30)	Average Existing Insulation (R-1.8)	Per Insulated SqFt	Existing	0.00	20	$0.90	60%	0
Low Income Single Family	Cool Central	Insulation - Rim/Band Joist	Insulation Rim and Band Joist (R-10)	No Rim And Band Joist Insulation	Per Insulated SqFt	Existing	0.14	20	$1	22%	58
Low Income Single Family	Cool Central	Insulation - Siding	Vinyl Siding with Foam Backing (R-3)	No Siding Insulation	Per Insulated SqFt	Existing	0.12	20	$0.51	14%	520
Low Income Single Family	Cool Central	Insulation - Slab	Insulation Slab (R-15, 4ft)	Code Insulation (R-10, 4ft)	Per Insulated SqFt	New	0.00	20	$0.44	17%	0
Low Income Single Family	Cool Central	Insulation - Wall	Insulation Wall (R-13)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.24	20	$1	3%	88
Low Income Single Family	Cool Central	Insulation - Wall	Insulation Wall (R-20 or R-13 w/ R-5 sheathing) (To Code)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.28	20	$1	2%	156
Low Income Single Family	Cool Central	Insulation - Wall	Insulation Wall (R-21 + R-5 sheathing)	Code Insulation (R-20 or R-13 w/ R-5 sheathing)	Per Insulated SqFt	New	0.01	20	$0.16	90%	23
Low Income Single Family	Cool Central	Quality Install CAC	Quality Installation (QI)	Standard Installation	Per QI Install	Existing	234	5	$300	45%	0
Low Income Single Family	Cool Central	Quality Install CAC	Quality Installation (QI)	Standard Installation	Per QI Install	New	166	5	$300	45%	0
Low Income Single Family	Cool Central	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	Existing	228	30	$675	82%	3,220
Low Income Single Family	Cool Central	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	New	161	30	$480	82%	200

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Low Income Single Family	Cool Central	Solar Attic Fan	Solar Electric Attic Ventilation	Standard Passive Ventilation	Per Solar Fan	Existing	134	19	$331	49%	1,576
Low Income Single Family	Cool Central	Solar Attic Fan	Solar Electric Attic Ventilation	Standard Passive Ventilation	Per Solar Fan	New	94	19	$331	49%	78
Low Income Single Family	Cool Central	Thermostat - Multi-Zone	Individual Room Temperature Control for Major Occupied Rooms	Programmable Thermostat - Central Control Only	Per Programmable Control System	New	107	11	$895	86%	0
Low Income Single Family	Cool Central	Thermostat - Programmable	Setback Thermostat 5-1-1, 5-2 or 7-Day	Manual Thermostat	Per Programmable Control	Existing	78	15	$33	67%	0
Low Income Single Family	Cool Central	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	Existing	78	15	$167	70%	445
Low Income Single Family	Cool Central	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	New	55	15	$167	90%	78
Low Income Single Family	Cool Central	Tune-up - Air Conditioner	Air Conditioner Maintenance (Tune-up)	Unmaintained Air Conditioner	Per Tune-up	Existing	167	5	$200	71%	1,615
Low Income Single Family	Cool Central	Whole-House Fan	Whole-House Fan to Offset Central Cooling	No Whole-House Fan	Per House Fan	Existing	335	20	$366	48%	3,859
Low Income Single Family	Cool Central	Whole-House Fan	Whole-House Fan to Offset Central Cooling	No Whole-House Fan	Per House Fan	New	237	20	$366	48%	190
Low Income Single Family	Cool Central	Window - Film	Window Film (SHGC Reduction=45%)	No Window Film	Per Window SqFt	Existing	0.55	10	$4	76%	0
Low Income Single Family	Cool Central	Window - Shade	Window Shade/Blind or Thermal Drapes	No Interior Shading Device	Per Window SqFt	Existing	0.36	3	$7	38%	0
Low Income Single Family	Cool Central	Window - Upgrade	Code Window U-Factor = 0.35 (2009 IECC)	Existing Windows U-Factor	Per Window SqFt	Existing	0.45	20	$24	24%	0
Low Income Single Family	Cool Central	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	0.12	20	$8	73%	0
Low Income Single Family	Cool Central	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	0.09	20	$8	82%	0
Low Income Single Family	Cool Central	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	0.32	20	$33	61%	0
Low Income Single Family	Cool Central	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	0.23	20	$33	68%	0
Low Income Single Family	Cool Room	Construction - ICF	Insulated Concrete Forms - Concrete Construction	Standard Wood Framing	Per Building SqFt	New	0.02	40	$2	67%	0
Low Income Single Family	Cool Room	Construction - SIP	Structural Insulated Panels - Specialty Framing	Standard Wood Framing	Per Building SqFt	New	0.02	40	$0.76	67%	32
Low Income Single Family	Cool Room	Cool Roofs	Lighter Colored Shingles (White)	Standard Roof Shingles	Per Roof SqFT	Existing	0.06	20	$0.25	45%	0
Low Income Single Family	Cool Room	Cool Roofs	Lighter Colored Shingles (White)	Standard Roof Shingles	Per Roof SqFT	New	0.06	20	$0.25	45%	0
Low Income Single Family	Cool Room	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	0.09	20	$0.92	61%	2
Low Income Single Family	Cool Room	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	New	0.08	20	$0.92	61%	0
Low Income Single Family	Cool Room	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	0.17	20	$3	76%	67
Low Income Single Family	Cool Room	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	New	0.15	20	$3	76%	5
Low Income Single Family	Cool Room	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof sqft	New	0.01	30	$13	88%	0
Low Income Single Family	Cool Room	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	Existing	37	11	$611	48%	0
Low Income Single Family	Cool Room	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	New	24	11	$611	64%	0
Low Income Single Family	Cool Room	Infiltration Reduction	4.0 ACH50	7.0 ACH50	Per Building SqFt	New	0.01	11	$0.25	42%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Low Income Single Family	Cool Room	Infiltration Reduction	4.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.03	11	$0.44	19%	128
Low Income Single Family	Cool Room	Infiltration Reduction	7.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.01	11	$0.19	63%	211
Low Income Single Family	Cool Room	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-38 (To Code Zone 5)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.02	20	$0.99	27%	0
Low Income Single Family	Cool Room	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (To Code Zone 6)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.02	20	$1	27%	0
Low Income Single Family	Cool Room	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	Existing	0.00	20	$0.25	45%	0
Low Income Single Family	Cool Room	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	New	0.00	20	$0.25	45%	0
Low Income Single Family	Cool Room	Insulation - Basement Wall	Insulation Basement Wall (R-10 Zone 5)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.00	20	$1	12%	0
Low Income Single Family	Cool Room	Insulation - Basement Wall	Insulation Basement Wall (R-15 Zone 6)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.00	20	$1	24%	0
Low Income Single Family	Cool Room	Insulation - Floor	Insulation Floor (R-30)	Average Existing Insulation (R-1.8)	Per Insulated SqFt	Existing	0.00	20	$0.90	60%	0
Low Income Single Family	Cool Room	Insulation - Rim/Band Joist	Insulation Rim and Band Joist (R-10)	No Rim And Band Joist Insulation	Per Insulated SqFt	Existing	0.03	20	$1	22%	15
Low Income Single Family	Cool Room	Insulation - Siding	Vinyl Siding with Foam Backing (R-3)	No Siding Insulation	Per Insulated SqFt	Existing	0.03	20	$0.51	14%	86
Low Income Single Family	Cool Room	Insulation - Slab	Insulation Slab (R-15, 4ft)	Code Insulation (R-10, 4ft)	Per Insulated SqFt	New	0.00	20	$0.44	17%	0
Low Income Single Family	Cool Room	Insulation - Wall	Insulation Wall (R-13)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.06	20	$1	3%	14
Low Income Single Family	Cool Room	Insulation - Wall	Insulation Wall (R-20 or R-13 w/ R-5 sheathing) (To Code)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.07	20	$1	2%	26
Low Income Single Family	Cool Room	Insulation - Wall	Insulation Wall (R-21 + R-5 sheathing)	Code Insulation (R-20 or R-13 w/ R-5 sheathing)	Per Insulated SqFt	New	0.00	20	$0.16	90%	8
Low Income Single Family	Cool Room	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	Existing	37	30	$675	82%	0
Low Income Single Family	Cool Room	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	New	37	30	$480	82%	0
Low Income Single Family	Cool Room	Removal of Secondary Window Air Conditioner Unit	Proper Disposal of Window Air Conditioner Unit	Existing Non-Efficient Window Air Conditioner Unit	Per Recyled Unit	Existing	378	3	$30	22%	1,463
Low Income Single Family	Cool Room	Room AC - Below Standard	Below Standard 7.7 EER; 8,000-13,999 Btu	Below Standard 7.7 EER; 8,000-13,999 Btu	Per Unit	Existing	0.00	5	$0.00	100%	0
Low Income Single Family	Cool Room	Room AC - Below Standard	Below Standard 7.7 EER; 8,000-13,999 Btu	Below Standard 7.7 EER; 8,000-13,999 Btu	Per Unit	New	0.00	5	$0.00	100%	0
Low Income Single Family	Cool Room	Room AC - CEE Tier 1	CEE TIER 1 = 11.3 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Unit	Existing	39	9	$308	100%	0
Low Income Single Family	Cool Room	Room AC - CEE Tier 1	CEE TIER 1 = 11.3 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Unit	New	39	9	$308	100%	0
Low Income Single Family	Cool Room	Room AC - CEE Tier 2	CEE TIER 2 = 11.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Unit	Existing	50	9	$575	100%	0
Low Income Single Family	Cool Room	Room AC - CEE Tier 2	CEE TIER 2 = 11.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Unit	New	50	9	$575	100%	0
Low Income Single Family	Cool Room	Room AC - ENERGY STAR	ENERGY STAR = 10.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Unit	Existing	27	9	$41	100%	360
Low Income Single Family	Cool Room	Room AC - ENERGY STAR	ENERGY STAR = 10.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Unit	New	27	9	$41	100%	38
Low Income Single Family	Cool Room	Room AC - Standard	Federal Standard 9.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Unit	Existing	0.00	9	$0.00	100%	0
Low Income Single Family	Cool Room	Room AC - Standard	Federal Standard 9.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Unit	New	0.00	9	$0.00	100%	0
Low Income Single Family	Cool Room	Window - Film	Window Film (SHGC Reduction=45%)	No Window Film	Per Window SqFt	Existing	0.09	10	$4	76%	0
Low Income Single Family	Cool Room	Window - Shade	Window Shade/Blind or Thermal Drapes	No Interior Shading Device	Per Window SqFt	Existing	0.06	3	$7	38%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Low Income Single Family	Cool Room	Window - Upgrade	Code Window U-Factor = 0.35 (2009 IECC)	Existing Windows U-Factor	Per Window SqFt	Existing	0.12	20	$24	24%	0
Low Income Single Family	Cool Room	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	0.03	20	$8	73%	0
Low Income Single Family	Cool Room	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	0.03	20	$8	82%	0
Low Income Single Family	Cool Room	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	0.09	20	$33	61%	0
Low Income Single Family	Cool Room	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	0.08	20	$33	68%	0
Low Income Single Family	Copier	Copier - Standard	Standard Copier	Standard Copier	Per Unit	Existing	0.00	6	$0.00	100%	0
Low Income Single Family	Copier	Copier - Standard	Standard Copier	Standard Copier	Per Unit	New	0.00	6	$0.00	100%	0
Low Income Single Family	Copier	Copiers - Home Office ENERGY STAR	ENERGY STAR Office Copiers	Standard Copier	Per Unit	Existing	73	6	$1,505	100%	0
Low Income Single Family	Copier	Copiers - Home Office ENERGY STAR	ENERGY STAR Office Copiers	Standard Copier	Per Unit	New	73	6	$1,505	100%	0
Low Income Single Family	Dehumidifier	Dehumidifier - Standard	Standard Dehumidifier	Standard Dehumidifier	Per Unit	Existing	0.00	12	$0.00	100%	0
Low Income Single Family	Dehumidifier	Dehumidifier - Standard	Standard Dehumidifier	Standard Dehumidifier	Per Unit	New	0.00	12	$0.00	100%	0
Low Income Single Family	Dehumidifier	Dehumidifiers - ENERGY STAR	ENERGY STAR Dehumidifiers	Standard Dehumidifier	Per Unit	Existing	117	12	$34	100%	1,730
Low Income Single Family	Dehumidifier	Dehumidifiers - ENERGY STAR	ENERGY STAR Dehumidifiers	Standard Dehumidifier	Per Unit	New	117	12	$34	100%	203
Low Income Single Family	Dryer	Clothes Dryer - Moisture Sensor	Clothes Dryer w/ Moisture Sensor	Standard Dryer without Moisture Sensor	Per Unit	Existing	142	11	$137	100%	0
Low Income Single Family	Dryer	Clothes Dryer - Moisture Sensor	Clothes Dryer w/ Moisture Sensor	Standard Dryer without Moisture Sensor	Per Unit	New	142	11	$137	100%	0
Low Income Single Family	Dryer	Clothes Dryer - Standard without Moisture Sensor	Standard Dryer without Moisture Sensor	Standard Dryer without Moisture Sensor	Per Unit	Existing	0.00	11	$0.00	100%	0
Low Income Single Family	Dryer	Clothes Dryer - Standard without Moisture Sensor	Standard Dryer without Moisture Sensor	Standard Dryer without Moisture Sensor	Per Unit	New	0.00	11	$0.00	100%	0
Low Income Single Family	Dryer	Clothes Dryer - Steam	Steam Clothes Dryer	Standard Dryer without Moisture Sensor	Per Unit	Existing	142	11	$372	98%	0
Low Income Single Family	Dryer	Clothes Dryer - Steam	Steam Clothes Dryer	Standard Dryer without Moisture Sensor	Per Unit	New	142	11	$372	98%	0
Low Income Single Family	Freezer	Freezer - Below Standard	Below Standard Freezer	Below Standard Freezer	Per Unit	Existing	0.00	6	$0.00	100%	0
Low Income Single Family	Freezer	Freezer - Below Standard	Below Standard Freezer	Below Standard Freezer	Per Unit	New	0.00	6	$0.00	100%	0
Low Income Single Family	Freezer	Freezer - ENERGY STAR	ENERGY STAR Freezer	Standard Freezer - Federal Standard 2001	Per Unit	Existing	55	12	$75	100%	0
Low Income Single Family	Freezer	Freezer - ENERGY STAR	ENERGY STAR Freezer	Standard Freezer - Federal Standard 2001	Per Unit	New	55	12	$75	100%	0
Low Income Single Family	Freezer	Freezer - Federal Standard September 2014	Standard Freezer - Federal Standard 2014 (NAECA)	Standard Freezer - Federal Standard 2001	Per Unit	Existing	159	12	$214	100%	0
Low Income Single Family	Freezer	Freezer - Federal Standard September 2014	Standard Freezer - Federal Standard 2014 (NAECA)	Standard Freezer - Federal Standard 2001	Per Unit	New	159	12	$214	100%	0
Low Income Single Family	Freezer	Freezer - Standard 2001	Standard Freezer - Federal Standard 2001	Standard Freezer - Federal Standard 2001	Per Unit	Existing	0.00	12	$0.00	100%	0
Low Income Single Family	Freezer	Freezer - Standard 2001	Standard Freezer - Federal Standard 2001	Standard Freezer - Federal Standard 2001	Per Unit	New	0.00	12	$0.00	100%	0
Low Income Single Family	Freezer	Removal of Secondary Stand-Alone Freezer	Proper Disposal of Stand-Alone Freezer	Existing Non-Efficient Stand-Alone Freezer	Per Recyled Unit	Existing	916	5	$30	24%	6,905
Low Income Single Family	Heat Central	Central Heat - Standard	Standard Central Heat	Standard Central Heat	Per Household	Existing	0.00	10	$0.00	100%	0
Low Income Single Family	Heat Central	Central Heat - Standard	Standard Central Heat	Standard Central Heat	Per Household	New	0.00	10	$0.00	100%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Low Income Single Family	Heat Central	Construction - ICF	Insulated Concrete Forms - Concrete Construction	Standard Wood Framing	Per Building SqFt	New	0.82	40	$2	67%	0
Low Income Single Family	Heat Central	Construction - SIP	Structural Insulated Panels - Specialty Framing	Standard Wood Framing	Per Building SqFt	New	0.82	40	$0.76	67%	41
Low Income Single Family	Heat Central	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	6.17	20	$0.92	61%	7
Low Income Single Family	Heat Central	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	New	6.17	20	$0.92	61%	0
Low Income Single Family	Heat Central	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	11	20	$3	76%	255
Low Income Single Family	Heat Central	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	New	11	20	$3	76%	19
Low Income Single Family	Heat Central	Duct Sealing	4 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	2,100	18	$960	32%	397
Low Income Single Family	Heat Central	Duct Sealing	8 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	1,400	18	$587	40%	336
Low Income Single Family	Heat Central	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof sqft	New	0.29	30	$13	88%	0
Low Income Single Family	Heat Central	Heat Exchanger - Air-to-Air	Air-to-Air Heat Exchanger	No Air-to-Air Heat Exchanger	Per Heat Exchanger	Existing	2,800	18	$1,085	75%	1,518
Low Income Single Family	Heat Central	Heat Exchanger - Air-to-Air	Air-to-Air Heat Exchanger	No Air-to-Air Heat Exchanger	Per Heat Exchanger	New	2,332	18	$1,085	75%	95
Low Income Single Family	Heat Central	Heat Pump - Ductless Mini-Split	ENERGY STAR 14.5 SEER, 8.2 HSPF	Electric Baseboard Heating	Per Ductless Heat Pump	Existing	3,905	15	$4,091	38%	0
Low Income Single Family	Heat Central	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	Existing	1,400	11	$611	48%	308
Low Income Single Family	Heat Central	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	New	758	11	$611	64%	0
Low Income Single Family	Heat Central	Infiltration Reduction	4.0 ACH50	7.0 ACH50	Per Building SqFt	New	0.51	11	$0.25	42%	0
Low Income Single Family	Heat Central	Infiltration Reduction	4.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	1.23	11	$0.44	19%	204
Low Income Single Family	Heat Central	Infiltration Reduction	7.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.61	11	$0.19	63%	346
Low Income Single Family	Heat Central	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-38 (To Code Zone 5)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	1.45	20	$0.99	27%	196
Low Income Single Family	Heat Central	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (To Code Zone 6)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	1.70	20	$1	27%	206
Low Income Single Family	Heat Central	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	Existing	0.24	20	$0.25	45%	0
Low Income Single Family	Heat Central	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	New	0.24	20	$0.25	45%	0
Low Income Single Family	Heat Central	Insulation - Basement Wall	Insulation Basement Wall (R-10 Zone 5)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	4.24	20	$1	12%	214
Low Income Single Family	Heat Central	Insulation - Basement Wall	Insulation Basement Wall (R-15 Zone 6)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	4.93	20	$1	24%	533
Low Income Single Family	Heat Central	Insulation - Duct	Insulation Duct (R-8)	No Duct Insulation	Per Duct Insulation Installation	Existing	595	20	$248	71%	315
Low Income Single Family	Heat Central	Insulation - Floor	Insulation Floor (R-30)	Average Existing Insulation (R-1.8)	Per Insulated SqFt	Existing	1.24	20	$0.90	60%	357
Low Income Single Family	Heat Central	Insulation - Rim/Band Joist	Insulation Rim and Band Joist (R-10)	No Rim And Band Joist Insulation	Per Insulated SqFt	Existing	2.53	20	$1	22%	42
Low Income Single Family	Heat Central	Insulation - Siding	Vinyl Siding with Foam Backing (R-3)	No Siding Insulation	Per Insulated SqFt	Existing	2.20	20	$0.51	14%	357
Low Income Single Family	Heat Central	Insulation - Slab	Insulation Slab (R-15, 4ft)	Code Insulation (R-10, 4ft)	Per Insulated SqFt	New	0.79	20	$0.44	17%	6
Low Income Single Family	Heat Central	Insulation - Wall	Insulation Wall (R-13)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	4.37	20	$1	3%	56
Low Income Single Family	Heat Central	Insulation - Wall	Insulation Wall (R-20 or R-13 w/ R-5 sheathing) (To Code)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	5.12	20	$1	2%	100

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Low Income Single Family	Heat Central	Insulation - Wall	Insulation Wall (R-21 + R-5 sheathing)	Code Insulation (R-20 or R-13 w/ R-5 sheathing)	Per Insulated SqFt	New	0.36	20	$0.16	90%	27
Low Income Single Family	Heat Central	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	Existing	280	30	$675	82%	0
Low Income Single Family	Heat Central	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	New	233	30	$480	82%	0
Low Income Single Family	Heat Central	Thermostat - Multi-Zone	Individual Room Temperature Control for Major Occupied Rooms	Programmable Thermostat - Central Control Only	Per Programmable Control System	New	793	11	$895	86%	0
Low Income Single Family	Heat Central	Thermostat - Programmable	Setback Thermostat 5-1-1, 5-2 or 7-Day	Manual Thermostat	Per Programmable Control	Existing	490	15	$33	67%	0
Low Income Single Family	Heat Central	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	Existing	491	15	$167	70%	78
Low Income Single Family	Heat Central	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	New	409	15	$167	90%	17
Low Income Single Family	Heat Central	Window - Upgrade	Code Window U-Factor = 0.35 (2009 IECC)	Existing Windows U-Factor	Per Window SqFt	Existing	8.14	20	$24	24%	0
Low Income Single Family	Heat Central	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	2.26	20	$8	73%	0
Low Income Single Family	Heat Central	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	2.26	20	$8	82%	0
Low Income Single Family	Heat Central	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	5.88	20	$33	61%	0
Low Income Single Family	Heat Central	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	5.88	20	$33	68%	0
Low Income Single Family	Heat Pump	Attic Fan	Attic Fan For Summer Cooling	No Attic Fan with Central Cooling	Per Attic Fan	Existing	131	19	$249	82%	0
Low Income Single Family	Heat Pump	Construction - ICF	Insulated Concrete Forms - Concrete Construction	Standard Wood Framing	Per Building SqFt	New	0.86	40	$2	67%	0
Low Income Single Family	Heat Pump	Construction - SIP	Structural Insulated Panels - Specialty Framing	Standard Wood Framing	Per Building SqFt	New	0.86	40	$0.76	67%	29
Low Income Single Family	Heat Pump	Cool Roofs	Lighter Colored Shingles (White)	Standard Roof Shingles	Per Roof SqFT	Existing	0.05	20	$0.25	45%	0
Low Income Single Family	Heat Pump	Cool Roofs	Lighter Colored Shingles (White)	Standard Roof Shingles	Per Roof SqFT	New	0.04	20	$0.25	45%	0
Low Income Single Family	Heat Pump	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	3.27	20	$0.92	61%	3
Low Income Single Family	Heat Pump	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	New	2.81	20	$0.92	61%	0
Low Income Single Family	Heat Pump	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	5.87	20	$3	76%	73
Low Income Single Family	Heat Pump	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	New	5.05	20	$3	76%	4
Low Income Single Family	Heat Pump	Duct Sealing	4 CFM/100sqft of CFA	8 CFM/100sqft of CFA	Per Duct Sealing Installation	New	614	18	$333	65%	12
Low Income Single Family	Heat Pump	Duct Sealing	4 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	2,215	18	$960	33%	335
Low Income Single Family	Heat Pump	Duct Sealing	8 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	1,477	18	$587	65%	335
Low Income Single Family	Heat Pump	ECM Motor - Air Source Heat Pump	Air Source Heat Pump ECM Fan	Standard Motor	Per ECM	Existing	438	15	$200	62%	108
Low Income Single Family	Heat Pump	ECM Motor - Air Source Heat Pump	Air Source Heat Pump ECM Fan	Standard Motor	Per ECM	New	428	15	$200	90%	12
Low Income Single Family	Heat Pump	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof sqft	New	0.45	30	$13	88%	0
Low Income Single Family	Heat Pump	Heat Exchanger - Air-to-Air	Air-to-Air Heat Exchanger	No Air-to-Air Heat Exchanger	Per Heat Exchanger	Existing	2,954	18	$1,085	75%	1,317

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Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Low Income Single Family	Heat Pump	Heat Exchanger - Air-to-Air	Air-to-Air Heat Exchanger	No Air-to-Air Heat Exchanger	Per Heat Exchanger	New	2,457	18	$1,085	75%	69
Low Income Single Family	Heat Pump	Heat Pump - Below Standard	Below Standard SEER 10 and HSPF 7.2	Below Standard SEER 10 and HSPF 7.2	Per Household	Existing	0.00	9	$0.00	100%	0
Low Income Single Family	Heat Pump	Heat Pump - Below Standard	Below Standard SEER 10 and HSPF 7.2	Below Standard SEER 10 and HSPF 7.2	Per Household	New	0.00	9	$0.00	100%	0
Low Income Single Family	Heat Pump	Heat Pump - CEE Tier 2	CEE Tier 2 SEER/EER 15/12.5 and HSPF 8.5 (Split System)	Federal Standard SEER 13 and HSPF 7.7	Per Household	Existing	1,365	18	$822	100%	0
Low Income Single Family	Heat Pump	Heat Pump - CEE Tier 2	CEE Tier 2 SEER/EER 15/12.5 and HSPF 8.5 (Split System)	Federal Standard SEER 13 and HSPF 7.7	Per Household	New	1,131	18	$822	100%	0
Low Income Single Family	Heat Pump	Heat Pump - ENERGY STAR	ENERGY STAR SEER/EER 14.5/12 and HSPF 8.2 (Split System)	Federal Standard SEER 13 and HSPF 7.7	Per Household	Existing	920	18	$616	100%	0
Low Income Single Family	Heat Pump	Heat Pump - ENERGY STAR	ENERGY STAR SEER/EER 14.5/12 and HSPF 8.2 (Split System)	Federal Standard SEER 13 and HSPF 7.7	Per Household	New	760	18	$616	100%	0
Low Income Single Family	Heat Pump	Heat Pump - Enhanced	Enhanced SEER/EER 16/13 and HSPF 9.0 (Split System)	Federal Standard SEER 13 and HSPF 7.7	Per Household	Existing	2,059	18	$1,233	100%	318
Low Income Single Family	Heat Pump	Heat Pump - Enhanced	Enhanced SEER/EER 16/13 and HSPF 9.0 (Split System)	Federal Standard SEER 13 and HSPF 7.7	Per Household	New	1,709	18	$1,233	100%	27
Low Income Single Family	Heat Pump	Heat Pump - Ground Source	GSHP ENERGY STAR EER 17.1 and 3.6 COP	Federal Standard SEER 13 and HSPF 7.7	Per Household	Existing	5,055	18	$9,986	25%	0
Low Income Single Family	Heat Pump	Heat Pump - Ground Source	GSHP ENERGY STAR EER 17.1 and 3.6 COP	Federal Standard SEER 13 and HSPF 7.7	Per Household	New	4,214	18	$10,109	25%	0
Low Income Single Family	Heat Pump	Heat Pump - Standard	Federal Standard SEER 13 and HSPF 7.7	Federal Standard SEER 13 and HSPF 7.7	Per Household	Existing	0.00	18	$0.00	100%	0
Low Income Single Family	Heat Pump	Heat Pump - Standard	Federal Standard SEER 13 and HSPF 7.7	Federal Standard SEER 13 and HSPF 7.7	Per Household	New	0.00	18	$0.00	100%	0
Low Income Single Family	Heat Pump	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	Existing	1,477	11	$611	48%	267
Low Income Single Family	Heat Pump	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	New	798	11	$611	64%	12
Low Income Single Family	Heat Pump	Infiltration Reduction	4.0 ACH50	7.0 ACH50	Per Building SqFt	New	0.54	11	$0.25	42%	10
Low Income Single Family	Heat Pump	Infiltration Reduction	4.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	1.30	11	$0.44	19%	164
Low Income Single Family	Heat Pump	Infiltration Reduction	7.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.65	11	$0.19	63%	284
Low Income Single Family	Heat Pump	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-38 (To Code Zone 5)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.77	20	$0.99	27%	62
Low Income Single Family	Heat Pump	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (To Code Zone 6)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.90	20	$1	27%	70
Low Income Single Family	Heat Pump	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	Existing	0.13	20	$0.25	45%	0
Low Income Single Family	Heat Pump	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	New	0.11	20	$0.25	45%	0
Low Income Single Family	Heat Pump	Insulation - Basement Wall	Insulation Basement Wall (R-10 Zone 5)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	1.88	20	$1	12%	46
Low Income Single Family	Heat Pump	Insulation - Basement Wall	Insulation Basement Wall (R-15 Zone 6)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	2.19	20	$1	24%	116
Low Income Single Family	Heat Pump	Insulation - Duct	Insulation Duct (R-8)	No Duct Insulation	Per Duct Insulation Installation	Existing	601	20	$248	71%	216
Low Income Single Family	Heat Pump	Insulation - Floor	Insulation Floor (R-30)	Average Existing Insulation (R-1.8)	Per Insulated SqFt	Existing	0.65	20	$0.90	60%	117
Low Income Single Family	Heat Pump	Insulation - Rim/Band Joist	Insulation Rim and Band Joist (R-10)	No Rim And Band Joist Insulation	Per Insulated SqFt	Existing	1.34	20	$1	22%	13
Low Income Single Family	Heat Pump	Insulation - Siding	Vinyl Siding with Foam Backing (R-3)	No Siding Insulation	Per Insulated SqFt	Existing	1.17	20	$0.51	14%	103
Low Income Single Family	Heat Pump	Insulation - Slab	Insulation Slab (R-15, 4ft)	Code Insulation (R-10, 4ft)	Per Insulated SqFt	New	0.30	20	$0.44	17%	1
Low Income Single Family	Heat Pump	Insulation - Wall	Insulation Wall (R-13)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	2.31	20	$1	3%	16

Table A.3.1. MidAm Residential Electric Measure Details

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Low Income Single Family	Heat Pump	Insulation - Wall	Insulation Wall (R-20 or R-13 w/ R-5 sheathing) (To Code)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	2.71	20	$1	2%	29
Low Income Single Family	Heat Pump	Insulation - Wall	Insulation Wall (R-21 + R-5 sheathing)	Code Insulation (R-20 or R-13 w/ R-5 sheathing)	Per Insulated SqFt	New	0.16	20	$0.16	90%	5
Low Income Single Family	Heat Pump	Quality Install Heat Pump	Quality Installation (QI)	Standard Installation	Per QI Install	Existing	1,709	5	$300	45%	275
Low Income Single Family	Heat Pump	Quality Install Heat Pump	Quality Installation (QI)	Standard Installation	Per QI Install	New	1,422	5	$300	45%	17
Low Income Single Family	Heat Pump	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	Existing	1,508	30	$675	82%	805
Low Income Single Family	Heat Pump	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	New	1,254	30	$480	82%	42
Low Income Single Family	Heat Pump	Solar Attic Fan	Solar Electric Attic Ventilation	Standard Passive Ventilation	Per Solar Fan	Existing	141	19	$331	49%	0
Low Income Single Family	Heat Pump	Solar Attic Fan	Solar Electric Attic Ventilation	Standard Passive Ventilation	Per Solar Fan	New	117	19	$331	49%	0
Low Income Single Family	Heat Pump	Thermostat - Multi-Zone	Individual Room Temperature Control for Major Occupied Rooms	Programmable Thermostat - Central Control Only	Per Programmable Control System	New	835	11	$895	86%	0
Low Income Single Family	Heat Pump	Thermostat - Programmable	Setback Thermostat 5-1-1, 5-2 or 7-Day	Manual Thermostat	Per Programmable Control	Existing	517	15	$33	67%	0
Low Income Single Family	Heat Pump	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	Existing	518	15	$167	70%	66
Low Income Single Family	Heat Pump	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	New	431	15	$167	90%	5
Low Income Single Family	Heat Pump	Tune-up - Air Source Heat Pump	Air Source Heat Pump Maintenance (Tune-up)	Unmaintained Air Source Heat Pump	Per Tune-up	Existing	1,022	5	$200	71%	247
Low Income Single Family	Heat Pump	Tune-up - Ground Source Heat Pump	Ground Source Heat Pump Maintenance (Tune-up)	Unmaintained Ground Source Heat Pump	Per Tune-up	Existing	738	5	$200	0%	0
Low Income Single Family	Heat Pump	Whole-House Fan	Whole-House Fan to Offset Central Cooling	No Whole-House Fan	Per House Fan	Existing	354	20	$366	48%	110
Low Income Single Family	Heat Pump	Whole-House Fan	Whole-House Fan to Offset Central Cooling	No Whole-House Fan	Per House Fan	New	294	20	$366	48%	6
Low Income Single Family	Heat Pump	Window - Film	Window Film (SHGC Reduction=45%)	No Window Film	Per Window SqFt	Existing	0.58	10	$4	76%	0
Low Income Single Family	Heat Pump	Window - Shade	Window Shade/Blind or Thermal Drapes	No Interior Shading Device	Per Window SqFt	Existing	0.38	3	$7	38%	0
Low Income Single Family	Heat Pump	Window - Upgrade	Code Window U-Factor = 0.35 (2009 IECC)	Existing Windows U-Factor	Per Window SqFt	Existing	4.31	20	$24	24%	0
Low Income Single Family	Heat Pump	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	1.19	20	$8	73%	0
Low Income Single Family	Heat Pump	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	1.10	20	$8	82%	0
Low Income Single Family	Heat Pump	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	3.11	20	$33	61%	0
Low Income Single Family	Heat Pump	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	2.86	20	$33	68%	0
Low Income Single Family	Heat Room	Construction - ICF	Insulated Concrete Forms - Concrete Construction	Standard Wood Framing	Per Building SqFt	New	0.63	40	$2	67%	0
Low Income Single Family	Heat Room	Construction - SIP	Structural Insulated Panels - Specialty Framing	Standard Wood Framing	Per Building SqFt	New	0.63	40	$0.76	67%	125
Low Income Single Family	Heat Room	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	1.54	20	$0.92	61%	97
Low Income Single Family	Heat Room	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	New	1.54	20	$0.92	61%	7
Low Income Single Family	Heat Room	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	2.77	20	$3	76%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Low Income Single Family	Heat Room	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	New	2.77	20	$3	76%	0
Low Income Single Family	Heat Room	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof sqft	New	0.07	30	$13	88%	0
Low Income Single Family	Heat Room	Heat Pump - Ductless Mini-Split	ENERGY STAR 14.5 SEER, 8.2 HSPF	Electric Baseboard Heating	Per Ductless Heat Pump	Existing	3,905	15	$4,091	38%	0
Low Income Single Family	Heat Room	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	Existing	1,078	11	$611	48%	0
Low Income Single Family	Heat Room	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	New	583	11	$611	64%	0
Low Income Single Family	Heat Room	Infiltration Reduction	4.0 ACH50	7.0 ACH50	Per Building SqFt	New	0.39	11	$0.25	42%	0
Low Income Single Family	Heat Room	Infiltration Reduction	4.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.94	11	$0.44	19%	748
Low Income Single Family	Heat Room	Infiltration Reduction	7.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.47	11	$0.19	63%	1,236
Low Income Single Family	Heat Room	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-38 (To Code Zone 5)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.36	20	$0.99	27%	0
Low Income Single Family	Heat Room	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (To Code Zone 6)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.42	20	$1	27%	0
Low Income Single Family	Heat Room	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	Existing	0.06	20	$0.25	45%	0
Low Income Single Family	Heat Room	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	New	0.06	20	$0.25	45%	0
Low Income Single Family	Heat Room	Insulation - Basement Wall	Insulation Basement Wall (R-10 Zone 5)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	1.06	20	$1	12%	0
Low Income Single Family	Heat Room	Insulation - Basement Wall	Insulation Basement Wall (R-15 Zone 6)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	1.23	20	$1	24%	0
Low Income Single Family	Heat Room	Insulation - Floor	Insulation Floor (R-30)	Average Existing Insulation (R-1.8)	Per Insulated SqFt	Existing	0.31	20	$0.90	60%	0
Low Income Single Family	Heat Room	Insulation - Rim/Band Joist	Insulation Rim and Band Joist (R-10)	No Rim And Band Joist Insulation	Per Insulated SqFt	Existing	0.63	20	$1	22%	0
Low Income Single Family	Heat Room	Insulation - Siding	Vinyl Siding with Foam Backing (R-3)	No Siding Insulation	Per Insulated SqFt	Existing	0.55	20	$0.51	14%	0
Low Income Single Family	Heat Room	Insulation - Slab	Insulation Slab (R-15, 4ft)	Code Insulation (R-10, 4ft)	Per Insulated SqFt	New	0.19	20	$0.44	17%	0
Low Income Single Family	Heat Room	Insulation - Wall	Insulation Wall (R-13)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	1.09	20	$1	3%	0
Low Income Single Family	Heat Room	Insulation - Wall	Insulation Wall (R-20 or R-13 w/ R-5 sheathing) (To Code)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	1.28	20	$1	2%	0
Low Income Single Family	Heat Room	Insulation - Wall	Insulation Wall (R-21 + R-5 sheathing)	Code Insulation (R-20 or R-13 w/ R-5 sheathing)	Per Insulated SqFt	New	0.09	20	$0.16	90%	0
Low Income Single Family	Heat Room	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	Existing	215	30	$675	82%	0
Low Income Single Family	Heat Room	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	New	179	30	$480	82%	0
Low Income Single Family	Heat Room	Room Heat - Standard	Standard Room Heat	Standard Room Heat	Per Household	Existing	0.00	10	$0.00	100%	0
Low Income Single Family	Heat Room	Room Heat - Standard	Standard Room Heat	Standard Room Heat	Per Household	New	0.00	10	$0.00	100%	0
Low Income Single Family	Heat Room	Window - Upgrade	Code Window U-Factor = 0.35 (2009 IECC)	Existing Windows U-Factor	Per Window SqFt	Existing	2.03	20	$24	24%	0
Low Income Single Family	Heat Room	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	0.56	20	$8	73%	0
Low Income Single Family	Heat Room	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	0.56	20	$8	82%	0
Low Income Single Family	Heat Room	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	1.47	20	$33	61%	0
Low Income Single Family	Heat Room	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	1.47	20	$33	68%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Low Income Single Family	Home Audio System	Home Audio System - ENERGY STAR	ENERGY STAR Home Audio System	Standard Home Audio System	Per Unit	Existing	22	7	$20	100%	0
Low Income Single Family	Home Audio System	Home Audio System - ENERGY STAR	ENERGY STAR Home Audio System	Standard Home Audio System	Per Unit	New	22	7	$20	100%	0
Low Income Single Family	Home Audio System	Home Audio System - Standard	Standard Home Audio System	Standard Home Audio System	Per Unit	Existing	0.00	7	$0.00	100%	0
Low Income Single Family	Home Audio System	Home Audio System - Standard	Standard Home Audio System	Standard Home Audio System	Per Unit	New	0.00	7	$0.00	100%	0
Low Income Single Family	Lighting Exterior	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	Existing	17	11	$611	48%	0
Low Income Single Family	Lighting Exterior	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	New	17	11	$611	64%	0
Low Income Single Family	Lighting Exterior	Lighitng Controls - Daylighting Controls (Photocell) - Outdoors	Lighitng Controls - Daylighting Controls (Photocell) - Outdoors	No Daylighting Controls	Per Photocell Control	Existing	17	10	$64	25%	0
Low Income Single Family	Lighting Exterior	Lighitng Controls - Daylighting Controls (Photocell) - Outdoors	Lighitng Controls - Daylighting Controls (Photocell) - Outdoors	No Daylighting Controls	Per Photocell Control	New	17	10	$64	25%	0
Low Income Single Family	Lighting Exterior	Lighting - CFL	Exterior - CFL	EISA Standard	Per Lamp	Existing	35	3	$4	100%	0
Low Income Single Family	Lighting Exterior	Lighting - CFL	Exterior - CFL	EISA Standard	Per Lamp	New	35	3	$4	100%	0
Low Income Single Family	Lighting Exterior	Lighting - EISA Backstop	Exterior - EISA Backstop	EISA Standard	Per Lamp	Existing	32	2	$0.00	100%	0
Low Income Single Family	Lighting Exterior	Lighting - EISA Backstop	Exterior - EISA Backstop	EISA Standard	Per Lamp	New	32	2	$0.00	100%	0
Low Income Single Family	Lighting Exterior	Lighting - EISA Standard	Exterior - EISA Standard	EISA Standard	Per Lamp	Existing	0.00	2	$0.00	100%	0
Low Income Single Family	Lighting Exterior	Lighting - EISA Standard	Exterior - EISA Standard	EISA Standard	Per Lamp	New	0.00	2	$0.00	100%	0
Low Income Single Family	Lighting Exterior	Lighting - Incandescent	Exterior - Incandescent	Incandescent	Per Lamp	Existing	0.00	2	$0.00	100%	0
Low Income Single Family	Lighting Exterior	Lighting - Incandescent	Exterior - Incandescent	Incandescent	Per Lamp	New	0.00	2	$0.00	100%	0
Low Income Single Family	Lighting Exterior	Lighting - LED	Exterior - LED	EISA Standard	Per Lamp	Existing	51	12	$36	100%	2,826
Low Income Single Family	Lighting Exterior	Lighting - LED	Exterior - LED	EISA Standard	Per Lamp	New	51	12	$36	100%	192
Low Income Single Family	Lighting Interior Specialty	LED Christmas Lighting	LED Christmas Lighting	Incandescent Christmas Lighting	Per LED String	Existing	6.08	5	$18	82%	0
Low Income Single Family	Lighting Interior Specialty	LED Christmas Lighting	LED Christmas Lighting	Incandescent Christmas Lighting	Per LED String	New	6.08	5	$18	82%	0
Low Income Single Family	Lighting Interior Specialty	Lighting - CFL	Interior Specialty - CFL	EISA Standard	Per Lamp	Existing	31	6	$6	65%	9,938
Low Income Single Family	Lighting Interior Specialty	Lighting - CFL	Interior Specialty - CFL	EISA Standard	Per Lamp	New	31	6	$6	65%	715
Low Income Single Family	Lighting Interior Specialty	Lighting - Incandescent	Interior Specialty - Incandescent	Incandescent	Per Lamp	Existing	0.00	2	$0.00	100%	0
Low Income Single Family	Lighting Interior Specialty	Lighting - Incandescent	Interior Specialty - Incandescent	Incandescent	Per Lamp	New	0.00	2	$0.00	100%	0
Low Income Single Family	Lighting Interior Specialty	Lighting - LED	Interior Specialty - LED	EISA Standard	Per Lamp	Existing	37	12	$28	50%	16,842
Low Income Single Family	Lighting Interior Specialty	Lighting - LED	Interior Specialty - LED	EISA Standard	Per Lamp	New	37	12	$28	50%	1,096

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Low Income Single Family	Lighting Interior Standard	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	Existing	83	11	$611	48%	0
Low Income Single Family	Lighting Interior Standard	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	New	83	11	$611	64%	0
Low Income Single Family	Lighting Interior Standard	Lighitng Controls - Daylighting Controls (Photocell) - Indoors	Lighitng Controls - Daylighting Controls (Photocell) - Indoors	No Daylighting Controls	Per Photocell Control	Existing	16	10	$64	14%	0
Low Income Single Family	Lighting Interior Standard	Lighitng Controls - Daylighting Controls (Photocell) - Indoors	Lighitng Controls - Daylighting Controls (Photocell) - Indoors	No Daylighting Controls	Per Photocell Control	New	16	10	$64	14%	0
Low Income Single Family	Lighting Interior Standard	Lighting - CFL	Interior Standard - CFL	EISA Standard	Per Lamp	Existing	15	5	-0.2101	100%	0
Low Income Single Family	Lighting Interior Standard	Lighting - CFL	Interior Standard - CFL	EISA Standard	Per Lamp	New	15	5	-0.2101	100%	0
Low Income Single Family	Lighting Interior Standard	Lighting - EISA Backstop	Interior Standard - EISA Backstop	EISA Standard	Per Lamp	Existing	14	2	$0.00	100%	0
Low Income Single Family	Lighting Interior Standard	Lighting - EISA Backstop	Interior Standard - EISA Backstop	EISA Standard	Per Lamp	New	14	2	$0.00	100%	0
Low Income Single Family	Lighting Interior Standard	Lighting - EISA Standard	Interior Standard - EISA Standard	EISA Standard	Per Lamp	Existing	0.00	2	$0.00	100%	0
Low Income Single Family	Lighting Interior Standard	Lighting - EISA Standard	Interior Standard - EISA Standard	EISA Standard	Per Lamp	New	0.00	2	$0.00	100%	0
Low Income Single Family	Lighting Interior Standard	Lighting - Incandescent	Interior Standard - Incandescent	Incandescent	Per Lamp	Existing	0.00	2	$0.00	100%	0
Low Income Single Family	Lighting Interior Standard	Lighting - Incandescent	Interior Standard - Incandescent	Incandescent	Per Lamp	New	0.00	2	$0.00	100%	0
Low Income Single Family	Lighting Interior Standard	Lighting - LED	Interior Standard - LED	EISA Standard	Per Lamp	Existing	22	12	$24	100%	13,907
Low Income Single Family	Lighting Interior Standard	Lighting - LED	Interior Standard - LED	EISA Standard	Per Lamp	New	22	12	$24	100%	957
Low Income Single Family	Lighting Interior Standard	Lighting Controls - Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Occupancy Sensor	Existing	31	10	$56	17%	0
Low Income Single Family	Lighting Interior Standard	Lighting Controls - Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Occupancy Sensor	New	31	10	$56	17%	0
Low Income Single Family	Microwave	Microwave - Standard	Standard Microwave	Standard Microwave	Per Unit	Existing	0.00	10	$0.00	100%	0
Low Income Single Family	Microwave	Microwave - Standard	Standard Microwave	Standard Microwave	Per Unit	New	0.00	10	$0.00	100%	0
Low Income Single Family	Monitor	Monitor - Home Office ENERGY STAR	ENERGY STAR Office Monitor	Standard Office Monitor	Per Unit	Existing	14	5	$0.00	100%	0
Low Income Single Family	Monitor	Monitor - Home Office ENERGY STAR	ENERGY STAR Office Monitor	Standard Office Monitor	Per Unit	New	14	5	$0.00	100%	0
Low Income Single Family	Monitor	Monitor - Home Office Standard	Standard Office Monitor	Standard Office Monitor	Per Unit	Existing	0.00	5	$0.00	100%	0
Low Income Single Family	Monitor	Monitor - Home Office Standard	Standard Office Monitor	Standard Office Monitor	Per Unit	New	0.00	5	$0.00	100%	0
Low Income Single Family	Other Plug Load	DVD System - ENERGY STAR	ENERGY STAR DVD System	Standard DVD System	Per Unit	Existing	18	3	$0.99	100%	1,545

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Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Low Income Single Family	Other Plug Load	DVD System - ENERGY STAR	ENERGY STAR DVD System	Standard DVD System	Per Unit	New	18	3	$0.99	100%	107
Low Income Single Family	Other Plug Load	DVD System - Standard	Standard DVD System	Standard DVD System	Per Unit	Existing	0.00	3	$0.00	100%	0
Low Income Single Family	Other Plug Load	DVD System - Standard	Standard DVD System	Standard DVD System	Per Unit	New	0.00	3	$0.00	100%	0
Low Income Single Family	Plug Load Other	Battery Chargers	Energy Star Battery Chargers	Standard Battery Chargers	Per Battary Charger	Existing	12	3	$4	36%	0
Low Income Single Family	Plug Load Other	Battery Chargers	Energy Star Battery Chargers	Standard Battery Chargers	Per Battary Charger	New	12	3	$4	36%	0
Low Income Single Family	Plug Load Other	Ceiling Fans	ENERGY STAR Ceiling Fans with Light Kit	Standard Ceiling Fan	Per Ceiling Fan	Existing	65	10	$119	51%	0
Low Income Single Family	Plug Load Other	Ceiling Fans	ENERGY STAR Ceiling Fans with Light Kit	Standard Ceiling Fan	Per Ceiling Fan	New	65	10	$119	51%	0
Low Income Single Family	Plug Load Other	Ceiling Fans	ENERGY STAR Ceiling Fans without Light Kit	Standard Ceiling Fan	Per Ceiling Fan	Existing	4.33	10	$1	51%	155
Low Income Single Family	Plug Load Other	Ceiling Fans	ENERGY STAR Ceiling Fans without Light Kit	Standard Ceiling Fan	Per Ceiling Fan	New	4.33	10	$1	51%	11
Low Income Single Family	Plug Load Other	Cordless Phone - ENERGY STAR	ENERGY STAR Cordless Phone	Standard Cordless Phone	Per Cordless Phone	Existing	25	5	$1	29%	529
Low Income Single Family	Plug Load Other	Cordless Phone - ENERGY STAR	ENERGY STAR Cordless Phone	Standard Cordless Phone	Per Cordless Phone	New	25	5	$1	29%	36
Low Income Single Family	Plug Load Other	Home Office - Server	ENERGY STAR Home Server	Standard Office Server	Per Home Server	Existing	24	4	$8	4%	0
Low Income Single Family	Plug Load Other	Home Office - Server	ENERGY STAR Home Server	Standard Office Server	Per Home Server	New	24	4	$8	4%	0
Low Income Single Family	Plug Load Other	Plug Load - Other	Plug Load Other	Plug Load Other	Per Household	Existing	0.00	5	$0.00	100%	0
Low Income Single Family	Plug Load Other	Plug Load - Other	Plug Load Other	Plug Load Other	Per Household	New	0.00	5	$0.00	100%	0
Low Income Single Family	Plug Load Other	Smart Strip	Smart Strip	Standard Power Strip	Per Smart Strip	Existing	100	5	$22	62%	4,364
Low Income Single Family	Plug Load Other	Smart Strip	Smart Strip	Standard Power Strip	Per Smart Strip	New	100	5	$22	62%	298
Low Income Single Family	Pool Pump	Pool Pump - Standard Constant Speed	Constant Speed Pool Pump	Constant Speed Pool Pump	Per Household	Existing	0.00	10	$0.00	100%	0
Low Income Single Family	Pool Pump	Pool Pump - Standard Constant Speed	Constant Speed Pool Pump	Constant Speed Pool Pump	Per Household	New	0.00	10	$0.00	100%	0
Low Income Single Family	Pool Pump	Pool Pump Timers	Pool Pump Timers	Pool Pump No Timers	Per Pool Pump Timer	Existing	291	10	$89	64%	0
Low Income Single Family	Pool Pump	Pool Pumps - 2-Speed	Pool Pumps (2-Speed)	Constant Speed Pool Pump	Per Household	Existing	660	10	$165	100%	0
Low Income Single Family	Pool Pump	Pool Pumps - 2-Speed	Pool Pumps (2-Speed)	Constant Speed Pool Pump	Per Household	New	660	10	$165	100%	0
Low Income Single Family	Pool Pump	Pool Pumps - VSD	Pool Pumps (VSD)	Constant Speed Pool Pump	Per Household	Existing	1,080	10	$695	100%	0
Low Income Single Family	Pool Pump	Pool Pumps - VSD	Pool Pumps (VSD)	Constant Speed Pool Pump	Per Household	New	1,080	10	$695	100%	0
Low Income Single Family	Printer	Printer - Home Office ENERGY STAR	ENERGY STAR Office Printer	Standard Printer	Per Unit	Existing	32	5	$13	100%	0
Low Income Single Family	Printer	Printer - Home Office ENERGY STAR	ENERGY STAR Office Printer	Standard Printer	Per Unit	New	32	5	$13	100%	0
Low Income Single Family	Printer	Printer - Standard	Standard Printer	Standard Printer	Per Unit	Existing	0.00	5	$0.00	100%	0
Low Income Single Family	Printer	Printer - Standard	Standard Printer	Standard Printer	Per Unit	New	0.00	5	$0.00	100%	0
Low Income Single Family	Refrigerator	Refrigerator - Below Standard	Below Standard Refrigerator	Below Standard Refrigerator	Per Unit	Existing	0.00	7	$0.00	100%	0
Low Income Single Family	Refrigerator	Refrigerator - Below Standard	Below Standard Refrigerator	Below Standard Refrigerator	Per Unit	New	0.00	7	$0.00	100%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Low Income Single Family	Refrigerator	Refrigerator - CEE Tier 2	CEE Tier 2 Refrigerator	Standard Refrigerator - Federal Standard 2001	Per Unit	Existing	142	13	$429	100%	0
Low Income Single Family	Refrigerator	Refrigerator - CEE Tier 2	CEE Tier 2 Refrigerator	Standard Refrigerator - Federal Standard 2001	Per Unit	New	142	13	$429	100%	0
Low Income Single Family	Refrigerator	Refrigerator - CEE Tier 3	CEE Tier 3 Refrigerator	Standard Refrigerator - Federal Standard 2001	Per Unit	Existing	170	13	$580	100%	0
Low Income Single Family	Refrigerator	Refrigerator - CEE Tier 3	CEE Tier 3 Refrigerator	Standard Refrigerator - Federal Standard 2001	Per Unit	New	170	13	$580	100%	0
Low Income Single Family	Refrigerator	Refrigerator - ENERGY STAR	ENERGY STAR Refrigerator	Standard Refrigerator - Federal Standard 2001	Per Unit	Existing	113	13	$251	100%	0
Low Income Single Family	Refrigerator	Refrigerator - ENERGY STAR	ENERGY STAR Refrigerator	Standard Refrigerator - Federal Standard 2001	Per Unit	New	113	13	$251	100%	0
Low Income Single Family	Refrigerator	Refrigerator - Federal Standard September 2014	Federal Standard In 2014 (NAECA)	Standard Refrigerator - Federal Standard 2001	Per Unit	Existing	56	13	$124	100%	0
Low Income Single Family	Refrigerator	Refrigerator - Federal Standard September 2014	Federal Standard In 2014 (NAECA)	Standard Refrigerator - Federal Standard 2001	Per Unit	New	56	13	$124	100%	0
Low Income Single Family	Refrigerator	Refrigerator - Standard 2001	Standard Refrigerator - Federal Standard 2001	Standard Refrigerator - Federal Standard 2001	Per Unit	Existing	0.00	13	$0.00	100%	0
Low Income Single Family	Refrigerator	Refrigerator - Standard 2001	Standard Refrigerator - Federal Standard 2001	Standard Refrigerator - Federal Standard 2001	Per Unit	New	0.00	13	$0.00	100%	0
Low Income Single Family	Refrigerator	Removal of Secondary Refrigerator/Freezer	Proper Disposal of Refrigerator/Freezer Combo	Existing Non-Efficient Refrigerator/Freezer	Per Recyled Unit	Existing	1,140	5	$30	15%	14,373
Low Income Single Family	Set Top Box	Digital Set Top Receiver - ENERGY STAR	ENERGY STAR Digital Set Top Receiver	Standard Digital Set Top Receiver	Per Unit	Existing	164	5	$12	100%	8,028
Low Income Single Family	Set Top Box	Digital Set Top Receiver - ENERGY STAR	ENERGY STAR Digital Set Top Receiver	Standard Digital Set Top Receiver	Per Unit	New	164	5	$12	100%	613
Low Income Single Family	Set Top Box	Digital Set Top Receiver - Standard	Standard Digital Set Top Receiver	Standard Digital Set Top Receiver	Per Unit	Existing	0.00	5	$0.00	100%	0
Low Income Single Family	Set Top Box	Digital Set Top Receiver - Standard	Standard Digital Set Top Receiver	Standard Digital Set Top Receiver	Per Unit	New	0.00	5	$0.00	100%	0
Low Income Single Family	Television	TV - ENERGY STAR	ENERGY STAR TV	Standard TV	Per Unit	Existing	118	5	$55	100%	0
Low Income Single Family	Television	TV - ENERGY STAR	ENERGY STAR TV	Standard TV	Per Unit	New	118	5	$55	100%	0
Low Income Single Family	Television	TV - Standard	Standard TV	Standard TV	Per Unit	Existing	0.00	5	$0.00	100%	0
Low Income Single Family	Television	TV - Standard	Standard TV	Standard TV	Per Unit	New	0.00	5	$0.00	100%	0
Low Income Single Family	Ventilation And Circulation	ECM Motor - Air Conditioner/Electric/Gas Furnace ECM Fan	Air Conditioner/Electric/Gas Furnace ECM Fan	Standard Motor	Per ECM	Existing	438	15	$200	62%	18,791
Low Income Single Family	Ventilation And Circulation	ECM Motor - Air Conditioner/Electric/Gas Furnace ECM Fan	Air Conditioner/Electric/Gas Furnace ECM Fan	Standard Motor	Per ECM	New	428	15	$200	90%	1,865
Low Income Single Family	Ventilation And Circulation	Motor - Standard	Standard Motor - Ventilation And Circulation	Standard Motor	Per Household	Existing	0.00	20	$0.00	100%	0
Low Income Single Family	Ventilation And Circulation	Motor - Standard	Standard Motor - Ventilation And Circulation	Standard Motor	Per Household	New	0.00	20	$0.00	100%	0
Low Income Single Family	Water Heat	Clothes Washer	Clothes Washer Enhanced Efficiency MEF = 3.10 and WF = 3.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	649	11	$789	83%	0
Low Income Single Family	Water Heat	Clothes Washer	Clothes Washer Enhanced Efficiency MEF = 3.10 and WF = 3.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	649	11	$789	83%	0
Low Income Single Family	Water Heat	Clothes Washer	Clothes Washer CEE Tier 2 MEF = 2.2 and WF = 4.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	467	11	$391	75%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Low Income Single Family	Water Heat	Clothes Washer	Clothes Washer CEE Tier 2 MEF = 2.2 and WF = 4.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	467	11	$391	79%	0
Low Income Single Family	Water Heat	Clothes Washer	Clothes Washer CEE Tier 3 MEF = 2.4 and WF = 4.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	519	11	$565	80%	0
Low Income Single Family	Water Heat	Clothes Washer	Clothes Washer CEE Tier 3 MEF = 2.4 and WF = 4.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	519	11	$565	80%	0
Low Income Single Family	Water Heat	Clothes Washer	Clothes Washer ENERGY STAR MEF = 2.0 and WF = 6.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	404	11	$134	68%	4,758
Low Income Single Family	Water Heat	Clothes Washer	Clothes Washer ENERGY STAR MEF = 2.0 and WF = 6.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	404	11	$134	68%	275
Low Income Single Family	Water Heat	Clothes Washer	Steam Clothes Washer	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	649	11	$789	83%	0
Low Income Single Family	Water Heat	Clothes Washer	Steam Clothes Washer	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	649	11	$789	83%	0
Low Income Single Family	Water Heat	Desuperheaters - Air Conditioner	Add-on Desuperheaters to Air Conditioner	No Desuperheater	Per Desuperheater	Existing	352	10	$600	55%	0
Low Income Single Family	Water Heat	Desuperheaters - Air Source Heat Pump	Add-on Desuperheaters to Air Source Heat Pump	No Desuperheater	Per Desuperheater	Existing	705	10	$600	1%	0
Low Income Single Family	Water Heat	Desuperheaters - Ground Source Heat Pump	Add-on Desuperheaters to Ground Source Heat Pump	No Desuperheater	Per Desuperheater	Existing	705	10	$600	0%	0
Low Income Single Family	Water Heat	Dishwasher	Dishwasher Enhanced Efficiency (EF 1.00) 200 kWh/yr and 4.00 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle	Per Dishwasher	Existing	155	11	$1,067	14%	0
Low Income Single Family	Water Heat	Dishwasher	Dishwasher Enhanced Efficiency (EF 1.00) 200 kWh/yr and 4.00 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle	Per Dishwasher	New	155	11	$1,067	14%	0
Low Income Single Family	Water Heat	Dishwasher	ENERGY STAR 295 kWh/yr and 4.25 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle	Per Dishwasher	Existing	60	11	$272	5%	0
Low Income Single Family	Water Heat	Dishwasher	ENERGY STAR 295 kWh/yr and 4.25 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle	Per Dishwasher	New	60	11	$272	5%	0
Low Income Single Family	Water Heat	Drain-Water Heat Recovery	Drain-Water Heat Recovery	No Drain Water Heat Recovery	Per Drain-Water Heat Recovery System	Existing	825	40	$935	27%	3,071
Low Income Single Family	Water Heat	Drain-Water Heat Recovery	Drain-Water Heat Recovery	No Drain Water Heat Recovery	Per Drain-Water Heat Recovery System	New	775	40	$935	68%	422
Low Income Single Family	Water Heat	Faucet Aerators	0.5 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	Existing	113	10	$1	85%	1,660
Low Income Single Family	Water Heat	Faucet Aerators	0.5 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	New	107	10	$1	90%	96
Low Income Single Family	Water Heat	Faucet Aerators	1.5 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	Existing	46	10	$1	26%	11
Low Income Single Family	Water Heat	Faucet Aerators	1.5 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	New	44	10	$1	28%	0
Low Income Single Family	Water Heat	Faucet Aerators	2.0 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	Existing	13	10	$0.53	14%	0
Low Income Single Family	Water Heat	Faucet Aerators	2.0 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	New	12	10	$0.53	15%	0
Low Income Single Family	Water Heat	Faucet Aerators	2.2 GPM (Federal Code)	Existing Faucet Aerator GPM	Per Faucet Aerator	Existing	53	10	$3	9%	83
Low Income Single Family	Water Heat	Hot Tub Covers	Hot Tub Covers R-21	Existing Cover R-10	Per Hot Tub Cover	Existing	172	6	$524	1%	0
Low Income Single Family	Water Heat	Low-Flow Showerheads	1.5 GPM - Showerhead	2.5 GPM (Federal Code)	Per Showerhead	Existing	222	10	$8	80%	3,076
Low Income Single Family	Water Heat	Low-Flow Showerheads	1.5 GPM - Showerhead	2.5 GPM (Federal Code)	Per Showerhead	New	211	10	$8	80%	169

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Low Income Single Family	Water Heat	Low-Flow Showerheads	2.0 GPM - Showerhead	2.5 GPM (Federal Code)	Per Showerhead	Existing	111	10	$13	38%	38
Low Income Single Family	Water Heat	Low-Flow Showerheads	2.0 GPM - Showerhead	2.5 GPM (Federal Code)	Per Showerhead	New	105	10	$13	38%	2
Low Income Single Family	Water Heat	Low-Flow Showerheads	2.5 GPM (Federal Code)	Existing Showerhead GPM	Per Showerhead	Existing	111	10	$24	23%	446
Low Income Single Family	Water Heat	Solar Hot Water (SHW)	Solar Thermal Collector	Standard Storage Hot Water Heater	Per Solar Water System	Existing	1,764	15	$6,238	15%	0
Low Income Single Family	Water Heat	Solar Hot Water (SHW)	Solar Thermal Collector	Standard Storage Hot Water Heater	Per Solar Water System	New	1,656	15	$4,878	15%	0
Low Income Single Family	Water Heat	Water Heater - Below Standard	EF = 0.88 Below Standard Water Heater	EF = 0.88 Below Standard Water Heater	Per Unit	Existing	0.00	7	$0.00	100%	0
Low Income Single Family	Water Heat	Water Heater - Below Standard	EF = 0.88 Below Standard Water Heater	EF = 0.88 Below Standard Water Heater	Per Unit	New	0.00	7	$0.00	100%	0
Low Income Single Family	Water Heat	Water Heater - Heat Pump	Heat Pump Water Heater ENERGY STAR EF = 2.0	EF = 0.92 Federal Standard 2001	Per Unit	Existing	1,884	13	$1,281	60%	11,624
Low Income Single Family	Water Heat	Water Heater - Heat Pump	Heat Pump Water Heater ENERGY STAR EF = 2.0	EF = 0.92 Federal Standard 2001	Per Unit	New	1,794	13	$1,281	60%	1,037
Low Income Single Family	Water Heat	Water Heater - Pipe Insulation	Hot Water Pipe Insulation (R-4)	No Pipe Insulation	Per Pipe Insulation	Existing	69	13	$6	37%	398
Low Income Single Family	Water Heat	Water Heater - Pipe Insulation	Hot Water Pipe Insulation (R-4)	No Pipe Insulation	Per Pipe Insulation	New	69	13	$6	45%	28
Low Income Single Family	Water Heat	Water Heater - Storage 2001 Standard	EF = 0.92 Federal Standard 2001	EF = 0.92 Federal Standard 2001	Per Unit	Existing	0.00	13	$0.00	100%	0
Low Income Single Family	Water Heat	Water Heater - Storage 2001 Standard	EF = 0.92 Federal Standard 2001	EF = 0.92 Federal Standard 2001	Per Unit	New	0.00	13	$0.00	100%	0
Low Income Single Family	Water Heat	Water Heater - Storage 2015 Standard	Water Heater - Storage Federal Standard April 2015 EF = 0.95	EF = 0.92 Federal Standard 2001	Per Unit	Existing	113	13	$43	100%	0
Low Income Single Family	Water Heat	Water Heater - Storage 2015 Standard	Water Heater - Storage Federal Standard April 2015 EF = 0.95	EF = 0.92 Federal Standard 2001	Per Unit	New	107	13	$43	100%	0
Low Income Single Family	Water Heat	Water Heater - Tank Blanket/Insulation	Install Insulation (R-11)	No Tank Insulation	Per Tank Wrap	Existing	229	13	$17	17%	592
Low Income Single Family	Water Heat	Water Heater - Tankless	Tankless EF= 0.98	EF = 0.92 Federal Standard 2001	Per Unit	Existing	223	20	$260	0%	0
Low Income Single Family	Water Heat	Water Heater - Tankless	Tankless EF= 0.98	EF = 0.92 Federal Standard 2001	Per Unit	New	212	20	$260	0%	0
Low Income Single Family	Water Heat	Water Heater - Thermostat Setback	120 Degrees	135 Degrees	Per Set-Back	Existing	674	4	$10	11%	1,179
Low Income Single Family	Water Heat	Water Heater - Thermostat Setback	120 Degrees	135 Degrees	Per Set-Back	New	633	4	$10	11%	64
Manufactured	Computer	Computer - Home Office ENERGY STAR	ENERGY STAR Office Computer	Standard Office Computer	Per Unit	Existing	76	4	$8	100%	1,533
Manufactured	Computer	Computer - Home Office ENERGY STAR	ENERGY STAR Office Computer	Standard Office Computer	Per Unit	New	76	4	$8	100%	111
Manufactured	Computer	Computer - Home Office Standard	Standard Office Computer	Standard Office Computer	Per Unit	Existing	0.00	4	$0.00	100%	0
Manufactured	Computer	Computer - Home Office Standard	Standard Office Computer	Standard Office Computer	Per Unit	New	0.00	4	$0.00	100%	0
Manufactured	Cooking Oven	Oven - Convection	Convection Oven	Standard Oven	Per Unit	Existing	102	19	$176	100%	0
Manufactured	Cooking Oven	Oven - Convection	Convection Oven	Standard Oven	Per Unit	New	102	19	$176	100%	0
Manufactured	Cooking Oven	Oven - Standard	Standard Oven	Standard Oven	Per Unit	Existing	0.00	19	$0.00	100%	0
Manufactured	Cooking Oven	Oven - Standard	Standard Oven	Standard Oven	Per Unit	New	0.00	19	$0.00	100%	0
Manufactured	Cooking Range	Cooking Range - Standard	Standard Cooking Range	Standard Cooking Range	Per Unit	Existing	0.00	19	$0.00	100%	0
Manufactured	Cooking Range	Cooking Range - Standard	Standard Cooking Range	Standard Cooking Range	Per Unit	New	0.00	19	$0.00	100%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Manufactured	Cool Central	Attic Fan	Attic Fan For Summer Cooling	No Attic Fan with Central Cooling	Per Attic Fan	Existing	105	19	$249	82%	1,501
Manufactured	Cool Central	Central Air Conditioners - Below Standard	Below Standard SEER 10	Below Standard SEER 10	Per Household	Existing	0.00	8	$0.00	100%	0
Manufactured	Cool Central	Central Air Conditioners - Below Standard	Below Standard SEER 10	Below Standard SEER 10	Per Household	New	0.00	8	$0.00	100%	0
Manufactured	Cool Central	Central Air Conditioners - CEE Tier 2	CEE Tier 2 SEER/EER 15/12.5 (Split System)	Federal Standard 13 SEER	Per Household	Existing	235	15	$476	100%	0
Manufactured	Cool Central	Central Air Conditioners - CEE Tier 2	CEE Tier 2 SEER/EER 15/12.5 (Split System)	Federal Standard 13 SEER	Per Household	New	138	15	$476	100%	153
Manufactured	Cool Central	Central Air Conditioners - CEE Tier 3	CEE Tier 3 SEER/EER 16/13 (Split System)	Federal Standard 13 SEER	Per Household	Existing	330	15	$714	100%	0
Manufactured	Cool Central	Central Air Conditioners - CEE Tier 3	CEE Tier 3 SEER/EER 16/13 (Split System)	Federal Standard 13 SEER	Per Household	New	194	15	$714	100%	0
Manufactured	Cool Central	Central Air Conditioners - ENERGY STAR	ENERGY STAR SEER/EER 14.5/12 (Split System)	Federal Standard 13 SEER	Per Household	Existing	182	15	$357	100%	0
Manufactured	Cool Central	Central Air Conditioners - ENERGY STAR	ENERGY STAR SEER/EER 14.5/12 (Split System)	Federal Standard 13 SEER	Per Household	New	107	15	$357	100%	0
Manufactured	Cool Central	Central Air Conditioners - Enhanced	Enhanced SEER/EER 18/14 (Split System)	Federal Standard 13 SEER	Per Household	Existing	490	15	$1,192	100%	4,566
Manufactured	Cool Central	Central Air Conditioners - Enhanced	Enhanced SEER/EER 18/14 (Split System)	Federal Standard 13 SEER	Per Household	New	287	15	$1,192	100%	0
Manufactured	Cool Central	Central Air Conditioners - Standard	Federal Standard SEER 13	Federal Standard 13 SEER	Per Household	Existing	0.00	15	$0.00	100%	0
Manufactured	Cool Central	Central Air Conditioners - Standard	Federal Standard SEER 13	Federal Standard 13 SEER	Per Household	New	0.00	15	$0.00	100%	0
Manufactured	Cool Central	Cool Roofs	Lighter Colored Shingles (White)	Standard Roof Shingles	Per Roof SqFT	Existing	0.33	20	$0.25	45%	0
Manufactured	Cool Central	Cool Roofs	Lighter Colored Shingles (White)	Standard Roof Shingles	Per Roof SqFT	New	0.18	20	$0.25	45%	0
Manufactured	Cool Central	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	0.34	20	$0.92	61%	8
Manufactured	Cool Central	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	New	0.24	20	$0.92	61%	0
Manufactured	Cool Central	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	0.61	20	$3	76%	276
Manufactured	Cool Central	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	New	0.44	20	$3	76%	17
Manufactured	Cool Central	Duct Sealing	4 CFM/100sqft of CFA	8 CFM/100sqft of CFA	Per Duct Sealing Installation	New	51	18	$333	61%	31
Manufactured	Cool Central	Duct Sealing	4 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	284	18	$960	33%	1,301
Manufactured	Cool Central	Duct Sealing	8 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	189	18	$587	61%	1,283
Manufactured	Cool Central	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	Existing	189	11	$611	56%	1,154
Manufactured	Cool Central	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	New	67	11	$611	64%	0
Manufactured	Cool Central	Infiltration Reduction	4.0 ACH50	7.0 ACH50	Per Building SqFt	New	0.06	11	$0.25	61%	54
Manufactured	Cool Central	Infiltration Reduction	4.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.24	11	$0.44	19%	818
Manufactured	Cool Central	Infiltration Reduction	7.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.12	11	$0.19	72%	1,544
Manufactured	Cool Central	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-38 (To Code Zone 5)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.08	20	$0.99	21%	168
Manufactured	Cool Central	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (To Code Zone 6)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.09	20	$1	20%	191
Manufactured	Cool Central	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	Existing	0.01	20	$0.25	45%	0
Manufactured	Cool Central	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	New	0.00	20	$0.25	45%	0
Manufactured	Cool Central	Insulation - Basement Wall	Insulation Basement Wall (R-10 Zone 5)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.00	20	$1	7%	0
Manufactured	Cool Central	Insulation - Basement Wall	Insulation Basement Wall (R-15 Zone 6)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.00	20	$1	14%	0
Manufactured	Cool Central	Insulation - Duct	Insulation Duct (R-8)	No Duct Insulation	Per Duct Insulation Installation	Existing	59	20	$366	71%	496
Manufactured	Cool Central	Insulation - Floor	Insulation Floor (R-30)	Average Existing Insulation (R-1.8)	Per Insulated SqFt	Existing	0.00	20	$0.90	38%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Manufactured	Cool Central	Insulation - Rim/Band Joist	Insulation Rim and Band Joist (R-10)	No Rim And Band Joist Insulation	Per Insulated SqFt	Existing	0.14	20	$1	11%	26
Manufactured	Cool Central	Insulation - Siding	Vinyl Siding with Foam Backing (R-3)	No Siding Insulation	Per Insulated SqFt	Existing	0.12	20	$0.51	14%	255
Manufactured	Cool Central	Insulation - Skirting	Insulation Skirting for Manufactured Homes (R-19)	No Skirting	Per Insulated SqFt	Existing	0.09	20	$0.59	9%	39
Manufactured	Cool Central	Insulation - Slab	Insulation Slab (R-15, 4ft)	Code Insulation (R-10, 4ft)	Per Insulated SqFt	New	0.00	20	$0.44	13%	0
Manufactured	Cool Central	Insulation - Wall	Insulation Wall (R-13)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.24	20	$1	3%	41
Manufactured	Cool Central	Insulation - Wall	Insulation Wall (R-20 or R-13 w/ R-5 sheathing) (To Code)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.28	20	$1	2%	76
Manufactured	Cool Central	Insulation - Wall	Insulation Wall (R-21 + R-5 sheathing)	Code Insulation (R-20 or R-13 w/ R-5 sheathing)	Per Insulated SqFt	New	0.01	20	$0.16	87%	14
Manufactured	Cool Central	Quality Install CAC	Quality Installation (QI)	Standard Installation	Per QI Install	Existing	199	5	$300	45%	0
Manufactured	Cool Central	Quality Install CAC	Quality Installation (QI)	Standard Installation	Per QI Install	New	108	5	$300	45%	0
Manufactured	Cool Central	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	Existing	193	30	$675	49%	1,153
Manufactured	Cool Central	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	New	105	30	$480	82%	94
Manufactured	Cool Central	Solar Attic Fan	Solar Electric Attic Ventilation	Standard Passive Ventilation	Per Solar Fan	Existing	113	19	$331	49%	973
Manufactured	Cool Central	Solar Attic Fan	Solar Electric Attic Ventilation	Standard Passive Ventilation	Per Solar Fan	New	61	19	$331	49%	0
Manufactured	Cool Central	Thermostat - Multi-Zone	Individual Room Temperature Control for Major Occupied Rooms	Programmable Thermostat - Central Control Only	Per Programmable Control System	New	70	11	$895	62%	0
Manufactured	Cool Central	Thermostat - Programmable	Setback Thermostat 5-1-1, 5-2 or 7-Day	Manual Thermostat	Per Programmable Control	Existing	66	15	$33	79%	0
Manufactured	Cool Central	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	Existing	66	15	$167	82%	293
Manufactured	Cool Central	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	New	36	15	$167	90%	39
Manufactured	Cool Central	Tune-up - Air Conditioner	Air Conditioner Maintenance (Tune-up)	Unmaintained Air Conditioner	Per Tune-up	Existing	142	5	$200	71%	0
Manufactured	Cool Central	Whole-House Fan	Whole-House Fan to Offset Central Cooling	No Whole-House Fan	Per House Fan	Existing	284	20	$366	48%	2,384
Manufactured	Cool Central	Whole-House Fan	Whole-House Fan to Offset Central Cooling	No Whole-House Fan	Per House Fan	New	154	20	$366	48%	97
Manufactured	Cool Central	Window - Film	Window Film (SHGC Reduction=45%)	No Window Film	Per Window SqFt	Existing	0.69	10	$4	76%	0
Manufactured	Cool Central	Window - Shade	Window Shade/Blind or Thermal Drapes	No Interior Shading Device	Per Window SqFt	Existing	0.46	3	$7	38%	0
Manufactured	Cool Central	Window - Upgrade	Code Window U-Factor = 0.35 (2009 IECC)	Existing Windows U-Factor	Per Window SqFt	Existing	0.45	20	$24	24%	0
Manufactured	Cool Central	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	0.12	20	$8	73%	0
Manufactured	Cool Central	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	0.09	20	$8	82%	0
Manufactured	Cool Central	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	0.32	20	$33	61%	0
Manufactured	Cool Central	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	0.23	20	$33	68%	0
Manufactured	Cool Room	Cool Roofs	Lighter Colored Shingles (White)	Standard Roof Shingles	Per Roof SqFT	Existing	0.06	20	$0.25	45%	0
Manufactured	Cool Room	Cool Roofs	Lighter Colored Shingles (White)	Standard Roof Shingles	Per Roof SqFT	New	0.06	20	$0.25	45%	0
Manufactured	Cool Room	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	0.09	20	$0.92	61%	0
Manufactured	Cool Room	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	New	0.08	20	$0.92	61%	0
Manufactured	Cool Room	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	0.17	20	$3	76%	8
Manufactured	Cool Room	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	New	0.15	20	$3	76%	1
Manufactured	Cool Room	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	Existing	36	11	$611	56%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Manufactured	Cool Room	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	New	23	11	$611	64%	0
Manufactured	Cool Room	Infiltration Reduction	4.0 ACH50	7.0 ACH50	Per Building SqFt	New	0.02	11	$0.25	61%	0
Manufactured	Cool Room	Infiltration Reduction	4.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.04	11	$0.44	19%	14
Manufactured	Cool Room	Infiltration Reduction	7.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.02	11	$0.19	72%	26
Manufactured	Cool Room	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-38 (To Code Zone 5)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.02	20	$0.99	21%	0
Manufactured	Cool Room	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (To Code Zone 6)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.02	20	$1	20%	0
Manufactured	Cool Room	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	Existing	0.00	20	$0.25	35%	0
Manufactured	Cool Room	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	New	0.00	20	$0.25	35%	0
Manufactured	Cool Room	Insulation - Basement Wall	Insulation Basement Wall (R-10 Zone 5)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.00	20	$1	7%	0
Manufactured	Cool Room	Insulation - Basement Wall	Insulation Basement Wall (R-15 Zone 6)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.00	20	$1	14%	0
Manufactured	Cool Room	Insulation - Floor	Insulation Floor (R-30)	Average Existing Insulation (R-1.8)	Per Insulated SqFt	Existing	0.00	20	$0.90	38%	0
Manufactured	Cool Room	Insulation - Rim/Band Joist	Insulation Rim and Band Joist (R-10)	No Rim And Band Joist Insulation	Per Insulated SqFt	Existing	0.03	20	$1	11%	1
Manufactured	Cool Room	Insulation - Siding	Vinyl Siding with Foam Backing (R-3)	No Siding Insulation	Per Insulated SqFt	Existing	0.03	20	$0.51	14%	6
Manufactured	Cool Room	Insulation - Skirting	Insulation Skirting for Manufactured Homes (R-19)	No Skirting	Per Insulated SqFt	Existing	0.02	20	$0.59	9%	1
Manufactured	Cool Room	Insulation - Slab	Insulation Slab (R-15, 4ft)	Code Insulation (R-10, 4ft)	Per Insulated SqFt	New	0.00	20	$0.44	13%	0
Manufactured	Cool Room	Insulation - Wall	Insulation Wall (R-13)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.06	20	$1	3%	1
Manufactured	Cool Room	Insulation - Wall	Insulation Wall (R-20 or R-13 w/ R-5 sheathing) (To Code)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.07	20	$1	2%	2
Manufactured	Cool Room	Insulation - Wall	Insulation Wall (R-21 + R-5 sheathing)	Code Insulation (R-20 or R-13 w/ R-5 sheathing)	Per Insulated SqFt	New	0.00	20	$0.16	87%	1
Manufactured	Cool Room	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	Existing	37	30	$675	49%	0
Manufactured	Cool Room	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	New	37	30	$480	82%	0
Manufactured	Cool Room	Removal of Secondary Window Air Conditioner Unit	Proper Disposal of Window Air Conditioner Unit	Existing Non-Efficient Window Air Conditioner Unit	Per Recyled Unit	Existing	378	3	$30	20%	144
Manufactured	Cool Room	Room AC - Below Standard	Below Standard 7.7 EER; 8,000-13,999 Btu	Below Standard 7.7 EER; 8,000-13,999 Btu	Per Unit	Existing	0.00	5	$0.00	100%	0
Manufactured	Cool Room	Room AC - Below Standard	Below Standard 7.7 EER; 8,000-13,999 Btu	Below Standard 7.7 EER; 8,000-13,999 Btu	Per Unit	New	0.00	5	$0.00	100%	0
Manufactured	Cool Room	Room AC - CEE Tier 1	CEE TIER 1 = 11.3 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Unit	Existing	39	9	$308	100%	0
Manufactured	Cool Room	Room AC - CEE Tier 1	CEE TIER 1 = 11.3 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Unit	New	39	9	$308	100%	0
Manufactured	Cool Room	Room AC - CEE Tier 2	CEE TIER 2 = 11.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Unit	Existing	50	9	$575	100%	0
Manufactured	Cool Room	Room AC - CEE Tier 2	CEE TIER 2 = 11.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Unit	New	50	9	$575	100%	0
Manufactured	Cool Room	Room AC - ENERGY STAR	ENERGY STAR = 10.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Unit	Existing	27	9	$41	100%	39
Manufactured	Cool Room	Room AC - ENERGY STAR	ENERGY STAR = 10.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Unit	New	27	9	$41	100%	4
Manufactured	Cool Room	Room AC - Standard	Federal Standard 9.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Unit	Existing	0.00	9	$0.00	100%	0
Manufactured	Cool Room	Room AC - Standard	Federal Standard 9.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Unit	New	0.00	9	$0.00	100%	0
Manufactured	Cool Room	Window - Film	Window Film (SHGC Reduction=45%)	No Window Film	Per Window SqFt	Existing	0.13	10	$4	76%	0
Manufactured	Cool Room	Window - Shade	Window Shade/Blind or Thermal Drapes	No Interior Shading Device	Per Window SqFt	Existing	0.08	3	$7	38%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Manufactured	Cool Room	Window - Upgrade	Code Window U-Factor = 0.35 (2009 IECC)	Existing Windows U-Factor	Per Window SqFt	Existing	0.12	20	$24	24%	0
Manufactured	Cool Room	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	0.03	20	$8	73%	0
Manufactured	Cool Room	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	0.03	20	$8	82%	0
Manufactured	Cool Room	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	0.09	20	$33	61%	0
Manufactured	Cool Room	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	0.08	20	$33	68%	0
Manufactured	Copier	Copier - Standard	Standard Copier	Standard Copier	Per Unit	Existing	0.00	6	$0.00	100%	0
Manufactured	Copier	Copier - Standard	Standard Copier	Standard Copier	Per Unit	New	0.00	6	$0.00	100%	0
Manufactured	Copier	Copiers - Home Office ENERGY STAR	ENERGY STAR Office Copiers	Standard Copier	Per Unit	Existing	73	6	$1,505	100%	0
Manufactured	Copier	Copiers - Home Office ENERGY STAR	ENERGY STAR Office Copiers	Standard Copier	Per Unit	New	73	6	$1,505	100%	0
Manufactured	Dehumidifier	Dehumidifier - Standard	Standard Dehumidifier	Standard Dehumidifier	Per Unit	Existing	0.00	12	$0.00	100%	0
Manufactured	Dehumidifier	Dehumidifier - Standard	Standard Dehumidifier	Standard Dehumidifier	Per Unit	New	0.00	12	$0.00	100%	0
Manufactured	Dehumidifier	Dehumidifiers - ENERGY STAR	ENERGY STAR Dehumidifiers	Standard Dehumidifier	Per Unit	Existing	117	12	$34	100%	715
Manufactured	Dehumidifier	Dehumidifiers - ENERGY STAR	ENERGY STAR Dehumidifiers	Standard Dehumidifier	Per Unit	New	117	12	$34	100%	84
Manufactured	Dryer	Clothes Dryer - Moisture Sensor	Clothes Dryer w/ Moisture Sensor	Standard Dryer without Moisture Sensor	Per Unit	Existing	119	11	$137	100%	0
Manufactured	Dryer	Clothes Dryer - Moisture Sensor	Clothes Dryer w/ Moisture Sensor	Standard Dryer without Moisture Sensor	Per Unit	New	119	11	$137	100%	0
Manufactured	Dryer	Clothes Dryer - Standard without Moisture Sensor	Standard Dryer without Moisture Sensor	Standard Dryer without Moisture Sensor	Per Unit	Existing	0.00	11	$0.00	100%	0
Manufactured	Dryer	Clothes Dryer - Standard without Moisture Sensor	Standard Dryer without Moisture Sensor	Standard Dryer without Moisture Sensor	Per Unit	New	0.00	11	$0.00	100%	0
Manufactured	Dryer	Clothes Dryer - Steam	Steam Clothes Dryer	Standard Dryer without Moisture Sensor	Per Unit	Existing	119	11	$372	98%	0
Manufactured	Dryer	Clothes Dryer - Steam	Steam Clothes Dryer	Standard Dryer without Moisture Sensor	Per Unit	New	119	11	$372	98%	0
Manufactured	Freezer	Freezer - Below Standard	Below Standard Freezer	Below Standard Freezer	Per Unit	Existing	0.00	6	$0.00	100%	0
Manufactured	Freezer	Freezer - Below Standard	Below Standard Freezer	Below Standard Freezer	Per Unit	New	0.00	6	$0.00	100%	0
Manufactured	Freezer	Freezer - ENERGY STAR	ENERGY STAR Freezer	Standard Freezer - Federal Standard 2001	Per Unit	Existing	55	12	$75	100%	0
Manufactured	Freezer	Freezer - ENERGY STAR	ENERGY STAR Freezer	Standard Freezer - Federal Standard 2001	Per Unit	New	55	12	$75	100%	0
Manufactured	Freezer	Freezer - Federal Standard September 2014	Standard Freezer - Federal Standard 2014 (NAECA)	Standard Freezer - Federal Standard 2001	Per Unit	Existing	159	12	$214	100%	0
Manufactured	Freezer	Freezer - Federal Standard September 2014	Standard Freezer - Federal Standard 2014 (NAECA)	Standard Freezer - Federal Standard 2001	Per Unit	New	159	12	$214	100%	0
Manufactured	Freezer	Freezer - Standard 2001	Standard Freezer - Federal Standard 2001	Standard Freezer - Federal Standard 2001	Per Unit	Existing	0.00	12	$0.00	100%	0
Manufactured	Freezer	Freezer - Standard 2001	Standard Freezer - Federal Standard 2001	Standard Freezer - Federal Standard 2001	Per Unit	New	0.00	12	$0.00	100%	0
Manufactured	Freezer	Removal of Secondary Stand-Alone Freezer	Proper Disposal of Stand-Alone Freezer	Existing Non-Efficient Stand-Alone Freezer	Per Recyled Unit	Existing	916	5	$30	16%	1,534
Manufactured	Heat Central	Central Heat - Standard	Standard Central Heat	Standard Central Heat	Per Household	Existing	0.00	10	$0.00	100%	0
Manufactured	Heat Central	Central Heat - Standard	Standard Central Heat	Standard Central Heat	Per Household	New	0.00	10	$0.00	100%	0
Manufactured	Heat Central	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	6.17	20	$0.92	61%	20
Manufactured	Heat Central	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	New	6.17	20	$0.92	61%	1
Manufactured	Heat Central	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	11	20	$3	76%	768

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Manufactured	Heat Central	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	New	11	20	$3	76%	57
Manufactured	Heat Central	Duct Sealing	4 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	1,908	18	$960	25%	785
Manufactured	Heat Central	Duct Sealing	8 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	1,272	18	$587	32%	695
Manufactured	Heat Central	Heat Exchanger - Air-to-Air	Air-to-Air Heat Exchanger	No Air-to-Air Heat Exchanger	Per Heat Exchanger	Existing	2,545	18	$1,085	75%	4,039
Manufactured	Heat Central	Heat Exchanger - Air-to-Air	Air-to-Air Heat Exchanger	No Air-to-Air Heat Exchanger	Per Heat Exchanger	New	1,801	18	$1,085	75%	210
Manufactured	Heat Central	Heat Pump - Ductless Mini-Split	ENERGY STAR 14.5 SEER, 8.2 HSPF	Electric Baseboard Heating	Per Ductless Heat Pump	Existing	2,603	15	$2,727	38%	0
Manufactured	Heat Central	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	Existing	1,272	11	$611	56%	0
Manufactured	Heat Central	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	New	585	11	$611	64%	0
Manufactured	Heat Central	Infiltration Reduction	4.0 ACH50	7.0 ACH50	Per Building SqFt	New	0.58	11	$0.25	61%	53
Manufactured	Heat Central	Infiltration Reduction	4.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	1.65	11	$0.44	19%	630
Manufactured	Heat Central	Infiltration Reduction	7.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.82	11	$0.19	72%	1,438
Manufactured	Heat Central	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-38 (To Code Zone 5)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	1.45	20	$0.99	21%	447
Manufactured	Heat Central	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (To Code Zone 6)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	1.70	20	$1	20%	481
Manufactured	Heat Central	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	Existing	0.24	20	$0.25	35%	0
Manufactured	Heat Central	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	New	0.24	20	$0.25	35%	0
Manufactured	Heat Central	Insulation - Basement Wall	Insulation Basement Wall (R-10 Zone 5)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	4.24	20	$1	7%	368
Manufactured	Heat Central	Insulation - Basement Wall	Insulation Basement Wall (R-15 Zone 6)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	4.93	20	$1	14%	899
Manufactured	Heat Central	Insulation - Duct	Insulation Duct (R-8)	No Duct Insulation	Per Duct Insulation Installation	Existing	540	20	$366	71%	605
Manufactured	Heat Central	Insulation - Floor	Insulation Floor (R-30)	Average Existing Insulation (R-1.8)	Per Insulated SqFt	Existing	1.24	20	$0.90	38%	686
Manufactured	Heat Central	Insulation - Rim/Band Joist	Insulation Rim and Band Joist (R-10)	No Rim And Band Joist Insulation	Per Insulated SqFt	Existing	2.53	20	$1	11%	66
Manufactured	Heat Central	Insulation - Siding	Vinyl Siding with Foam Backing (R-3)	No Siding Insulation	Per Insulated SqFt	Existing	2.20	20	$0.51	14%	697
Manufactured	Heat Central	Insulation - Skirting	Insulation Skirting for Manufactured Homes (R-19)	No Skirting	Per Insulated SqFt	Existing	1.68	20	$0.59	9%	112
Manufactured	Heat Central	Insulation - Slab	Insulation Slab (R-15, 4ft)	Code Insulation (R-10, 4ft)	Per Insulated SqFt	New	0.79	20	$0.44	13%	16
Manufactured	Heat Central	Insulation - Wall	Insulation Wall (R-13)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	4.37	20	$1	3%	113
Manufactured	Heat Central	Insulation - Wall	Insulation Wall (R-20 or R-13 w/ R-5 sheathing) (To Code)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	5.12	20	$1	2%	200
Manufactured	Heat Central	Insulation - Wall	Insulation Wall (R-21 + R-5 sheathing)	Code Insulation (R-20 or R-13 w/ R-5 sheathing)	Per Insulated SqFt	New	0.36	20	$0.16	87%	50
Manufactured	Heat Central	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	Existing	254	30	$675	49%	0
Manufactured	Heat Central	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	New	180	30	$480	82%	0
Manufactured	Heat Central	Thermostat - Multi-Zone	Individual Room Temperature Control for Major Occupied Rooms	Programmable Thermostat - Central Control Only	Per Programmable Control System	New	612	11	$895	62%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Manufactured	Heat Central	Thermostat - Programmable	Setback Thermostat 5-1-1, 5-2 or 7-Day	Manual Thermostat	Per Programmable Control	Existing	445	15	$33	79%	46
Manufactured	Heat Central	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	Existing	446	15	$167	82%	654
Manufactured	Heat Central	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	New	316	15	$167	90%	38
Manufactured	Heat Central	Window - Upgrade	Code Window U-Factor = 0.35 (2009 IECC)	Existing Windows U-Factor	Per Window SqFt	Existing	8.14	20	$24	24%	0
Manufactured	Heat Central	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	2.26	20	$8	73%	0
Manufactured	Heat Central	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	2.26	20	$8	82%	0
Manufactured	Heat Central	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	5.88	20	$33	61%	0
Manufactured	Heat Central	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	5.88	20	$33	68%	0
Manufactured	Heat Pump	Attic Fan	Attic Fan For Summer Cooling	No Attic Fan with Central Cooling	Per Attic Fan	Existing	107	19	$249	82%	0
Manufactured	Heat Pump	Cool Roofs	Lighter Colored Shingles (White)	Standard Roof Shingles	Per Roof SqFT	Existing	0.05	20	$0.25	45%	0
Manufactured	Heat Pump	Cool Roofs	Lighter Colored Shingles (White)	Standard Roof Shingles	Per Roof SqFT	New	0.03	20	$0.25	45%	0
Manufactured	Heat Pump	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	3.27	20	$0.92	61%	0
Manufactured	Heat Pump	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	New	2.81	20	$0.92	61%	0
Manufactured	Heat Pump	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	5.87	20	$3	76%	0
Manufactured	Heat Pump	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	New	5.05	20	$3	76%	0
Manufactured	Heat Pump	Duct Sealing	4 CFM/100sqft of CFA	8 CFM/100sqft of CFA	Per Duct Sealing Installation	New	479	18	$333	61%	0
Manufactured	Heat Pump	Duct Sealing	4 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	1,806	18	$960	33%	0
Manufactured	Heat Pump	Duct Sealing	8 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	1,204	18	$587	61%	0
Manufactured	Heat Pump	ECM Motor - Air Source Heat Pump	Air Source Heat Pump ECM Fan	Standard Motor	Per ECM	Existing	394	15	$200	62%	0
Manufactured	Heat Pump	ECM Motor - Air Source Heat Pump	Air Source Heat Pump ECM Fan	Standard Motor	Per ECM	New	338	15	$200	90%	0
Manufactured	Heat Pump	Heat Exchanger - Air-to-Air	Air-to-Air Heat Exchanger	No Air-to-Air Heat Exchanger	Per Heat Exchanger	Existing	2,408	18	$1,085	75%	0
Manufactured	Heat Pump	Heat Exchanger - Air-to-Air	Air-to-Air Heat Exchanger	No Air-to-Air Heat Exchanger	Per Heat Exchanger	New	1,917	18	$1,085	75%	0
Manufactured	Heat Pump	Heat Pump - Below Standard	Below Standard SEER 10 and HSPF 7.2	Below Standard SEER 10 and HSPF 7.2	Per Household	Existing	0.00	9	$0.00	100%	0
Manufactured	Heat Pump	Heat Pump - Below Standard	Below Standard SEER 10 and HSPF 7.2	Below Standard SEER 10 and HSPF 7.2	Per Household	New	0.00	9	$0.00	100%	0
Manufactured	Heat Pump	Heat Pump - CEE Tier 2	CEE Tier 2 SEER/EER 15/12.5 and HSPF 8.5 (Split System)	Federal Standard SEER 13 and HSPF 7.7	Per Household	Existing	1,115	18	$548	100%	0
Manufactured	Heat Pump	Heat Pump - CEE Tier 2	CEE Tier 2 SEER/EER 15/12.5 and HSPF 8.5 (Split System)	Federal Standard SEER 13 and HSPF 7.7	Per Household	New	878	18	$548	100%	0
Manufactured	Heat Pump	Heat Pump - ENERGY STAR	ENERGY STAR SEER/EER 14.5/12 and HSPF 8.2 (Split System)	Federal Standard SEER 13 and HSPF 7.7	Per Household	Existing	752	18	$411	100%	0
Manufactured	Heat Pump	Heat Pump - ENERGY STAR	ENERGY STAR SEER/EER 14.5/12 and HSPF 8.2 (Split System)	Federal Standard SEER 13 and HSPF 7.7	Per Household	New	586	18	$411	100%	0
Manufactured	Heat Pump	Heat Pump - Enhanced	Enhanced SEER/EER 16/13 and HSPF 9.0 (Split System)	Federal Standard SEER 13 and HSPF 7.7	Per Household	Existing	1,682	18	$822	100%	0
Manufactured	Heat Pump	Heat Pump - Enhanced	Enhanced SEER/EER 16/13 and HSPF 9.0 (Split System)	Federal Standard SEER 13 and HSPF 7.7	Per Household	New	1,330	18	$822	100%	0
Manufactured	Heat Pump	Heat Pump - Ground Source	GSHP ENERGY STAR EER 17.1 and 3.6 COP	Federal Standard SEER 13 and HSPF 7.7	Per Household	Existing	4,121	18	$6,657	25%	0
Manufactured	Heat Pump	Heat Pump - Ground Source	GSHP ENERGY STAR EER 17.1 and 3.6 COP	Federal Standard SEER 13 and HSPF 7.7	Per Household	New	3,306	18	$6,739	25%	0
Manufactured	Heat Pump	Heat Pump - Standard	Federal Standard SEER 13 and HSPF 7.7	Federal Standard SEER 13 and HSPF 7.7	Per Household	Existing	0.00	18	$0.00	100%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Manufactured	Heat Pump	Heat Pump - Standard	Federal Standard SEER 13 and HSPF 7.7	Federal Standard SEER 13 and HSPF 7.7	Per Household	New	0.00	18	$0.00	100%	0
Manufactured	Heat Pump	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	Existing	1,204	11	$611	56%	0
Manufactured	Heat Pump	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	New	623	11	$611	64%	0
Manufactured	Heat Pump	Infiltration Reduction	4.0 ACH50	7.0 ACH50	Per Building SqFt	New	0.62	11	$0.25	61%	0
Manufactured	Heat Pump	Infiltration Reduction	4.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	1.56	11	$0.44	19%	0
Manufactured	Heat Pump	Infiltration Reduction	7.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.78	11	$0.19	72%	0
Manufactured	Heat Pump	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-38 (To Code Zone 5)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.77	20	$0.99	21%	0
Manufactured	Heat Pump	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (To Code Zone 6)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.90	20	$1	20%	0
Manufactured	Heat Pump	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	Existing	0.13	20	$0.25	35%	0
Manufactured	Heat Pump	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	New	0.11	20	$0.25	35%	0
Manufactured	Heat Pump	Insulation - Basement Wall	Insulation Basement Wall (R-10 Zone 5)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	1.88	20	$1	7%	0
Manufactured	Heat Pump	Insulation - Basement Wall	Insulation Basement Wall (R-15 Zone 6)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	2.19	20	$1	14%	0
Manufactured	Heat Pump	Insulation - Duct	Insulation Duct (R-8)	No Duct Insulation	Per Duct Insulation Installation	Existing	490	20	$366	71%	0
Manufactured	Heat Pump	Insulation - Floor	Insulation Floor (R-30)	Average Existing Insulation (R-1.8)	Per Insulated SqFt	Existing	0.65	20	$0.90	38%	0
Manufactured	Heat Pump	Insulation - Rim/Band Joist	Insulation Rim and Band Joist (R-10)	No Rim And Band Joist Insulation	Per Insulated SqFt	Existing	1.34	20	$1	11%	0
Manufactured	Heat Pump	Insulation - Siding	Vinyl Siding with Foam Backing (R-3)	No Siding Insulation	Per Insulated SqFt	Existing	1.17	20	$0.51	14%	0
Manufactured	Heat Pump	Insulation - Skirting	Insulation Skirting for Manufactured Homes (R-19)	No Skirting	Per Insulated SqFt	Existing	0.89	20	$0.59	9%	0
Manufactured	Heat Pump	Insulation - Slab	Insulation Slab (R-15, 4ft)	Code Insulation (R-10, 4ft)	Per Insulated SqFt	New	0.30	20	$0.44	13%	0
Manufactured	Heat Pump	Insulation - Wall	Insulation Wall (R-13)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	2.31	20	$1	3%	0
Manufactured	Heat Pump	Insulation - Wall	Insulation Wall (R-20 or R-13 w/ R-5 sheathing) (To Code)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	2.71	20	$1	2%	0
Manufactured	Heat Pump	Insulation - Wall	Insulation Wall (R-21 + R-5 sheathing)	Code Insulation (R-20 or R-13 w/ R-5 sheathing)	Per Insulated SqFt	New	0.16	20	$0.16	87%	0
Manufactured	Heat Pump	Quality Install Heat Pump	Quality Installation (QI)	Standard Installation	Per QI Install	Existing	1,393	5	$300	45%	0
Manufactured	Heat Pump	Quality Install Heat Pump	Quality Installation (QI)	Standard Installation	Per QI Install	New	1,108	5	$300	45%	0
Manufactured	Heat Pump	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	Existing	1,229	30	$675	49%	0
Manufactured	Heat Pump	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	New	978	30	$480	82%	0
Manufactured	Heat Pump	Solar Attic Fan	Solar Electric Attic Ventilation	Standard Passive Ventilation	Per Solar Fan	Existing	115	19	$331	49%	0
Manufactured	Heat Pump	Solar Attic Fan	Solar Electric Attic Ventilation	Standard Passive Ventilation	Per Solar Fan	New	91	19	$331	49%	0
Manufactured	Heat Pump	Thermostat - Multi-Zone	Individual Room Temperature Control for Major Occupied Rooms	Programmable Thermostat - Central Control Only	Per Programmable Control System	New	651	11	$895	62%	0
Manufactured	Heat Pump	Thermostat - Programmable	Setback Thermostat 5-1-1, 5-2 or 7-Day	Manual Thermostat	Per Programmable Control	Existing	421	15	$33	79%	0
Manufactured	Heat Pump	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	Existing	422	15	$167	82%	0
Manufactured	Heat Pump	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	New	336	15	$167	90%	0
Manufactured	Heat Pump	Tune-up - Air Source Heat Pump	Air Source Heat Pump Maintenance (Tune-up)	Unmaintained Air Source Heat Pump	Per Tune-up	Existing	834	5	$200	71%	0
Manufactured	Heat Pump	Tune-up - Ground Source Heat Pump	Ground Source Heat Pump Maintenance (Tune-up)	Unmaintained Ground Source Heat Pump	Per Tune-up	Existing	602	5	$200	0%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Manufactured	Heat Pump	Whole-House Fan	Whole-House Fan to Offset Central Cooling	No Whole-House Fan	Per House Fan	Existing	288	20	$366	48%	0
Manufactured	Heat Pump	Whole-House Fan	Whole-House Fan to Offset Central Cooling	No Whole-House Fan	Per House Fan	New	229	20	$366	48%	0
Manufactured	Heat Pump	Window - Film	Window Film (SHGC Reduction=45%)	No Window Film	Per Window SqFt	Existing	0.70	10	$4	76%	0
Manufactured	Heat Pump	Window - Shade	Window Shade/Blind or Thermal Drapes	No Interior Shading Device	Per Window SqFt	Existing	0.47	3	$7	38%	0
Manufactured	Heat Pump	Window - Upgrade	Code Window U-Factor = 0.35 (2009 IECC)	Existing Windows U-Factor	Per Window SqFt	Existing	4.31	20	$24	24%	0
Manufactured	Heat Pump	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	1.19	20	$8	73%	0
Manufactured	Heat Pump	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	1.10	20	$8	82%	0
Manufactured	Heat Pump	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	3.11	20	$33	61%	0
Manufactured	Heat Pump	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	2.86	20	$33	68%	0
Manufactured	Heat Room	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	1.54	20	$0.92	61%	18
Manufactured	Heat Room	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	New	1.54	20	$0.92	61%	1
Manufactured	Heat Room	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	2.77	20	$3	76%	0
Manufactured	Heat Room	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	New	2.77	20	$3	76%	0
Manufactured	Heat Room	Heat Pump - Ductless Mini-Split	ENERGY STAR 14.5 SEER, 8.2 HSPF	Electric Baseboard Heating	Per Ductless Heat Pump	Existing	2,603	15	$2,727	38%	0
Manufactured	Heat Room	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	Existing	979	11	$611	56%	0
Manufactured	Heat Room	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	New	450	11	$611	64%	0
Manufactured	Heat Room	Infiltration Reduction	4.0 ACH50	7.0 ACH50	Per Building SqFt	New	0.45	11	$0.25	61%	0
Manufactured	Heat Room	Infiltration Reduction	4.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	1.27	11	$0.44	19%	130
Manufactured	Heat Room	Infiltration Reduction	7.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.63	11	$0.19	72%	247
Manufactured	Heat Room	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-38 (To Code Zone 5)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.36	20	$0.99	21%	0
Manufactured	Heat Room	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (To Code Zone 6)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.42	20	$1	20%	0
Manufactured	Heat Room	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	Existing	0.06	20	$0.25	35%	0
Manufactured	Heat Room	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	New	0.06	20	$0.25	35%	0
Manufactured	Heat Room	Insulation - Basement Wall	Insulation Basement Wall (R-10 Zone 5)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	1.06	20	$1	7%	0
Manufactured	Heat Room	Insulation - Basement Wall	Insulation Basement Wall (R-15 Zone 6)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	1.23	20	$1	14%	0
Manufactured	Heat Room	Insulation - Floor	Insulation Floor (R-30)	Average Existing Insulation (R-1.8)	Per Insulated SqFt	Existing	0.31	20	$0.90	38%	0
Manufactured	Heat Room	Insulation - Rim/Band Joist	Insulation Rim and Band Joist (R-10)	No Rim And Band Joist Insulation	Per Insulated SqFt	Existing	0.63	20	$1	11%	0
Manufactured	Heat Room	Insulation - Siding	Vinyl Siding with Foam Backing (R-3)	No Siding Insulation	Per Insulated SqFt	Existing	0.55	20	$0.51	14%	0
Manufactured	Heat Room	Insulation - Skirting	Insulation Skirting for Manufactured Homes (R-19)	No Skirting	Per Insulated SqFt	Existing	0.42	20	$0.59	9%	0
Manufactured	Heat Room	Insulation - Slab	Insulation Slab (R-15, 4ft)	Code Insulation (R-10, 4ft)	Per Insulated SqFt	New	0.19	20	$0.44	13%	0
Manufactured	Heat Room	Insulation - Wall	Insulation Wall (R-13)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	1.09	20	$1	3%	0
Manufactured	Heat Room	Insulation - Wall	Insulation Wall (R-20 or R-13 w/ R-5 sheathing) (To Code)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	1.28	20	$1	2%	0
Manufactured	Heat Room	Insulation - Wall	Insulation Wall (R-21 + R-5 sheathing)	Code Insulation (R-20 or R-13 w/ R-5 sheathing)	Per Insulated SqFt	New	0.09	20	$0.16	87%	0
Manufactured	Heat Room	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	Existing	195	30	$675	49%	0
Manufactured	Heat Room	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	New	138	30	$480	82%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Manufactured	Heat Room	Room Heat - Standard	Standard Room Heat	Standard Room Heat	Per Household	Existing	0.00	10	$0.00	100%	0
Manufactured	Heat Room	Room Heat - Standard	Standard Room Heat	Standard Room Heat	Per Household	New	0.00	10	$0.00	100%	0
Manufactured	Heat Room	Window - Upgrade	Code Window U-Factor = 0.35 (2009 IECC)	Existing Windows U-Factor	Per Window SqFt	Existing	2.03	20	$24	24%	0
Manufactured	Heat Room	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	0.56	20	$8	73%	0
Manufactured	Heat Room	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	0.56	20	$8	82%	0
Manufactured	Heat Room	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	1.47	20	$33	61%	0
Manufactured	Heat Room	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	1.47	20	$33	68%	0
Manufactured	Home Audio System	Home Audio System - ENERGY STAR	ENERGY STAR Home Audio System	Standard Home Audio System	Per Unit	Existing	22	7	$20	100%	0
Manufactured	Home Audio System	Home Audio System - ENERGY STAR	ENERGY STAR Home Audio System	Standard Home Audio System	Per Unit	New	22	7	$20	100%	0
Manufactured	Home Audio System	Home Audio System - Standard	Standard Home Audio System	Standard Home Audio System	Per Unit	Existing	0.00	7	$0.00	100%	0
Manufactured	Home Audio System	Home Audio System - Standard	Standard Home Audio System	Standard Home Audio System	Per Unit	New	0.00	7	$0.00	100%	0
Manufactured	Lighting Exterior	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	Existing	7.64	11	$611	56%	0
Manufactured	Lighting Exterior	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	New	7.64	11	$611	64%	0
Manufactured	Lighting Exterior	Lighitng Controls - Daylighting Controls (Photocell) - Outdoors	Lighitng Controls - Daylighting Controls (Photocell) - Outdoors	No Daylighting Controls	Per Photocell Control	Existing	7.64	10	$64	25%	0
Manufactured	Lighting Exterior	Lighitng Controls - Daylighting Controls (Photocell) - Outdoors	Lighitng Controls - Daylighting Controls (Photocell) - Outdoors	No Daylighting Controls	Per Photocell Control	New	7.64	10	$64	25%	0
Manufactured	Lighting Exterior	Lighting - CFL	Exterior - CFL	EISA Standard	Per Lamp	Existing	35	3	$4	100%	0
Manufactured	Lighting Exterior	Lighting - CFL	Exterior - CFL	EISA Standard	Per Lamp	New	35	3	$4	100%	0
Manufactured	Lighting Exterior	Lighting - EISA Backstop	Exterior - EISA Backstop	EISA Standard	Per Lamp	Existing	32	2	$0.00	100%	0
Manufactured	Lighting Exterior	Lighting - EISA Backstop	Exterior - EISA Backstop	EISA Standard	Per Lamp	New	32	2	$0.00	100%	0
Manufactured	Lighting Exterior	Lighting - EISA Standard	Exterior - EISA Standard	EISA Standard	Per Lamp	Existing	0.00	2	$0.00	100%	0
Manufactured	Lighting Exterior	Lighting - EISA Standard	Exterior - EISA Standard	EISA Standard	Per Lamp	New	0.00	2	$0.00	100%	0
Manufactured	Lighting Exterior	Lighting - Incandescent	Exterior - Incandescent	Incandescent	Per Lamp	Existing	0.00	2	$0.00	100%	0
Manufactured	Lighting Exterior	Lighting - Incandescent	Exterior - Incandescent	Incandescent	Per Lamp	New	0.00	2	$0.00	100%	0
Manufactured	Lighting Exterior	Lighting - LED	Exterior - LED	EISA Standard	Per Lamp	Existing	51	12	$36	100%	793
Manufactured	Lighting Exterior	Lighting - LED	Exterior - LED	EISA Standard	Per Lamp	New	51	12	$36	100%	54
Manufactured	Lighting Interior Specialty	LED Christmas Lighting	LED Christmas Lighting	Incandescent Christmas Lighting	Per LED String	Existing	6.08	5	$18	82%	0
Manufactured	Lighting Interior Specialty	LED Christmas Lighting	LED Christmas Lighting	Incandescent Christmas Lighting	Per LED String	New	6.08	5	$18	82%	0
Manufactured	Lighting Interior Specialty	Lighting - CFL	Interior Specialty - CFL	EISA Standard	Per Lamp	Existing	31	6	$6	65%	2,787
Manufactured	Lighting Interior Specialty	Lighting - CFL	Interior Specialty - CFL	EISA Standard	Per Lamp	New	31	6	$6	65%	201

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Manufactured	Lighting Interior Specialty	Lighting - Incandescent	Interior Specialty - Incandescent	Incandescent	Per Lamp	Existing	0.00	2	$0.00	100%	0
Manufactured	Lighting Interior Specialty	Lighting - Incandescent	Interior Specialty - Incandescent	Incandescent	Per Lamp	New	0.00	2	$0.00	100%	0
Manufactured	Lighting Interior Specialty	Lighting - LED	Interior Specialty - LED	EISA Standard	Per Lamp	Existing	37	12	$28	50%	4,723
Manufactured	Lighting Interior Specialty	Lighting - LED	Interior Specialty - LED	EISA Standard	Per Lamp	New	37	12	$28	50%	307
Manufactured	Lighting Interior Standard	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	Existing	37	11	$611	56%	0
Manufactured	Lighting Interior Standard	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	New	37	11	$611	64%	0
Manufactured	Lighting Interior Standard	Lighitng Controls - Daylighting Controls (Photocell) - Indoors	Lighitng Controls - Daylighting Controls (Photocell) - Indoors	No Daylighting Controls	Per Photocell Control	Existing	7.49	10	$64	14%	0
Manufactured	Lighting Interior Standard	Lighitng Controls - Daylighting Controls (Photocell) - Indoors	Lighitng Controls - Daylighting Controls (Photocell) - Indoors	No Daylighting Controls	Per Photocell Control	New	7.49	10	$64	14%	0
Manufactured	Lighting Interior Standard	Lighting - CFL	Interior Standard - CFL	EISA Standard	Per Lamp	Existing	15	5	-0.2101	100%	0
Manufactured	Lighting Interior Standard	Lighting - CFL	Interior Standard - CFL	EISA Standard	Per Lamp	New	15	5	-0.2101	100%	0
Manufactured	Lighting Interior Standard	Lighting - EISA Backstop	Interior Standard - EISA Backstop	EISA Standard	Per Lamp	Existing	14	2	$0.00	100%	0
Manufactured	Lighting Interior Standard	Lighting - EISA Backstop	Interior Standard - EISA Backstop	EISA Standard	Per Lamp	New	14	2	$0.00	100%	0
Manufactured	Lighting Interior Standard	Lighting - EISA Standard	Interior Standard - EISA Standard	EISA Standard	Per Lamp	Existing	0.00	2	$0.00	100%	0
Manufactured	Lighting Interior Standard	Lighting - EISA Standard	Interior Standard - EISA Standard	EISA Standard	Per Lamp	New	0.00	2	$0.00	100%	0
Manufactured	Lighting Interior Standard	Lighting - Incandescent	Interior Standard - Incandescent	Incandescent	Per Lamp	Existing	0.00	2	$0.00	100%	0
Manufactured	Lighting Interior Standard	Lighting - Incandescent	Interior Standard - Incandescent	Incandescent	Per Lamp	New	0.00	2	$0.00	100%	0
Manufactured	Lighting Interior Standard	Lighting - LED	Interior Standard - LED	EISA Standard	Per Lamp	Existing	22	12	$24	100%	3,900
Manufactured	Lighting Interior Standard	Lighting - LED	Interior Standard - LED	EISA Standard	Per Lamp	New	22	12	$24	100%	268
Manufactured	Lighting Interior Standard	Lighting Controls - Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Occupancy Sensor	Existing	14	10	$56	17%	0
Manufactured	Lighting Interior Standard	Lighting Controls - Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Occupancy Sensor	New	14	10	$56	17%	0
Manufactured	Microwave	Microwave - Standard	Standard Microwave	Standard Microwave	Per Unit	Existing	0.00	10	$0.00	100%	0
Manufactured	Microwave	Microwave - Standard	Standard Microwave	Standard Microwave	Per Unit	New	0.00	10	$0.00	100%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Manufactured	Monitor	Monitor - Home Office ENERGY STAR	ENERGY STAR Office Monitor	Standard Office Monitor	Per Unit	Existing	14	5	$0.00	100%	0
Manufactured	Monitor	Monitor - Home Office ENERGY STAR	ENERGY STAR Office Monitor	Standard Office Monitor	Per Unit	New	14	5	$0.00	100%	0
Manufactured	Monitor	Monitor - Home Office Standard	Standard Office Monitor	Standard Office Monitor	Per Unit	Existing	0.00	5	$0.00	100%	0
Manufactured	Monitor	Monitor - Home Office Standard	Standard Office Monitor	Standard Office Monitor	Per Unit	New	0.00	5	$0.00	100%	0
Manufactured	Other Plug Load	DVD System - ENERGY STAR	ENERGY STAR DVD System	Standard DVD System	Per Unit	Existing	18	3	$0.99	100%	689
Manufactured	Other Plug Load	DVD System - ENERGY STAR	ENERGY STAR DVD System	Standard DVD System	Per Unit	New	18	3	$0.99	100%	48
Manufactured	Other Plug Load	DVD System - Standard	Standard DVD System	Standard DVD System	Per Unit	Existing	0.00	3	$0.00	100%	0
Manufactured	Other Plug Load	DVD System - Standard	Standard DVD System	Standard DVD System	Per Unit	New	0.00	3	$0.00	100%	0
Manufactured	Plug Load Other	Battery Chargers	Energy Star Battery Chargers	Standard Battery Chargers	Per Battary Charger	Existing	12	3	$4	36%	0
Manufactured	Plug Load Other	Battery Chargers	Energy Star Battery Chargers	Standard Battery Chargers	Per Battary Charger	New	12	3	$4	36%	0
Manufactured	Plug Load Other	Ceiling Fans	ENERGY STAR Ceiling Fans with Light Kit	Standard Ceiling Fan	Per Ceiling Fan	Existing	65	10	$119	51%	0
Manufactured	Plug Load Other	Ceiling Fans	ENERGY STAR Ceiling Fans with Light Kit	Standard Ceiling Fan	Per Ceiling Fan	New	65	10	$119	51%	0
Manufactured	Plug Load Other	Ceiling Fans	ENERGY STAR Ceiling Fans without Light Kit	Standard Ceiling Fan	Per Ceiling Fan	Existing	4.33	10	$1	51%	64
Manufactured	Plug Load Other	Ceiling Fans	ENERGY STAR Ceiling Fans without Light Kit	Standard Ceiling Fan	Per Ceiling Fan	New	4.33	10	$1	51%	4
Manufactured	Plug Load Other	Cordless Phone - ENERGY STAR	ENERGY STAR Cordless Phone	Standard Cordless Phone	Per Cordless Phone	Existing	25	5	$1	29%	219
Manufactured	Plug Load Other	Cordless Phone - ENERGY STAR	ENERGY STAR Cordless Phone	Standard Cordless Phone	Per Cordless Phone	New	25	5	$1	29%	15
Manufactured	Plug Load Other	Home Office - Server	ENERGY STAR Home Server	Standard Office Server	Per Home Server	Existing	24	4	$8	4%	0
Manufactured	Plug Load Other	Home Office - Server	ENERGY STAR Home Server	Standard Office Server	Per Home Server	New	24	4	$8	4%	0
Manufactured	Plug Load Other	Plug Load - Other	Plug Load Other	Plug Load Other	Per Household	Existing	0.00	5	$0.00	100%	0
Manufactured	Plug Load Other	Plug Load - Other	Plug Load Other	Plug Load Other	Per Household	New	0.00	5	$0.00	100%	0
Manufactured	Plug Load Other	Smart Strip	Smart Strip	Standard Power Strip	Per Smart Strip	Existing	100	5	$22	62%	1,804
Manufactured	Plug Load Other	Smart Strip	Smart Strip	Standard Power Strip	Per Smart Strip	New	100	5	$22	62%	123
Manufactured	Printer	Printer - Home Office ENERGY STAR	ENERGY STAR Office Printer	Standard Printer	Per Unit	Existing	32	5	$13	100%	0
Manufactured	Printer	Printer - Home Office ENERGY STAR	ENERGY STAR Office Printer	Standard Printer	Per Unit	New	32	5	$13	100%	0
Manufactured	Printer	Printer - Standard	Standard Printer	Standard Printer	Per Unit	Existing	0.00	5	$0.00	100%	0
Manufactured	Printer	Printer - Standard	Standard Printer	Standard Printer	Per Unit	New	0.00	5	$0.00	100%	0
Manufactured	Refrigerator	Refrigerator - Below Standard	Below Standard Refrigerator	Below Standard Refrigerator	Per Unit	Existing	0.00	7	$0.00	100%	0
Manufactured	Refrigerator	Refrigerator - Below Standard	Below Standard Refrigerator	Below Standard Refrigerator	Per Unit	New	0.00	7	$0.00	100%	0
Manufactured	Refrigerator	Refrigerator - CEE Tier 2	CEE Tier 2 Refrigerator	Standard Refrigerator - Federal Standard 2001	Per Unit	Existing	142	13	$429	100%	0
Manufactured	Refrigerator	Refrigerator - CEE Tier 2	CEE Tier 2 Refrigerator	Standard Refrigerator - Federal Standard 2001	Per Unit	New	142	13	$429	100%	0
Manufactured	Refrigerator	Refrigerator - CEE Tier 3	CEE Tier 3 Refrigerator	Standard Refrigerator - Federal Standard 2001	Per Unit	Existing	170	13	$580	100%	0
Manufactured	Refrigerator	Refrigerator - CEE Tier 3	CEE Tier 3 Refrigerator	Standard Refrigerator - Federal Standard 2001	Per Unit	New	170	13	$580	100%	0
Manufactured	Refrigerator	Refrigerator - ENERGY STAR	ENERGY STAR Refrigerator	Standard Refrigerator - Federal Standard 2001	Per Unit	Existing	113	13	$251	100%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Manufactured	Refrigerator	Refrigerator - ENERGY STAR	ENERGY STAR Refrigerator	Standard Refrigerator - Federal Standard 2001	Per Unit	New	113	13	$251	100%	0
Manufactured	Refrigerator	Refrigerator - Federal Standard September 2014	Federal Standard In 2014 (NAECA)	Standard Refrigerator - Federal Standard 2001	Per Unit	Existing	56	13	$124	100%	0
Manufactured	Refrigerator	Refrigerator - Federal Standard September 2014	Federal Standard In 2014 (NAECA)	Standard Refrigerator - Federal Standard 2001	Per Unit	New	56	13	$124	100%	0
Manufactured	Refrigerator	Refrigerator - Standard 2001	Standard Refrigerator - Federal Standard 2001	Standard Refrigerator - Federal Standard 2001	Per Unit	Existing	0.00	13	$0.00	100%	0
Manufactured	Refrigerator	Refrigerator - Standard 2001	Standard Refrigerator - Federal Standard 2001	Standard Refrigerator - Federal Standard 2001	Per Unit	New	0.00	13	$0.00	100%	0
Manufactured	Refrigerator	Removal of Secondary Refrigerator/Freezer	Proper Disposal of Refrigerator/Freezer Combo	Existing Non-Efficient Refrigerator/Freezer	Per Recyled Unit	Existing	1,140	5	$30	7%	2,585
Manufactured	Set Top Box	Digital Set Top Receiver - ENERGY STAR	ENERGY STAR Digital Set Top Receiver	Standard Digital Set Top Receiver	Per Unit	Existing	164	5	$12	100%	4,043
Manufactured	Set Top Box	Digital Set Top Receiver - ENERGY STAR	ENERGY STAR Digital Set Top Receiver	Standard Digital Set Top Receiver	Per Unit	New	164	5	$12	100%	309
Manufactured	Set Top Box	Digital Set Top Receiver - Standard	Standard Digital Set Top Receiver	Standard Digital Set Top Receiver	Per Unit	Existing	0.00	5	$0.00	100%	0
Manufactured	Set Top Box	Digital Set Top Receiver - Standard	Standard Digital Set Top Receiver	Standard Digital Set Top Receiver	Per Unit	New	0.00	5	$0.00	100%	0
Manufactured	Television	TV - ENERGY STAR	ENERGY STAR TV	Standard TV	Per Unit	Existing	118	5	$55	100%	0
Manufactured	Television	TV - ENERGY STAR	ENERGY STAR TV	Standard TV	Per Unit	New	118	5	$55	100%	0
Manufactured	Television	TV - Standard	Standard TV	Standard TV	Per Unit	Existing	0.00	5	$0.00	100%	0
Manufactured	Television	TV - Standard	Standard TV	Standard TV	Per Unit	New	0.00	5	$0.00	100%	0
Manufactured	Ventilation And Circulation	ECM Motor - Air Conditioner/Electric/Gas Furnace ECM Fan	Air Conditioner/Electric/Gas Furnace ECM Fan	Standard Motor	Per ECM	Existing	394	15	$200	62%	7,195
Manufactured	Ventilation And Circulation	ECM Motor - Air Conditioner/Electric/Gas Furnace ECM Fan	Air Conditioner/Electric/Gas Furnace ECM Fan	Standard Motor	Per ECM	New	338	15	$200	90%	628
Manufactured	Ventilation And Circulation	Motor - Standard	Standard Motor - Ventilation And Circulation	Standard Motor	Per Household	Existing	0.00	20	$0.00	100%	0
Manufactured	Ventilation And Circulation	Motor - Standard	Standard Motor - Ventilation And Circulation	Standard Motor	Per Household	New	0.00	20	$0.00	100%	0
Manufactured	Water Heat	Clothes Washer	Clothes Washer Enhanced Efficiency MEF = 3.10 and WF = 3.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	600	11	$789	83%	0
Manufactured	Water Heat	Clothes Washer	Clothes Washer Enhanced Efficiency MEF = 3.10 and WF = 3.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	600	11	$789	83%	0
Manufactured	Water Heat	Clothes Washer	Clothes Washer CEE Tier 2 MEF = 2.2 and WF = 4.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	432	11	$391	83%	0
Manufactured	Water Heat	Clothes Washer	Clothes Washer CEE Tier 2 MEF = 2.2 and WF = 4.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	432	11	$391	83%	0
Manufactured	Water Heat	Clothes Washer	Clothes Washer CEE Tier 3 MEF = 2.4 and WF = 4.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	480	11	$565	80%	0
Manufactured	Water Heat	Clothes Washer	Clothes Washer CEE Tier 3 MEF = 2.4 and WF = 4.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	480	11	$565	80%	0
Manufactured	Water Heat	Clothes Washer	Clothes Washer ENERGY STAR MEF = 2.0 and WF = 6.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	374	11	$134	81%	3,123
Manufactured	Water Heat	Clothes Washer	Clothes Washer ENERGY STAR MEF = 2.0 and WF = 6.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	374	11	$134	81%	179

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Manufactured	Water Heat	Clothes Washer	Steam Clothes Washer	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	600	11	$789	83%	0
Manufactured	Water Heat	Clothes Washer	Steam Clothes Washer	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	600	11	$789	83%	0
Manufactured	Water Heat	Desuperheaters - Air Conditioner	Add-on Desuperheaters to Air Conditioner	No Desuperheater	Per Desuperheater	Existing	325	10	$600	57%	0
Manufactured	Water Heat	Desuperheaters - Air Source Heat Pump	Add-on Desuperheaters to Air Source Heat Pump	No Desuperheater	Per Desuperheater	Existing	650	10	$600	0%	0
Manufactured	Water Heat	Desuperheaters - Ground Source Heat Pump	Add-on Desuperheaters to Ground Source Heat Pump	No Desuperheater	Per Desuperheater	Existing	650	10	$600	0%	0
Manufactured	Water Heat	Dishwasher	Dishwasher Enhanced Efficiency (EF 1.00) 200 kWh/yr and 4.00 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle	Per Dishwasher	Existing	155	11	$1,067	47%	0
Manufactured	Water Heat	Dishwasher	Dishwasher Enhanced Efficiency (EF 1.00) 200 kWh/yr and 4.00 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle	Per Dishwasher	New	155	11	$1,067	47%	0
Manufactured	Water Heat	Dishwasher	ENERGY STAR 295 kWh/yr and 4.25 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle	Per Dishwasher	Existing	60	11	$272	16%	0
Manufactured	Water Heat	Dishwasher	ENERGY STAR 295 kWh/yr and 4.25 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle	Per Dishwasher	New	60	11	$272	16%	0
Manufactured	Water Heat	Drain-Water Heat Recovery	Drain-Water Heat Recovery	No Drain Water Heat Recovery	Per Drain-Water Heat Recovery System	Existing	760	40	$935	19%	1,152
Manufactured	Water Heat	Drain-Water Heat Recovery	Drain-Water Heat Recovery	No Drain Water Heat Recovery	Per Drain-Water Heat Recovery System	New	716	40	$935	71%	237
Manufactured	Water Heat	Faucet Aerators	0.5 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	Existing	122	10	$1	85%	1,075
Manufactured	Water Heat	Faucet Aerators	0.5 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	New	116	10	$1	90%	62
Manufactured	Water Heat	Faucet Aerators	1.5 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	Existing	50	10	$1	26%	7
Manufactured	Water Heat	Faucet Aerators	1.5 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	New	47	10	$1	28%	0
Manufactured	Water Heat	Faucet Aerators	2.0 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	Existing	14	10	$0.53	14%	0
Manufactured	Water Heat	Faucet Aerators	2.0 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	New	13	10	$0.53	15%	0
Manufactured	Water Heat	Faucet Aerators	2.2 GPM (Federal Code)	Existing Faucet Aerator GPM	Per Faucet Aerator	Existing	57	10	$3	9%	54
Manufactured	Water Heat	Low-Flow Showerheads	1.5 GPM - Showerhead	2.5 GPM (Federal Code)	Per Showerhead	Existing	287	10	$8	80%	2,390
Manufactured	Water Heat	Low-Flow Showerheads	1.5 GPM - Showerhead	2.5 GPM (Federal Code)	Per Showerhead	New	273	10	$8	80%	131
Manufactured	Water Heat	Low-Flow Showerheads	2.0 GPM - Showerhead	2.5 GPM (Federal Code)	Per Showerhead	Existing	143	10	$13	38%	29
Manufactured	Water Heat	Low-Flow Showerheads	2.0 GPM - Showerhead	2.5 GPM (Federal Code)	Per Showerhead	New	136	10	$13	38%	2
Manufactured	Water Heat	Low-Flow Showerheads	2.5 GPM (Federal Code)	Existing Showerhead GPM	Per Showerhead	Existing	143	10	$24	23%	347
Manufactured	Water Heat	Solar Hot Water (SHW)	Solar Thermal Collector	Standard Storage Hot Water Heater	Per Solar Water System	Existing	1,625	15	$6,238	15%	0
Manufactured	Water Heat	Solar Hot Water (SHW)	Solar Thermal Collector	Standard Storage Hot Water Heater	Per Solar Water System	New	1,529	15	$4,878	15%	0
Manufactured	Water Heat	Water Heater - Below Standard	EF = 0.88 Below Standard Water Heater	EF = 0.88 Below Standard Water Heater	Per Unit	Existing	0.00	7	$0.00	100%	0
Manufactured	Water Heat	Water Heater - Below Standard	EF = 0.88 Below Standard Water Heater	EF = 0.88 Below Standard Water Heater	Per Unit	New	0.00	7	$0.00	100%	0
Manufactured	Water Heat	Water Heater - Heat Pump	Heat Pump Water Heater ENERGY STAR EF = 2.0	EF = 0.92 Federal Standard 2001	Per Unit	Existing	1,742	13	$1,281	60%	6,183
Manufactured	Water Heat	Water Heater - Heat Pump	Heat Pump Water Heater ENERGY STAR EF = 2.0	EF = 0.92 Federal Standard 2001	Per Unit	New	1,659	13	$1,281	60%	547
Manufactured	Water Heat	Water Heater - Pipe Insulation	Hot Water Pipe Insulation (R-4)	No Pipe Insulation	Per Pipe Insulation	Existing	69	13	$6	14%	89
Manufactured	Water Heat	Water Heater - Pipe Insulation	Hot Water Pipe Insulation (R-4)	No Pipe Insulation	Per Pipe Insulation	New	69	13	$6	20%	7
Manufactured	Water Heat	Water Heater - Storage 2001 Standard	EF = 0.92 Federal Standard 2001	EF = 0.92 Federal Standard 2001	Per Unit	Existing	0.00	13	$0.00	100%	0
Manufactured	Water Heat	Water Heater - Storage 2001 Standard	EF = 0.92 Federal Standard 2001	EF = 0.92 Federal Standard 2001	Per Unit	New	0.00	13	$0.00	100%	0
Manufactured	Water Heat	Water Heater - Storage 2015 Standard	Water Heater - Storage Federal Standard April 2015 EF = 0.95	EF = 0.92 Federal Standard 2001	Per Unit	Existing	104	13	$43	100%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Manufactured	Water Heat	Water Heater - Storage 2015 Standard	Water Heater - Storage Federal Standard April 2015 EF = 0.95	EF = 0.92 Federal Standard 2001	Per Unit	New	99	13	$43	100%	0
Manufactured	Water Heat	Water Heater - Tank Blanket/Insulation	Install Insulation (R-11)	No Tank Insulation	Per Tank Wrap	Existing	211	13	$17	17%	333
Manufactured	Water Heat	Water Heater - Tankless	Tankless EF= 0.98	EF = 0.92 Federal Standard 2001	Per Unit	Existing	206	20	$260	0%	0
Manufactured	Water Heat	Water Heater - Tankless	Tankless EF= 0.98	EF = 0.92 Federal Standard 2001	Per Unit	New	196	20	$260	0%	0
Manufactured	Water Heat	Water Heater - Thermostat Setback	120 Degrees	135 Degrees	Per Set-Back	Existing	621	4	$10	5%	288
Manufactured	Water Heat	Water Heater - Thermostat Setback	120 Degrees	135 Degrees	Per Set-Back	New	584	4	$10	5%	16
Multi Family	Computer	Computer - Home Office ENERGY STAR	ENERGY STAR Office Computer	Standard Office Computer	Per Unit	Existing	76	4	$8	100%	1,640
Multi Family	Computer	Computer - Home Office ENERGY STAR	ENERGY STAR Office Computer	Standard Office Computer	Per Unit	New	76	4	$8	100%	118
Multi Family	Computer	Computer - Home Office Standard	Standard Office Computer	Standard Office Computer	Per Unit	Existing	0.00	4	$0.00	100%	0
Multi Family	Computer	Computer - Home Office Standard	Standard Office Computer	Standard Office Computer	Per Unit	New	0.00	4	$0.00	100%	0
Multi Family	Cooking Oven	Oven - Convection	Convection Oven	Standard Oven	Per Unit	Existing	102	19	$176	100%	0
Multi Family	Cooking Oven	Oven - Convection	Convection Oven	Standard Oven	Per Unit	New	102	19	$176	100%	0
Multi Family	Cooking Oven	Oven - Standard	Standard Oven	Standard Oven	Per Unit	Existing	0.00	19	$0.00	100%	0
Multi Family	Cooking Oven	Oven - Standard	Standard Oven	Standard Oven	Per Unit	New	0.00	19	$0.00	100%	0
Multi Family	Cooking Range	Cooking Range - Standard	Standard Cooking Range	Standard Cooking Range	Per Unit	Existing	0.00	19	$0.00	100%	0
Multi Family	Cooking Range	Cooking Range - Standard	Standard Cooking Range	Standard Cooking Range	Per Unit	New	0.00	19	$0.00	100%	0
Multi Family	Cool Central	Attic Fan	Attic Fan For Summer Cooling	No Attic Fan with Central Cooling	Per Attic Fan	Existing	71	19	$249	82%	1,330
Multi Family	Cool Central	Central Air Conditioners - Below Standard	Below Standard SEER 10	Below Standard SEER 10	Per Household	Existing	0.00	8	$0.00	100%	0
Multi Family	Cool Central	Central Air Conditioners - Below Standard	Below Standard SEER 10	Below Standard SEER 10	Per Household	New	0.00	8	$0.00	100%	0
Multi Family	Cool Central	Central Air Conditioners - CEE Tier 2	CEE Tier 2 SEER/EER 15/12.5 (Split System)	Federal Standard 13 SEER	Per Household	Existing	160	15	$476	100%	0
Multi Family	Cool Central	Central Air Conditioners - CEE Tier 2	CEE Tier 2 SEER/EER 15/12.5 (Split System)	Federal Standard 13 SEER	Per Household	New	109	15	$476	100%	0
Multi Family	Cool Central	Central Air Conditioners - CEE Tier 3	CEE Tier 3 SEER/EER 16/13 (Split System)	Federal Standard 13 SEER	Per Household	Existing	225	15	$714	100%	2,924
Multi Family	Cool Central	Central Air Conditioners - CEE Tier 3	CEE Tier 3 SEER/EER 16/13 (Split System)	Federal Standard 13 SEER	Per Household	New	153	15	$714	100%	0
Multi Family	Cool Central	Central Air Conditioners - ENERGY STAR	ENERGY STAR SEER/EER 14.5/12 (Split System)	Federal Standard 13 SEER	Per Household	Existing	124	15	$357	100%	0
Multi Family	Cool Central	Central Air Conditioners - ENERGY STAR	ENERGY STAR SEER/EER 14.5/12 (Split System)	Federal Standard 13 SEER	Per Household	New	84	15	$357	100%	0
Multi Family	Cool Central	Central Air Conditioners - Enhanced	Enhanced SEER/EER 18/14 (Split System)	Federal Standard 13 SEER	Per Household	Existing	333	15	$1,192	100%	0
Multi Family	Cool Central	Central Air Conditioners - Enhanced	Enhanced SEER/EER 18/14 (Split System)	Federal Standard 13 SEER	Per Household	New	228	15	$1,192	100%	0
Multi Family	Cool Central	Central Air Conditioners - Standard	Federal Standard SEER 13	Federal Standard 13 SEER	Per Household	Existing	0.00	15	$0.00	100%	0
Multi Family	Cool Central	Central Air Conditioners - Standard	Federal Standard SEER 13	Federal Standard 13 SEER	Per Household	New	0.00	15	$0.00	100%	0
Multi Family	Cool Central	Cool Roofs	Lighter Colored Shingles (White)	Standard Roof Shingles	Per Roof SqFT	Existing	0.33	20	$0.25	21%	0
Multi Family	Cool Central	Cool Roofs	Lighter Colored Shingles (White)	Standard Roof Shingles	Per Roof SqFT	New	0.21	20	$0.25	21%	0
Multi Family	Cool Central	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	0.34	20	$0.92	32%	50
Multi Family	Cool Central	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	New	0.24	20	$0.92	32%	3
Multi Family	Cool Central	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	0.61	20	$3	40%	110
Multi Family	Cool Central	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	New	0.44	20	$3	40%	6

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Multi Family	Cool Central	Duct Sealing	4 CFM/100sqft of CFA	8 CFM/100sqft of CFA	Per Duct Sealing Installation	New	40	18	$333	54%	0
Multi Family	Cool Central	Duct Sealing	4 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	192	18	$960	24%	867
Multi Family	Cool Central	Duct Sealing	8 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	128	18	$587	54%	1,390
Multi Family	Cool Central	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof sqft	New	0.08	30	$13	88%	0
Multi Family	Cool Central	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	Existing	128	11	$611	15%	0
Multi Family	Cool Central	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	New	53	11	$611	20%	0
Multi Family	Cool Central	Infiltration Reduction	4.0 ACH50	7.0 ACH50	Per Building SqFt	New	0.05	11	$0.25	42%	42
Multi Family	Cool Central	Infiltration Reduction	4.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.17	11	$0.44	19%	766
Multi Family	Cool Central	Infiltration Reduction	7.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.08	11	$0.19	63%	1,265
Multi Family	Cool Central	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-38 (To Code Zone 5)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.08	20	$0.99	9%	120
Multi Family	Cool Central	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (To Code Zone 6)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.09	20	$1	9%	140
Multi Family	Cool Central	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	Existing	0.01	20	$0.25	16%	0
Multi Family	Cool Central	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	New	0.00	20	$0.25	16%	0
Multi Family	Cool Central	Insulation - Basement Wall	Insulation Basement Wall (R-10 Zone 5)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.00	20	$1	7%	0
Multi Family	Cool Central	Insulation - Basement Wall	Insulation Basement Wall (R-15 Zone 6)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.00	20	$1	14%	0
Multi Family	Cool Central	Insulation - Duct	Insulation Duct (R-8)	No Duct Insulation	Per Duct Insulation Installation	Existing	40	20	$375	71%	0
Multi Family	Cool Central	Insulation - Floor	Insulation Floor (R-30)	Average Existing Insulation (R-1.8)	Per Insulated SqFt	Existing	0.00	20	$0.90	57%	0
Multi Family	Cool Central	Insulation - Rim/Band Joist	Insulation Rim and Band Joist (R-10)	No Rim And Band Joist Insulation	Per Insulated SqFt	Existing	0.14	20	$1	8%	27
Multi Family	Cool Central	Insulation - Siding	Vinyl Siding with Foam Backing (R-3)	No Siding Insulation	Per Insulated SqFt	Existing	0.12	20	$0.51	14%	176
Multi Family	Cool Central	Insulation - Slab	Insulation Slab (R-15, 4ft)	Code Insulation (R-10, 4ft)	Per Insulated SqFt	New	0.00	20	$0.44	26%	0
Multi Family	Cool Central	Insulation - Wall	Insulation Wall (R-13)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.24	20	$1	3%	56
Multi Family	Cool Central	Insulation - Wall	Insulation Wall (R-20 or R-13 w/ R-5 sheathing) (To Code)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.28	20	$1	1%	22
Multi Family	Cool Central	Insulation - Wall	Insulation Wall (R-21 + R-5 sheathing)	Code Insulation (R-20 or R-13 w/ R-5 sheathing)	Per Insulated SqFt	New	0.01	20	$0.16	90%	11
Multi Family	Cool Central	Quality Install CAC	Quality Installation (QI)	Standard Installation	Per QI Install	Existing	134	5	$300	45%	0
Multi Family	Cool Central	Quality Install CAC	Quality Installation (QI)	Standard Installation	Per QI Install	New	85	5	$300	45%	0
Multi Family	Cool Central	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	Existing	130	30	$675	49%	1,096
Multi Family	Cool Central	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	New	83	30	$480	82%	120
Multi Family	Cool Central	Solar Attic Fan	Solar Electric Attic Ventilation	Standard Passive Ventilation	Per Solar Fan	Existing	76	19	$331	10%	173
Multi Family	Cool Central	Solar Attic Fan	Solar Electric Attic Ventilation	Standard Passive Ventilation	Per Solar Fan	New	48	19	$331	10%	0
Multi Family	Cool Central	Thermostat - Multi-Zone	Individual Room Temperature Control for Major Occupied Rooms	Programmable Thermostat - Central Control Only	Per Programmable Control System	New	55	11	$895	62%	0
Multi Family	Cool Central	Thermostat - Programmable	Setback Thermostat 5-1-1, 5-2 or 7-Day	Manual Thermostat	Per Programmable Control	Existing	44	15	$33	48%	265
Multi Family	Cool Central	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	Existing	44	15	$167	50%	460
Multi Family	Cool Central	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	New	28	15	$167	62%	32
Multi Family	Cool Central	Tune-up - Air Conditioner	Air Conditioner Maintenance (Tune-up)	Unmaintained Air Conditioner	Per Tune-up	Existing	96	5	$200	71%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Multi Family	Cool Central	Whole-House Fan	Whole-House Fan to Offset Central Cooling	No Whole-House Fan	Per House Fan	Existing	192	20	$366	10%	422
Multi Family	Cool Central	Whole-House Fan	Whole-House Fan to Offset Central Cooling	No Whole-House Fan	Per House Fan	New	122	20	$366	10%	22
Multi Family	Cool Central	Window - Film	Window Film (SHGC Reduction=45%)	No Window Film	Per Window SqFt	Existing	0.95	10	$4	76%	0
Multi Family	Cool Central	Window - Shade	Window Shade/Blind or Thermal Drapes	No Interior Shading Device	Per Window SqFt	Existing	0.63	3	$7	38%	0
Multi Family	Cool Central	Window - Upgrade	Code Window U-Factor = 0.35 (2009 IECC)	Existing Windows U-Factor	Per Window SqFt	Existing	0.45	20	$19	24%	0
Multi Family	Cool Central	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	0.12	20	$3	73%	0
Multi Family	Cool Central	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	0.09	20	$3	82%	0
Multi Family	Cool Central	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	0.32	20	$28	61%	0
Multi Family	Cool Central	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	0.23	20	$28	68%	0
Multi Family	Cool Room	Cool Roofs	Lighter Colored Shingles (White)	Standard Roof Shingles	Per Roof SqFT	Existing	0.06	20	$0.25	21%	0
Multi Family	Cool Room	Cool Roofs	Lighter Colored Shingles (White)	Standard Roof Shingles	Per Roof SqFT	New	0.06	20	$0.25	21%	0
Multi Family	Cool Room	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	0.09	20	$0.92	32%	4
Multi Family	Cool Room	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	New	0.08	20	$0.92	32%	0
Multi Family	Cool Room	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	0.17	20	$3	40%	9
Multi Family	Cool Room	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	New	0.15	20	$3	40%	1
Multi Family	Cool Room	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof sqft	New	0.01	30	$13	88%	0
Multi Family	Cool Room	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	Existing	36	11	$611	15%	0
Multi Family	Cool Room	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	New	23	11	$611	20%	0
Multi Family	Cool Room	Infiltration Reduction	4.0 ACH50	7.0 ACH50	Per Building SqFt	New	0.02	11	$0.25	42%	0
Multi Family	Cool Room	Infiltration Reduction	4.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.04	11	$0.44	19%	61
Multi Family	Cool Room	Infiltration Reduction	7.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.02	11	$0.19	63%	101
Multi Family	Cool Room	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-38 (To Code Zone 5)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.02	20	$0.99	9%	0
Multi Family	Cool Room	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (To Code Zone 6)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.02	20	$1	9%	0
Multi Family	Cool Room	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	Existing	0.00	20	$0.25	16%	0
Multi Family	Cool Room	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	New	0.00	20	$0.25	16%	0
Multi Family	Cool Room	Insulation - Basement Wall	Insulation Basement Wall (R-10 Zone 5)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.00	20	$1	7%	0
Multi Family	Cool Room	Insulation - Basement Wall	Insulation Basement Wall (R-15 Zone 6)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.00	20	$1	14%	0
Multi Family	Cool Room	Insulation - Floor	Insulation Floor (R-30)	Average Existing Insulation (R-1.8)	Per Insulated SqFt	Existing	0.00	20	$0.90	57%	0
Multi Family	Cool Room	Insulation - Rim/Band Joist	Insulation Rim and Band Joist (R-10)	No Rim And Band Joist Insulation	Per Insulated SqFt	Existing	0.03	20	$1	8%	2
Multi Family	Cool Room	Insulation - Siding	Vinyl Siding with Foam Backing (R-3)	No Siding Insulation	Per Insulated SqFt	Existing	0.03	20	$0.51	14%	14
Multi Family	Cool Room	Insulation - Slab	Insulation Slab (R-15, 4ft)	Code Insulation (R-10, 4ft)	Per Insulated SqFt	New	0.00	20	$0.44	26%	0
Multi Family	Cool Room	Insulation - Wall	Insulation Wall (R-13)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.06	20	$1	3%	4
Multi Family	Cool Room	Insulation - Wall	Insulation Wall (R-20 or R-13 w/ R-5 sheathing) (To Code)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.07	20	$1	1%	2
Multi Family	Cool Room	Insulation - Wall	Insulation Wall (R-21 + R-5 sheathing)	Code Insulation (R-20 or R-13 w/ R-5 sheathing)	Per Insulated SqFt	New	0.00	20	$0.16	90%	1
Multi Family	Cool Room	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	Existing	37	30	$675	49%	0
Multi Family	Cool Room	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	New	37	30	$480	82%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Multi Family	Cool Room	Removal of Secondary Window Air Conditioner Unit	Proper Disposal of Window Air Conditioner Unit	Existing Non-Efficient Window Air Conditioner Unit	Per Recyled Unit	Existing	378	3	$30	20%	618
Multi Family	Cool Room	Room AC - Below Standard	Below Standard 7.7 EER; 8,000-13,999 Btu	Below Standard 7.7 EER; 8,000-13,999 Btu	Per Unit	Existing	0.00	5	$0.00	100%	0
Multi Family	Cool Room	Room AC - Below Standard	Below Standard 7.7 EER; 8,000-13,999 Btu	Below Standard 7.7 EER; 8,000-13,999 Btu	Per Unit	New	0.00	5	$0.00	100%	0
Multi Family	Cool Room	Room AC - CEE Tier 1	CEE TIER 1 = 11.3 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Unit	Existing	39	9	$308	100%	0
Multi Family	Cool Room	Room AC - CEE Tier 1	CEE TIER 1 = 11.3 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Unit	New	39	9	$308	100%	0
Multi Family	Cool Room	Room AC - CEE Tier 2	CEE TIER 2 = 11.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Unit	Existing	50	9	$575	100%	0
Multi Family	Cool Room	Room AC - CEE Tier 2	CEE TIER 2 = 11.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Unit	New	50	9	$575	100%	0
Multi Family	Cool Room	Room AC - ENERGY STAR	ENERGY STAR = 10.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Unit	Existing	27	9	$41	100%	169
Multi Family	Cool Room	Room AC - ENERGY STAR	ENERGY STAR = 10.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Unit	New	27	9	$41	100%	19
Multi Family	Cool Room	Room AC - Standard	Federal Standard 9.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Unit	Existing	0.00	9	$0.00	100%	0
Multi Family	Cool Room	Room AC - Standard	Federal Standard 9.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Unit	New	0.00	9	$0.00	100%	0
Multi Family	Cool Room	Window - Film	Window Film (SHGC Reduction=45%)	No Window Film	Per Window SqFt	Existing	0.27	10	$4	76%	0
Multi Family	Cool Room	Window - Shade	Window Shade/Blind or Thermal Drapes	No Interior Shading Device	Per Window SqFt	Existing	0.18	3	$7	38%	0
Multi Family	Cool Room	Window - Upgrade	Code Window U-Factor = 0.35 (2009 IECC)	Existing Windows U-Factor	Per Window SqFt	Existing	0.12	20	$19	24%	0
Multi Family	Cool Room	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	0.03	20	$3	73%	0
Multi Family	Cool Room	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	0.03	20	$3	82%	0
Multi Family	Cool Room	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	0.09	20	$28	61%	0
Multi Family	Cool Room	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	0.08	20	$28	68%	0
Multi Family	Copier	Copier - Standard	Standard Copier	Standard Copier	Per Unit	Existing	0.00	6	$0.00	100%	0
Multi Family	Copier	Copier - Standard	Standard Copier	Standard Copier	Per Unit	New	0.00	6	$0.00	100%	0
Multi Family	Copier	Copiers - Home Office ENERGY STAR	ENERGY STAR Office Copiers	Standard Copier	Per Unit	Existing	73	6	$1,505	100%	0
Multi Family	Copier	Copiers - Home Office ENERGY STAR	ENERGY STAR Office Copiers	Standard Copier	Per Unit	New	73	6	$1,505	100%	0
Multi Family	Dehumidifier	Dehumidifier - Standard	Standard Dehumidifier	Standard Dehumidifier	Per Unit	Existing	0.00	12	$0.00	100%	0
Multi Family	Dehumidifier	Dehumidifier - Standard	Standard Dehumidifier	Standard Dehumidifier	Per Unit	New	0.00	12	$0.00	100%	0
Multi Family	Dehumidifier	Dehumidifiers - ENERGY STAR	ENERGY STAR Dehumidifiers	Standard Dehumidifier	Per Unit	Existing	117	12	$34	100%	1,164
Multi Family	Dehumidifier	Dehumidifiers - ENERGY STAR	ENERGY STAR Dehumidifiers	Standard Dehumidifier	Per Unit	New	117	12	$34	100%	137
Multi Family	Dryer	Clothes Dryer - Moisture Sensor	Clothes Dryer w/ Moisture Sensor	Standard Dryer without Moisture Sensor	Per Unit	Existing	107	11	$137	100%	0
Multi Family	Dryer	Clothes Dryer - Moisture Sensor	Clothes Dryer w/ Moisture Sensor	Standard Dryer without Moisture Sensor	Per Unit	New	107	11	$137	100%	0
Multi Family	Dryer	Clothes Dryer - Standard without Moisture Sensor	Standard Dryer without Moisture Sensor	Standard Dryer without Moisture Sensor	Per Unit	Existing	0.00	11	$0.00	100%	0
Multi Family	Dryer	Clothes Dryer - Standard without Moisture Sensor	Standard Dryer without Moisture Sensor	Standard Dryer without Moisture Sensor	Per Unit	New	0.00	11	$0.00	100%	0
Multi Family	Dryer	Clothes Dryer - Steam	Steam Clothes Dryer	Standard Dryer without Moisture Sensor	Per Unit	Existing	107	11	$372	98%	0
Multi Family	Dryer	Clothes Dryer - Steam	Steam Clothes Dryer	Standard Dryer without Moisture Sensor	Per Unit	New	107	11	$372	98%	0
Multi Family	Freezer	Freezer - Below Standard	Below Standard Freezer	Below Standard Freezer	Per Unit	Existing	0.00	6	$0.00	100%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Multi Family	Freezer	Freezer - Below Standard	Below Standard Freezer	Below Standard Freezer	Per Unit	New	0.00	6	$0.00	100%	0
Multi Family	Freezer	Freezer - ENERGY STAR	ENERGY STAR Freezer	Standard Freezer - Federal Standard 2001	Per Unit	Existing	55	12	$75	100%	0
Multi Family	Freezer	Freezer - ENERGY STAR	ENERGY STAR Freezer	Standard Freezer - Federal Standard 2001	Per Unit	New	55	12	$75	100%	0
Multi Family	Freezer	Freezer - Federal Standard September 2014	Standard Freezer - Federal Standard 2014 (NAECA)	Standard Freezer - Federal Standard 2001	Per Unit	Existing	159	12	$214	100%	0
Multi Family	Freezer	Freezer - Federal Standard September 2014	Standard Freezer - Federal Standard 2014 (NAECA)	Standard Freezer - Federal Standard 2001	Per Unit	New	159	12	$214	100%	0
Multi Family	Freezer	Freezer - Standard 2001	Standard Freezer - Federal Standard 2001	Standard Freezer - Federal Standard 2001	Per Unit	Existing	0.00	12	$0.00	100%	0
Multi Family	Freezer	Freezer - Standard 2001	Standard Freezer - Federal Standard 2001	Standard Freezer - Federal Standard 2001	Per Unit	New	0.00	12	$0.00	100%	0
Multi Family	Freezer	Removal of Secondary Stand-Alone Freezer	Proper Disposal of Stand-Alone Freezer	Existing Non-Efficient Stand-Alone Freezer	Per Recyled Unit	Existing	916	5	$30	10%	564
Multi Family	Heat Central	Central Heat - Standard	Standard Central Heat	Standard Central Heat	Per Household	Existing	0.00	10	$0.00	100%	0
Multi Family	Heat Central	Central Heat - Standard	Standard Central Heat	Standard Central Heat	Per Household	New	0.00	10	$0.00	100%	0
Multi Family	Heat Central	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	6.17	20	$0.92	32%	245
Multi Family	Heat Central	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	New	6.17	20	$0.92	32%	17
Multi Family	Heat Central	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	11	20	$3	40%	495
Multi Family	Heat Central	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	New	11	20	$3	40%	37
Multi Family	Heat Central	Duct Sealing	4 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	1,284	18	$960	18%	899
Multi Family	Heat Central	Duct Sealing	8 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	856	18	$587	25%	861
Multi Family	Heat Central	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof sqft	New	0.15	30	$13	88%	0
Multi Family	Heat Central	Heat Exchanger - Air-to-Air	Air-to-Air Heat Exchanger	No Air-to-Air Heat Exchanger	Per Heat Exchanger	Existing	1,712	18	$1,085	56%	5,031
Multi Family	Heat Central	Heat Exchanger - Air-to-Air	Air-to-Air Heat Exchanger	No Air-to-Air Heat Exchanger	Per Heat Exchanger	New	1,191	18	$1,085	56%	0
Multi Family	Heat Central	Heat Pump - Ductless Mini-Split	ENERGY STAR 14.5 SEER, 8.2 HSPF	Electric Baseboard Heating	Per Ductless Heat Pump	Existing	2,603	15	$2,727	38%	0
Multi Family	Heat Central	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	Existing	856	11	$611	15%	0
Multi Family	Heat Central	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	New	387	11	$611	20%	0
Multi Family	Heat Central	Infiltration Reduction	4.0 ACH50	7.0 ACH50	Per Building SqFt	New	0.39	11	$0.25	42%	0
Multi Family	Heat Central	Infiltration Reduction	4.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	1.13	11	$0.44	19%	1,017
Multi Family	Heat Central	Infiltration Reduction	7.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.56	11	$0.19	63%	2,125
Multi Family	Heat Central	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-38 (To Code Zone 5)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	1.45	20	$0.99	9%	695
Multi Family	Heat Central	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (To Code Zone 6)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	1.70	20	$1	9%	654
Multi Family	Heat Central	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	Existing	0.24	20	$0.25	16%	0
Multi Family	Heat Central	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	New	0.24	20	$0.25	16%	0
Multi Family	Heat Central	Insulation - Basement Wall	Insulation Basement Wall (R-10 Zone 5)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	4.24	20	$1	7%	896

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Multi Family	Heat Central	Insulation - Basement Wall	Insulation Basement Wall (R-15 Zone 6)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	4.93	20	$1	14%	2,213
Multi Family	Heat Central	Insulation - Duct	Insulation Duct (R-8)	No Duct Insulation	Per Duct Insulation Installation	Existing	363	20	$375	71%	0
Multi Family	Heat Central	Insulation - Floor	Insulation Floor (R-30)	Average Existing Insulation (R-1.8)	Per Insulated SqFt	Existing	1.24	20	$0.90	57%	3,122
Multi Family	Heat Central	Insulation - Rim/Band Joist	Insulation Rim and Band Joist (R-10)	No Rim And Band Joist Insulation	Per Insulated SqFt	Existing	2.53	20	$1	8%	143
Multi Family	Heat Central	Insulation - Siding	Vinyl Siding with Foam Backing (R-3)	No Siding Insulation	Per Insulated SqFt	Existing	2.20	20	$0.51	14%	852
Multi Family	Heat Central	Insulation - Slab	Insulation Slab (R-15, 4ft)	Code Insulation (R-10, 4ft)	Per Insulated SqFt	New	0.79	20	$0.44	26%	81
Multi Family	Heat Central	Insulation - Wall	Insulation Wall (R-13)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	4.37	20	$1	3%	259
Multi Family	Heat Central	Insulation - Wall	Insulation Wall (R-20 or R-13 w/ R-5 sheathing) (To Code)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	5.12	20	$1	1%	101
Multi Family	Heat Central	Insulation - Wall	Insulation Wall (R-21 + R-5 sheathing)	Code Insulation (R-20 or R-13 w/ R-5 sheathing)	Per Insulated SqFt	New	0.36	20	$0.16	90%	65
Multi Family	Heat Central	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	Existing	171	30	$675	49%	0
Multi Family	Heat Central	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	New	119	30	$480	82%	0
Multi Family	Heat Central	Thermostat - Multi-Zone	Individual Room Temperature Control for Major Occupied Rooms	Programmable Thermostat - Central Control Only	Per Programmable Control System	New	405	11	$895	62%	0
Multi Family	Heat Central	Thermostat - Programmable	Setback Thermostat 5-1-1, 5-2 or 7-Day	Manual Thermostat	Per Programmable Control	Existing	299	15	$33	48%	480
Multi Family	Heat Central	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	Existing	300	15	$167	50%	611
Multi Family	Heat Central	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	New	209	15	$167	62%	0
Multi Family	Heat Central	Window - Upgrade	Code Window U-Factor = 0.35 (2009 IECC)	Existing Windows U-Factor	Per Window SqFt	Existing	8.14	20	$19	24%	0
Multi Family	Heat Central	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	2.26	20	$3	73%	0
Multi Family	Heat Central	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	2.26	20	$3	82%	0
Multi Family	Heat Central	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	5.88	20	$28	61%	0
Multi Family	Heat Central	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	5.88	20	$28	68%	0
Multi Family	Heat Pump	Attic Fan	Attic Fan For Summer Cooling	No Attic Fan with Central Cooling	Per Attic Fan	Existing	67	19	$249	82%	0
Multi Family	Heat Pump	Cool Roofs	Lighter Colored Shingles (White)	Standard Roof Shingles	Per Roof SqFT	Existing	0.06	20	$0.25	21%	0
Multi Family	Heat Pump	Cool Roofs	Lighter Colored Shingles (White)	Standard Roof Shingles	Per Roof SqFT	New	0.04	20	$0.25	21%	0
Multi Family	Heat Pump	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	3.27	20	$0.92	32%	0
Multi Family	Heat Pump	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	New	2.81	20	$0.92	32%	0
Multi Family	Heat Pump	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	5.87	20	$3	40%	0
Multi Family	Heat Pump	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	New	5.05	20	$3	40%	0
Multi Family	Heat Pump	Duct Sealing	4 CFM/100sqft of CFA	8 CFM/100sqft of CFA	Per Duct Sealing Installation	New	307	18	$333	54%	0
Multi Family	Heat Pump	Duct Sealing	4 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	1,132	18	$960	24%	0
Multi Family	Heat Pump	Duct Sealing	8 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	754	18	$587	54%	0
Multi Family	Heat Pump	ECM Motor - Air Source Heat Pump	Air Source Heat Pump ECM Fan	Standard Motor	Per ECM	Existing	280	15	$200	62%	0
Multi Family	Heat Pump	ECM Motor - Air Source Heat Pump	Air Source Heat Pump ECM Fan	Standard Motor	Per ECM	New	222	15	$200	90%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Multi Family	Heat Pump	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof sqft	New	0.24	30	$13	88%	0
Multi Family	Heat Pump	Heat Exchanger - Air-to-Air	Air-to-Air Heat Exchanger	No Air-to-Air Heat Exchanger	Per Heat Exchanger	Existing	1,509	18	$1,085	56%	0
Multi Family	Heat Pump	Heat Exchanger - Air-to-Air	Air-to-Air Heat Exchanger	No Air-to-Air Heat Exchanger	Per Heat Exchanger	New	1,229	18	$1,085	56%	0
Multi Family	Heat Pump	Heat Pump - Below Standard	Below Standard SEER 10 and HSPF 7.2	Below Standard SEER 10 and HSPF 7.2	Per Household	Existing	0.00	9	$0.00	100%	0
Multi Family	Heat Pump	Heat Pump - Below Standard	Below Standard SEER 10 and HSPF 7.2	Below Standard SEER 10 and HSPF 7.2	Per Household	New	0.00	9	$0.00	100%	0
Multi Family	Heat Pump	Heat Pump - CEE Tier 2	CEE Tier 2 SEER/EER 15/12.5 and HSPF 8.5 (Split System)	Federal Standard SEER 13 and HSPF 7.7	Per Household	Existing	701	18	$548	100%	0
Multi Family	Heat Pump	Heat Pump - CEE Tier 2	CEE Tier 2 SEER/EER 15/12.5 and HSPF 8.5 (Split System)	Federal Standard SEER 13 and HSPF 7.7	Per Household	New	567	18	$548	100%	0
Multi Family	Heat Pump	Heat Pump - ENERGY STAR	ENERGY STAR SEER/EER 14.5/12 and HSPF 8.2 (Split System)	Federal Standard SEER 13 and HSPF 7.7	Per Household	Existing	474	18	$411	100%	0
Multi Family	Heat Pump	Heat Pump - ENERGY STAR	ENERGY STAR SEER/EER 14.5/12 and HSPF 8.2 (Split System)	Federal Standard SEER 13 and HSPF 7.7	Per Household	New	381	18	$411	100%	0
Multi Family	Heat Pump	Heat Pump - Enhanced	Enhanced SEER/EER 16/13 and HSPF 9.0 (Split System)	Federal Standard SEER 13 and HSPF 7.7	Per Household	Existing	1,056	18	$822	100%	0
Multi Family	Heat Pump	Heat Pump - Enhanced	Enhanced SEER/EER 16/13 and HSPF 9.0 (Split System)	Federal Standard SEER 13 and HSPF 7.7	Per Household	New	856	18	$822	100%	0
Multi Family	Heat Pump	Heat Pump - Ground Source	GSHP ENERGY STAR EER 17.1 and 3.6 COP	Federal Standard SEER 13 and HSPF 7.7	Per Household	Existing	2,575	18	$6,657	25%	0
Multi Family	Heat Pump	Heat Pump - Ground Source	GSHP ENERGY STAR EER 17.1 and 3.6 COP	Federal Standard SEER 13 and HSPF 7.7	Per Household	New	2,108	18	$6,739	25%	0
Multi Family	Heat Pump	Heat Pump - Standard	Federal Standard SEER 13 and HSPF 7.7	Federal Standard SEER 13 and HSPF 7.7	Per Household	Existing	0.00	18	$0.00	100%	0
Multi Family	Heat Pump	Heat Pump - Standard	Federal Standard SEER 13 and HSPF 7.7	Federal Standard SEER 13 and HSPF 7.7	Per Household	New	0.00	18	$0.00	100%	0
Multi Family	Heat Pump	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	Existing	754	11	$611	15%	0
Multi Family	Heat Pump	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	New	399	11	$611	20%	0
Multi Family	Heat Pump	Infiltration Reduction	4.0 ACH50	7.0 ACH50	Per Building SqFt	New	0.40	11	$0.25	42%	0
Multi Family	Heat Pump	Infiltration Reduction	4.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	1.00	11	$0.44	19%	0
Multi Family	Heat Pump	Infiltration Reduction	7.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.50	11	$0.19	63%	0
Multi Family	Heat Pump	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-38 (To Code Zone 5)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.77	20	$0.99	9%	0
Multi Family	Heat Pump	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (To Code Zone 6)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.90	20	$1	9%	0
Multi Family	Heat Pump	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	Existing	0.13	20	$0.25	17%	0
Multi Family	Heat Pump	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	New	0.11	20	$0.25	17%	0
Multi Family	Heat Pump	Insulation - Basement Wall	Insulation Basement Wall (R-10 Zone 5)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	1.88	20	$1	7%	0
Multi Family	Heat Pump	Insulation - Basement Wall	Insulation Basement Wall (R-15 Zone 6)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	2.19	20	$1	14%	0
Multi Family	Heat Pump	Insulation - Duct	Insulation Duct (R-8)	No Duct Insulation	Per Duct Insulation Installation	Existing	307	20	$375	71%	0
Multi Family	Heat Pump	Insulation - Floor	Insulation Floor (R-30)	Average Existing Insulation (R-1.8)	Per Insulated SqFt	Existing	0.65	20	$0.90	57%	0
Multi Family	Heat Pump	Insulation - Rim/Band Joist	Insulation Rim and Band Joist (R-10)	No Rim And Band Joist Insulation	Per Insulated SqFt	Existing	1.34	20	$1	8%	0
Multi Family	Heat Pump	Insulation - Siding	Vinyl Siding with Foam Backing (R-3)	No Siding Insulation	Per Insulated SqFt	Existing	1.17	20	$0.51	14%	0
Multi Family	Heat Pump	Insulation - Slab	Insulation Slab (R-15, 4ft)	Code Insulation (R-10, 4ft)	Per Insulated SqFt	New	0.30	20	$0.44	26%	0
Multi Family	Heat Pump	Insulation - Wall	Insulation Wall (R-13)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	2.31	20	$1	3%	0
Multi Family	Heat Pump	Insulation - Wall	Insulation Wall (R-20 or R-13 w/ R-5 sheathing) (To Code)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	2.71	20	$1	1%	0
Multi Family	Heat Pump	Insulation - Wall	Insulation Wall (R-21 + R-5 sheathing)	Code Insulation (R-20 or R-13 w/ R-5 sheathing)	Per Insulated SqFt	New	0.16	20	$0.16	90%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Multi Family	Heat Pump	Quality Install Heat Pump	Quality Installation (QI)	Standard Installation	Per QI Install	Existing	871	5	$300	45%	0
Multi Family	Heat Pump	Quality Install Heat Pump	Quality Installation (QI)	Standard Installation	Per QI Install	New	709	5	$300	45%	0
Multi Family	Heat Pump	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	Existing	770	30	$675	49%	0
Multi Family	Heat Pump	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	New	627	30	$480	82%	0
Multi Family	Heat Pump	Solar Attic Fan	Solar Electric Attic Ventilation	Standard Passive Ventilation	Per Solar Fan	Existing	72	19	$331	10%	0
Multi Family	Heat Pump	Solar Attic Fan	Solar Electric Attic Ventilation	Standard Passive Ventilation	Per Solar Fan	New	58	19	$331	10%	0
Multi Family	Heat Pump	Thermostat - Multi-Zone	Individual Room Temperature Control for Major Occupied Rooms	Programmable Thermostat - Central Control Only	Per Programmable Control System	New	417	11	$895	62%	0
Multi Family	Heat Pump	Thermostat - Programmable	Setback Thermostat 5-1-1, 5-2 or 7-Day	Manual Thermostat	Per Programmable Control	Existing	264	15	$33	48%	0
Multi Family	Heat Pump	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	Existing	264	15	$167	50%	0
Multi Family	Heat Pump	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	New	215	15	$167	62%	0
Multi Family	Heat Pump	Tune-up - Air Source Heat Pump	Air Source Heat Pump Maintenance (Tune-up)	Unmaintained Air Source Heat Pump	Per Tune-up	Existing	523	5	$200	71%	0
Multi Family	Heat Pump	Tune-up - Ground Source Heat Pump	Ground Source Heat Pump Maintenance (Tune-up)	Unmaintained Ground Source Heat Pump	Per Tune-up	Existing	377	5	$200	0%	0
Multi Family	Heat Pump	Whole-House Fan	Whole-House Fan to Offset Central Cooling	No Whole-House Fan	Per House Fan	Existing	181	20	$366	10%	0
Multi Family	Heat Pump	Whole-House Fan	Whole-House Fan to Offset Central Cooling	No Whole-House Fan	Per House Fan	New	147	20	$366	10%	0
Multi Family	Heat Pump	Window - Film	Window Film (SHGC Reduction=45%)	No Window Film	Per Window SqFt	Existing	0.89	10	$4	76%	0
Multi Family	Heat Pump	Window - Shade	Window Shade/Blind or Thermal Drapes	No Interior Shading Device	Per Window SqFt	Existing	0.59	3	$7	38%	0
Multi Family	Heat Pump	Window - Upgrade	Code Window U-Factor = 0.35 (2009 IECC)	Existing Windows U-Factor	Per Window SqFt	Existing	4.31	20	$19	24%	0
Multi Family	Heat Pump	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	1.19	20	$3	73%	0
Multi Family	Heat Pump	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	1.10	20	$3	82%	0
Multi Family	Heat Pump	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	3.11	20	$28	61%	0
Multi Family	Heat Pump	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	2.86	20	$28	68%	0
Multi Family	Heat Room	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	1.54	20	$0.92	32%	66
Multi Family	Heat Room	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	New	1.54	20	$0.92	32%	5
Multi Family	Heat Room	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	2.77	20	$3	40%	0
Multi Family	Heat Room	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	New	2.77	20	$3	40%	0
Multi Family	Heat Room	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof sqft	New	0.04	30	$13	88%	0
Multi Family	Heat Room	Heat Pump - Ductless Mini-Split	ENERGY STAR 14.5 SEER, 8.2 HSPF	Electric Baseboard Heating	Per Ductless Heat Pump	Existing	2,603	15	$2,727	38%	0
Multi Family	Heat Room	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	Existing	659	11	$611	15%	0
Multi Family	Heat Room	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	New	298	11	$611	20%	0
Multi Family	Heat Room	Infiltration Reduction	4.0 ACH50	7.0 ACH50	Per Building SqFt	New	0.30	11	$0.25	42%	0
Multi Family	Heat Room	Infiltration Reduction	4.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.87	11	$0.44	19%	0
Multi Family	Heat Room	Infiltration Reduction	7.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.43	11	$0.19	63%	2,076
Multi Family	Heat Room	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-38 (To Code Zone 5)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.36	20	$0.99	9%	0
Multi Family	Heat Room	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (To Code Zone 6)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.42	20	$1	9%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Multi Family	Heat Room	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	Existing	0.06	20	$0.25	16%	0
Multi Family	Heat Room	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	New	0.06	20	$0.25	16%	0
Multi Family	Heat Room	Insulation - Basement Wall	Insulation Basement Wall (R-10 Zone 5)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	1.06	20	$1	7%	0
Multi Family	Heat Room	Insulation - Basement Wall	Insulation Basement Wall (R-15 Zone 6)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	1.23	20	$1	14%	0
Multi Family	Heat Room	Insulation - Floor	Insulation Floor (R-30)	Average Existing Insulation (R-1.8)	Per Insulated SqFt	Existing	0.31	20	$0.90	57%	0
Multi Family	Heat Room	Insulation - Rim/Band Joist	Insulation Rim and Band Joist (R-10)	No Rim And Band Joist Insulation	Per Insulated SqFt	Existing	0.63	20	$1	8%	0
Multi Family	Heat Room	Insulation - Siding	Vinyl Siding with Foam Backing (R-3)	No Siding Insulation	Per Insulated SqFt	Existing	0.55	20	$0.51	14%	0
Multi Family	Heat Room	Insulation - Slab	Insulation Slab (R-15, 4ft)	Code Insulation (R-10, 4ft)	Per Insulated SqFt	New	0.19	20	$0.44	26%	0
Multi Family	Heat Room	Insulation - Wall	Insulation Wall (R-13)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	1.09	20	$1	3%	0
Multi Family	Heat Room	Insulation - Wall	Insulation Wall (R-20 or R-13 w/ R-5 sheathing) (To Code)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	1.28	20	$1	1%	0
Multi Family	Heat Room	Insulation - Wall	Insulation Wall (R-21 + R-5 sheathing)	Code Insulation (R-20 or R-13 w/ R-5 sheathing)	Per Insulated SqFt	New	0.09	20	$0.16	90%	0
Multi Family	Heat Room	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	Existing	131	30	$675	49%	0
Multi Family	Heat Room	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	New	91	30	$480	82%	0
Multi Family	Heat Room	Room Heat - Standard	Standard Room Heat	Standard Room Heat	Per Household	Existing	0.00	10	$0.00	100%	0
Multi Family	Heat Room	Room Heat - Standard	Standard Room Heat	Standard Room Heat	Per Household	New	0.00	10	$0.00	100%	0
Multi Family	Heat Room	Window - Upgrade	Code Window U-Factor = 0.35 (2009 IECC)	Existing Windows U-Factor	Per Window SqFt	Existing	2.03	20	$19	24%	0
Multi Family	Heat Room	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	0.56	20	$3	73%	0
Multi Family	Heat Room	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	0.56	20	$3	82%	0
Multi Family	Heat Room	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	1.47	20	$28	61%	0
Multi Family	Heat Room	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	1.47	20	$28	68%	0
Multi Family	Home Audio System	Home Audio System - ENERGY STAR	ENERGY STAR Home Audio System	Standard Home Audio System	Per Unit	Existing	22	7	$20	100%	0
Multi Family	Home Audio System	Home Audio System - ENERGY STAR	ENERGY STAR Home Audio System	Standard Home Audio System	Per Unit	New	22	7	$20	100%	0
Multi Family	Home Audio System	Home Audio System - Standard	Standard Home Audio System	Standard Home Audio System	Per Unit	Existing	0.00	7	$0.00	100%	0
Multi Family	Home Audio System	Home Audio System - Standard	Standard Home Audio System	Standard Home Audio System	Per Unit	New	0.00	7	$0.00	100%	0
Multi Family	Lighting Exterior	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	Existing	11	11	$611	15%	0
Multi Family	Lighting Exterior	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	New	11	11	$611	20%	0
Multi Family	Lighting Exterior	Lighitng Controls - Daylighting Controls (Photocell) - Outdoors	Lighitng Controls - Daylighting Controls (Photocell) - Outdoors	No Daylighting Controls	Per Photocell Control	Existing	11	10	$64	25%	0
Multi Family	Lighting Exterior	Lighitng Controls - Daylighting Controls (Photocell) - Outdoors	Lighitng Controls - Daylighting Controls (Photocell) - Outdoors	No Daylighting Controls	Per Photocell Control	New	11	10	$64	25%	0
Multi Family	Lighting Exterior	Lighting - CFL	Exterior - CFL	EISA Standard	Per Lamp	Existing	35	3	$4	100%	0
Multi Family	Lighting Exterior	Lighting - CFL	Exterior - CFL	EISA Standard	Per Lamp	New	35	3	$4	100%	0
Multi Family	Lighting Exterior	Lighting - EISA Backstop	Exterior - EISA Backstop	EISA Standard	Per Lamp	Existing	32	2	$0.00	100%	0
Multi Family	Lighting Exterior	Lighting - EISA Backstop	Exterior - EISA Backstop	EISA Standard	Per Lamp	New	32	2	$0.00	100%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Multi Family	Lighting Exterior	Lighting - EISA Standard	Exterior - EISA Standard	EISA Standard	Per Lamp	Existing	0.00	2	$0.00	100%	0
Multi Family	Lighting Exterior	Lighting - EISA Standard	Exterior - EISA Standard	EISA Standard	Per Lamp	New	0.00	2	$0.00	100%	0
Multi Family	Lighting Exterior	Lighting - Incandescent	Exterior - Incandescent	Incandescent	Per Lamp	Existing	0.00	2	$0.00	100%	0
Multi Family	Lighting Exterior	Lighting - Incandescent	Exterior - Incandescent	Incandescent	Per Lamp	New	0.00	2	$0.00	100%	0
Multi Family	Lighting Exterior	Lighting - LED	Exterior - LED	EISA Standard	Per Lamp	Existing	51	12	$36	100%	1,259
Multi Family	Lighting Exterior	Lighting - LED	Exterior - LED	EISA Standard	Per Lamp	New	51	12	$36	100%	86
Multi Family	Lighting Interior Specialty	LED Christmas Lighting	LED Christmas Lighting	Incandescent Christmas Lighting	Per LED String	Existing	6.08	5	$18	82%	0
Multi Family	Lighting Interior Specialty	LED Christmas Lighting	LED Christmas Lighting	Incandescent Christmas Lighting	Per LED String	New	6.08	5	$18	82%	0
Multi Family	Lighting Interior Specialty	Lighting - CFL	Interior Specialty - CFL	EISA Standard	Per Lamp	Existing	31	6	$6	65%	4,428
Multi Family	Lighting Interior Specialty	Lighting - CFL	Interior Specialty - CFL	EISA Standard	Per Lamp	New	31	6	$6	65%	319
Multi Family	Lighting Interior Specialty	Lighting - Incandescent	Interior Specialty - Incandescent	Incandescent	Per Lamp	Existing	0.00	2	$0.00	100%	0
Multi Family	Lighting Interior Specialty	Lighting - Incandescent	Interior Specialty - Incandescent	Incandescent	Per Lamp	New	0.00	2	$0.00	100%	0
Multi Family	Lighting Interior Specialty	Lighting - LED	Interior Specialty - LED	EISA Standard	Per Lamp	Existing	37	12	$28	50%	7,505
Multi Family	Lighting Interior Specialty	Lighting - LED	Interior Specialty - LED	EISA Standard	Per Lamp	New	37	12	$28	50%	488
Multi Family	Lighting Interior Standard	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	Existing	55	11	$611	15%	0
Multi Family	Lighting Interior Standard	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	New	55	11	$611	20%	0
Multi Family	Lighting Interior Standard	Lighitng Controls - Daylighting Controls (Photocell) - Indoors	Lighitng Controls - Daylighting Controls (Photocell) - Indoors	No Daylighting Controls	Per Photocell Control	Existing	11	10	$64	14%	0
Multi Family	Lighting Interior Standard	Lighitng Controls - Daylighting Controls (Photocell) - Indoors	Lighitng Controls - Daylighting Controls (Photocell) - Indoors	No Daylighting Controls	Per Photocell Control	New	11	10	$64	14%	0
Multi Family	Lighting Interior Standard	Lighting - CFL	Interior Standard - CFL	EISA Standard	Per Lamp	Existing	15	5	-0.2101	100%	0
Multi Family	Lighting Interior Standard	Lighting - CFL	Interior Standard - CFL	EISA Standard	Per Lamp	New	15	5	-0.2101	100%	0
Multi Family	Lighting Interior Standard	Lighting - EISA Backstop	Interior Standard - EISA Backstop	EISA Standard	Per Lamp	Existing	14	2	$0.00	100%	0
Multi Family	Lighting Interior Standard	Lighting - EISA Backstop	Interior Standard - EISA Backstop	EISA Standard	Per Lamp	New	14	2	$0.00	100%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Multi Family	Lighting Interior Standard	Lighting - EISA Standard	Interior Standard - EISA Standard	EISA Standard	Per Lamp	Existing	0.00	2	$0.00	100%	0
Multi Family	Lighting Interior Standard	Lighting - EISA Standard	Interior Standard - EISA Standard	EISA Standard	Per Lamp	New	0.00	2	$0.00	100%	0
Multi Family	Lighting Interior Standard	Lighting - Incandescent	Interior Standard - Incandescent	Incandescent	Per Lamp	Existing	0.00	2	$0.00	100%	0
Multi Family	Lighting Interior Standard	Lighting - Incandescent	Interior Standard - Incandescent	Incandescent	Per Lamp	New	0.00	2	$0.00	100%	0
Multi Family	Lighting Interior Standard	Lighting - LED	Interior Standard - LED	EISA Standard	Per Lamp	Existing	22	12	$24	100%	6,197
Multi Family	Lighting Interior Standard	Lighting - LED	Interior Standard - LED	EISA Standard	Per Lamp	New	22	12	$24	100%	426
Multi Family	Lighting Interior Standard	Lighting Controls - Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Occupancy Sensor	Existing	20	10	$56	17%	0
Multi Family	Lighting Interior Standard	Lighting Controls - Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Occupancy Sensor	New	20	10	$56	17%	0
Multi Family	Microwave	Microwave - Standard	Standard Microwave	Standard Microwave	Per Unit	Existing	0.00	10	$0.00	100%	0
Multi Family	Microwave	Microwave - Standard	Standard Microwave	Standard Microwave	Per Unit	New	0.00	10	$0.00	100%	0
Multi Family	Monitor	Monitor - Home Office ENERGY STAR	ENERGY STAR Office Monitor	Standard Office Monitor	Per Unit	Existing	14	5	$0.00	100%	0
Multi Family	Monitor	Monitor - Home Office ENERGY STAR	ENERGY STAR Office Monitor	Standard Office Monitor	Per Unit	New	14	5	$0.00	100%	0
Multi Family	Monitor	Monitor - Home Office Standard	Standard Office Monitor	Standard Office Monitor	Per Unit	Existing	0.00	5	$0.00	100%	0
Multi Family	Monitor	Monitor - Home Office Standard	Standard Office Monitor	Standard Office Monitor	Per Unit	New	0.00	5	$0.00	100%	0
Multi Family	Other Plug Load	DVD System - ENERGY STAR	ENERGY STAR DVD System	Standard DVD System	Per Unit	Existing	18	3	$0.99	100%	524
Multi Family	Other Plug Load	DVD System - ENERGY STAR	ENERGY STAR DVD System	Standard DVD System	Per Unit	New	18	3	$0.99	100%	36
Multi Family	Other Plug Load	DVD System - Standard	Standard DVD System	Standard DVD System	Per Unit	Existing	0.00	3	$0.00	100%	0
Multi Family	Other Plug Load	DVD System - Standard	Standard DVD System	Standard DVD System	Per Unit	New	0.00	3	$0.00	100%	0
Multi Family	Plug Load Other	Battery Chargers	Energy Star Battery Chargers	Standard Battery Chargers	Per Battary Charger	Existing	12	3	$4	36%	0
Multi Family	Plug Load Other	Battery Chargers	Energy Star Battery Chargers	Standard Battery Chargers	Per Battary Charger	New	12	3	$4	36%	0
Multi Family	Plug Load Other	Ceiling Fans	ENERGY STAR Ceiling Fans with Light Kit	Standard Ceiling Fan	Per Ceiling Fan	Existing	65	10	$119	51%	0
Multi Family	Plug Load Other	Ceiling Fans	ENERGY STAR Ceiling Fans with Light Kit	Standard Ceiling Fan	Per Ceiling Fan	New	65	10	$119	51%	0
Multi Family	Plug Load Other	Ceiling Fans	ENERGY STAR Ceiling Fans without Light Kit	Standard Ceiling Fan	Per Ceiling Fan	Existing	4.33	10	$1	51%	104
Multi Family	Plug Load Other	Ceiling Fans	ENERGY STAR Ceiling Fans without Light Kit	Standard Ceiling Fan	Per Ceiling Fan	New	4.33	10	$1	51%	7
Multi Family	Plug Load Other	Cordless Phone - ENERGY STAR	ENERGY STAR Cordless Phone	Standard Cordless Phone	Per Cordless Phone	Existing	25	5	$1	29%	356
Multi Family	Plug Load Other	Cordless Phone - ENERGY STAR	ENERGY STAR Cordless Phone	Standard Cordless Phone	Per Cordless Phone	New	25	5	$1	29%	24
Multi Family	Plug Load Other	Home Office - Server	ENERGY STAR Home Server	Standard Office Server	Per Home Server	Existing	24	4	$8	4%	0
Multi Family	Plug Load Other	Home Office - Server	ENERGY STAR Home Server	Standard Office Server	Per Home Server	New	24	4	$8	4%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Multi Family	Plug Load Other	Plug Load - Other	Plug Load Other	Plug Load Other	Per Household	Existing	0.00	5	$0.00	100%	0
Multi Family	Plug Load Other	Plug Load - Other	Plug Load Other	Plug Load Other	Per Household	New	0.00	5	$0.00	100%	0
Multi Family	Plug Load Other	Smart Strip	Smart Strip	Standard Power Strip	Per Smart Strip	Existing	100	5	$22	62%	2,937
Multi Family	Plug Load Other	Smart Strip	Smart Strip	Standard Power Strip	Per Smart Strip	New	100	5	$22	62%	200
Multi Family	Printer	Printer - Home Office ENERGY STAR	ENERGY STAR Office Printer	Standard Printer	Per Unit	Existing	32	5	$13	100%	0
Multi Family	Printer	Printer - Home Office ENERGY STAR	ENERGY STAR Office Printer	Standard Printer	Per Unit	New	32	5	$13	100%	0
Multi Family	Printer	Printer - Standard	Standard Printer	Standard Printer	Per Unit	Existing	0.00	5	$0.00	100%	0
Multi Family	Printer	Printer - Standard	Standard Printer	Standard Printer	Per Unit	New	0.00	5	$0.00	100%	0
Multi Family	Refrigerator	Refrigerator - Below Standard	Below Standard Refrigerator	Below Standard Refrigerator	Per Unit	Existing	0.00	7	$0.00	100%	0
Multi Family	Refrigerator	Refrigerator - Below Standard	Below Standard Refrigerator	Below Standard Refrigerator	Per Unit	New	0.00	7	$0.00	100%	0
Multi Family	Refrigerator	Refrigerator - CEE Tier 2	CEE Tier 2 Refrigerator	Standard Refrigerator - Federal Standard 2001	Per Unit	Existing	142	13	$429	100%	0
Multi Family	Refrigerator	Refrigerator - CEE Tier 2	CEE Tier 2 Refrigerator	Standard Refrigerator - Federal Standard 2001	Per Unit	New	142	13	$429	100%	0
Multi Family	Refrigerator	Refrigerator - CEE Tier 3	CEE Tier 3 Refrigerator	Standard Refrigerator - Federal Standard 2001	Per Unit	Existing	170	13	$580	100%	0
Multi Family	Refrigerator	Refrigerator - CEE Tier 3	CEE Tier 3 Refrigerator	Standard Refrigerator - Federal Standard 2001	Per Unit	New	170	13	$580	100%	0
Multi Family	Refrigerator	Refrigerator - ENERGY STAR	ENERGY STAR Refrigerator	Standard Refrigerator - Federal Standard 2001	Per Unit	Existing	113	13	$251	100%	0
Multi Family	Refrigerator	Refrigerator - ENERGY STAR	ENERGY STAR Refrigerator	Standard Refrigerator - Federal Standard 2001	Per Unit	New	113	13	$251	100%	0
Multi Family	Refrigerator	Refrigerator - Federal Standard September 2014	Federal Standard In 2014 (NAECA)	Standard Refrigerator - Federal Standard 2001	Per Unit	Existing	56	13	$124	100%	0
Multi Family	Refrigerator	Refrigerator - Federal Standard September 2014	Federal Standard In 2014 (NAECA)	Standard Refrigerator - Federal Standard 2001	Per Unit	New	56	13	$124	100%	0
Multi Family	Refrigerator	Refrigerator - Standard 2001	Standard Refrigerator - Federal Standard 2001	Standard Refrigerator - Federal Standard 2001	Per Unit	Existing	0.00	13	$0.00	100%	0
Multi Family	Refrigerator	Refrigerator - Standard 2001	Standard Refrigerator - Federal Standard 2001	Standard Refrigerator - Federal Standard 2001	Per Unit	New	0.00	13	$0.00	100%	0
Multi Family	Refrigerator	Removal of Secondary Refrigerator/Freezer	Proper Disposal of Refrigerator/Freezer Combo	Existing Non-Efficient Refrigerator/Freezer	Per Recyled Unit	Existing	1,140	5	$30	6%	3,249
Multi Family	Set Top Box	Digital Set Top Receiver - ENERGY STAR	ENERGY STAR Digital Set Top Receiver	Standard Digital Set Top Receiver	Per Unit	Existing	164	5	$12	100%	3,577
Multi Family	Set Top Box	Digital Set Top Receiver - ENERGY STAR	ENERGY STAR Digital Set Top Receiver	Standard Digital Set Top Receiver	Per Unit	New	164	5	$12	100%	273
Multi Family	Set Top Box	Digital Set Top Receiver - Standard	Standard Digital Set Top Receiver	Standard Digital Set Top Receiver	Per Unit	Existing	0.00	5	$0.00	100%	0
Multi Family	Set Top Box	Digital Set Top Receiver - Standard	Standard Digital Set Top Receiver	Standard Digital Set Top Receiver	Per Unit	New	0.00	5	$0.00	100%	0
Multi Family	Television	TV - ENERGY STAR	ENERGY STAR TV	Standard TV	Per Unit	Existing	118	5	$55	100%	0
Multi Family	Television	TV - ENERGY STAR	ENERGY STAR TV	Standard TV	Per Unit	New	118	5	$55	100%	0
Multi Family	Television	TV - Standard	Standard TV	Standard TV	Per Unit	Existing	0.00	5	$0.00	100%	0
Multi Family	Television	TV - Standard	Standard TV	Standard TV	Per Unit	New	0.00	5	$0.00	100%	0
Multi Family	Ventilation And Circulation	ECM Motor - Air Conditioner/Electric/Gas Furnace ECM Fan	Air Conditioner/Electric/Gas Furnace ECM Fan	Standard Motor	Per ECM	Existing	280	15	$200	62%	6,000
Multi Family	Ventilation And Circulation	ECM Motor - Air Conditioner/Electric/Gas Furnace ECM Fan	Air Conditioner/Electric/Gas Furnace ECM Fan	Standard Motor	Per ECM	New	222	15	$200	90%	482
Multi Family	Ventilation And Circulation	Motor - Standard	Standard Motor - Ventilation And Circulation	Standard Motor	Per Household	Existing	0.00	20	$0.00	100%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Multi Family	Ventilation And Circulation	Motor - Standard	Standard Motor - Ventilation And Circulation	Standard Motor	Per Household	New	0.00	20	$0.00	100%	0
Multi Family	Water Heat	Clothes Washer	Clothes Washer Enhanced Efficiency MEF = 3.10 and WF = 3.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	428	11	$789	48%	0
Multi Family	Water Heat	Clothes Washer	Clothes Washer Enhanced Efficiency MEF = 3.10 and WF = 3.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	428	11	$789	48%	0
Multi Family	Water Heat	Clothes Washer	Clothes Washer CEE Tier 2 MEF = 2.2 and WF = 4.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	308	11	$391	44%	0
Multi Family	Water Heat	Clothes Washer	Clothes Washer CEE Tier 2 MEF = 2.2 and WF = 4.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	308	11	$391	46%	0
Multi Family	Water Heat	Clothes Washer	Clothes Washer CEE Tier 3 MEF = 2.4 and WF = 4.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	343	11	$565	46%	0
Multi Family	Water Heat	Clothes Washer	Clothes Washer CEE Tier 3 MEF = 2.4 and WF = 4.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	343	11	$565	46%	0
Multi Family	Water Heat	Clothes Washer	Clothes Washer ENERGY STAR MEF = 2.0 and WF = 6.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	267	11	$134	37%	1,047
Multi Family	Water Heat	Clothes Washer	Clothes Washer ENERGY STAR MEF = 2.0 and WF = 6.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	267	11	$134	37%	71
Multi Family	Water Heat	Clothes Washer	Steam Clothes Washer	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	428	11	$789	48%	0
Multi Family	Water Heat	Clothes Washer	Steam Clothes Washer	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	428	11	$789	48%	0
Multi Family	Water Heat	Desuperheaters - Air Conditioner	Add-on Desuperheaters to Air Conditioner	No Desuperheater	Per Desuperheater	Existing	232	10	$600	43%	0
Multi Family	Water Heat	Desuperheaters - Air Source Heat Pump	Add-on Desuperheaters to Air Source Heat Pump	No Desuperheater	Per Desuperheater	Existing	464	10	$600	0%	0
Multi Family	Water Heat	Desuperheaters - Ground Source Heat Pump	Add-on Desuperheaters to Ground Source Heat Pump	No Desuperheater	Per Desuperheater	Existing	464	10	$600	0%	0
Multi Family	Water Heat	Dishwasher	Dishwasher Enhanced Efficiency (EF 1.00) 200 kWh/yr and 4.00 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle	Per Dishwasher	Existing	155	11	$1,067	47%	0
Multi Family	Water Heat	Dishwasher	Dishwasher Enhanced Efficiency (EF 1.00) 200 kWh/yr and 4.00 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle	Per Dishwasher	New	155	11	$1,067	47%	0
Multi Family	Water Heat	Dishwasher	ENERGY STAR 295 kWh/yr and 4.25 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle	Per Dishwasher	Existing	60	11	$272	16%	0
Multi Family	Water Heat	Dishwasher	ENERGY STAR 295 kWh/yr and 4.25 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle	Per Dishwasher	New	60	11	$272	16%	0
Multi Family	Water Heat	Drain-Water Heat Recovery	Drain-Water Heat Recovery	No Drain Water Heat Recovery	Per Drain-Water Heat Recovery System	Existing	543	40	$935	10%	417
Multi Family	Water Heat	Drain-Water Heat Recovery	Drain-Water Heat Recovery	No Drain Water Heat Recovery	Per Drain-Water Heat Recovery System	New	511	40	$935	71%	205
Multi Family	Water Heat	Faucet Aerators	0.5 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	Existing	104	10	$1	85%	943
Multi Family	Water Heat	Faucet Aerators	0.5 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	New	99	10	$1	90%	64
Multi Family	Water Heat	Faucet Aerators	1.5 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	Existing	43	10	$1	26%	6
Multi Family	Water Heat	Faucet Aerators	1.5 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	New	41	10	$1	28%	0
Multi Family	Water Heat	Faucet Aerators	2.0 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	Existing	12	10	$0.53	14%	0
Multi Family	Water Heat	Faucet Aerators	2.0 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	New	11	10	$0.53	15%	0
Multi Family	Water Heat	Faucet Aerators	2.2 GPM (Federal Code)	Existing Faucet Aerator GPM	Per Faucet Aerator	Existing	49	10	$3	9%	47

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Multi Family	Water Heat	Hot Tub Covers	Hot Tub Covers R-21	Existing Cover R-10	Per Hot Tub Cover	Existing	172	6	$524	1%	0
Multi Family	Water Heat	Low-Flow Showerheads	1.5 GPM - Showerhead	2.5 GPM (Federal Code)	Per Showerhead	Existing	308	10	$8	80%	2,621
Multi Family	Water Heat	Low-Flow Showerheads	1.5 GPM - Showerhead	2.5 GPM (Federal Code)	Per Showerhead	New	293	10	$8	80%	170
Multi Family	Water Heat	Low-Flow Showerheads	2.0 GPM - Showerhead	2.5 GPM (Federal Code)	Per Showerhead	Existing	154	10	$13	38%	32
Multi Family	Water Heat	Low-Flow Showerheads	2.0 GPM - Showerhead	2.5 GPM (Federal Code)	Per Showerhead	New	146	10	$13	38%	2
Multi Family	Water Heat	Low-Flow Showerheads	2.5 GPM (Federal Code)	Existing Showerhead GPM	Per Showerhead	Existing	154	10	$24	23%	380
Multi Family	Water Heat	Solar Hot Water (SHW)	Solar Thermal Collector	Standard Storage Hot Water Heater	Per Solar Water System	Existing	1,160	15	$6,238	15%	0
Multi Family	Water Heat	Solar Hot Water (SHW)	Solar Thermal Collector	Standard Storage Hot Water Heater	Per Solar Water System	New	1,092	15	$4,878	15%	0
Multi Family	Water Heat	Water Heater - Below Standard	EF = 0.88 Below Standard Water Heater	EF = 0.88 Below Standard Water Heater	Per Unit	Existing	0.00	7	$0.00	100%	0
Multi Family	Water Heat	Water Heater - Below Standard	EF = 0.88 Below Standard Water Heater	EF = 0.88 Below Standard Water Heater	Per Unit	New	0.00	7	$0.00	100%	0
Multi Family	Water Heat	Water Heater - Heat Pump	Heat Pump Water Heater ENERGY STAR EF = 2.0	EF = 0.92 Federal Standard 2001	Per Unit	Existing	1,244	13	$1,281	60%	0
Multi Family	Water Heat	Water Heater - Heat Pump	Heat Pump Water Heater ENERGY STAR EF = 2.0	EF = 0.92 Federal Standard 2001	Per Unit	New	1,185	13	$1,281	60%	0
Multi Family	Water Heat	Water Heater - Pipe Insulation	Hot Water Pipe Insulation (R-4)	No Pipe Insulation	Per Pipe Insulation	Existing	69	13	$6	10%	61
Multi Family	Water Heat	Water Heater - Pipe Insulation	Hot Water Pipe Insulation (R-4)	No Pipe Insulation	Per Pipe Insulation	New	69	13	$6	15%	6
Multi Family	Water Heat	Water Heater - Storage 2001 Standard	EF = 0.92 Federal Standard 2001	EF = 0.92 Federal Standard 2001	Per Unit	Existing	0.00	13	$0.00	100%	0
Multi Family	Water Heat	Water Heater - Storage 2001 Standard	EF = 0.92 Federal Standard 2001	EF = 0.92 Federal Standard 2001	Per Unit	New	0.00	13	$0.00	100%	0
Multi Family	Water Heat	Water Heater - Storage 2015 Standard	Water Heater - Storage Federal Standard April 2015 EF = 0.95	EF = 0.92 Federal Standard 2001	Per Unit	Existing	74	13	$43	100%	0
Multi Family	Water Heat	Water Heater - Storage 2015 Standard	Water Heater - Storage Federal Standard April 2015 EF = 0.95	EF = 0.92 Federal Standard 2001	Per Unit	New	71	13	$43	100%	0
Multi Family	Water Heat	Water Heater - Tank Blanket/Insulation	Install Insulation (R-11)	No Tank Insulation	Per Tank Wrap	Existing	150	13	$17	13%	177
Multi Family	Water Heat	Water Heater - Tankless	Tankless EF= 0.98	EF = 0.92 Federal Standard 2001	Per Unit	Existing	147	20	$260	0%	0
Multi Family	Water Heat	Water Heater - Tankless	Tankless EF= 0.98	EF = 0.92 Federal Standard 2001	Per Unit	New	140	20	$260	0%	0
Multi Family	Water Heat	Water Heater - Thermostat Setback	120 Degrees	135 Degrees	Per Set-Back	Existing	443	4	$10	13%	521
Multi Family	Water Heat	Water Heater - Thermostat Setback	120 Degrees	135 Degrees	Per Set-Back	New	417	4	$10	13%	33
Single Family	Computer	Computer - Home Office ENERGY STAR	ENERGY STAR Office Computer	Standard Office Computer	Per Unit	Existing	76	4	$8	100%	25,250
Single Family	Computer	Computer - Home Office ENERGY STAR	ENERGY STAR Office Computer	Standard Office Computer	Per Unit	New	76	4	$8	100%	1,824
Single Family	Computer	Computer - Home Office Standard	Standard Office Computer	Standard Office Computer	Per Unit	Existing	0.00	4	$0.00	100%	0
Single Family	Computer	Computer - Home Office Standard	Standard Office Computer	Standard Office Computer	Per Unit	New	0.00	4	$0.00	100%	0
Single Family	Cooking Oven	Oven - Convection	Convection Oven	Standard Oven	Per Unit	Existing	102	19	$176	100%	0
Single Family	Cooking Oven	Oven - Convection	Convection Oven	Standard Oven	Per Unit	New	102	19	$176	100%	0
Single Family	Cooking Oven	Oven - Standard	Standard Oven	Standard Oven	Per Unit	Existing	0.00	19	$0.00	100%	0
Single Family	Cooking Oven	Oven - Standard	Standard Oven	Standard Oven	Per Unit	New	0.00	19	$0.00	100%	0
Single Family	Cooking Range	Cooking Range - Standard	Standard Cooking Range	Standard Cooking Range	Per Unit	Existing	0.00	19	$0.00	100%	0
Single Family	Cooking Range	Cooking Range - Standard	Standard Cooking Range	Standard Cooking Range	Per Unit	New	0.00	19	$0.00	100%	0
Single Family	Cool Central	Attic Fan	Attic Fan For Summer Cooling	No Attic Fan with Central Cooling	Per Attic Fan	Existing	127	19	$249	82%	22,960
Single Family	Cool Central	Central Air Conditioners - Below Standard	Below Standard SEER 10	Below Standard SEER 10	Per Household	Existing	0.00	8	$0.00	100%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Single Family	Cool Central	Central Air Conditioners - Below Standard	Below Standard SEER 10	Below Standard SEER 10	Per Household	New	0.00	8	$0.00	100%	0
Single Family	Cool Central	Central Air Conditioners - CEE Tier 2	CEE Tier 2 SEER/EER 15/12.5 (Split System)	Federal Standard 13 SEER	Per Household	Existing	299	15	$714	100%	0
Single Family	Cool Central	Central Air Conditioners - CEE Tier 2	CEE Tier 2 SEER/EER 15/12.5 (Split System)	Federal Standard 13 SEER	Per Household	New	178	15	$714	100%	0
Single Family	Cool Central	Central Air Conditioners - CEE Tier 3	CEE Tier 3 SEER/EER 16/13 (Split System)	Federal Standard 13 SEER	Per Household	Existing	421	15	$1,071	100%	0
Single Family	Cool Central	Central Air Conditioners - CEE Tier 3	CEE Tier 3 SEER/EER 16/13 (Split System)	Federal Standard 13 SEER	Per Household	New	251	15	$1,071	100%	0
Single Family	Cool Central	Central Air Conditioners - ENERGY STAR	ENERGY STAR SEER/EER 14.5/12 (Split System)	Federal Standard 13 SEER	Per Household	Existing	232	15	$535	100%	0
Single Family	Cool Central	Central Air Conditioners - ENERGY STAR	ENERGY STAR SEER/EER 14.5/12 (Split System)	Federal Standard 13 SEER	Per Household	New	138	15	$535	100%	0
Single Family	Cool Central	Central Air Conditioners - Enhanced	Enhanced SEER/EER 18/14 (Split System)	Federal Standard 13 SEER	Per Household	Existing	623	15	$1,788	100%	67,733
Single Family	Cool Central	Central Air Conditioners - Enhanced	Enhanced SEER/EER 18/14 (Split System)	Federal Standard 13 SEER	Per Household	New	372	15	$1,788	100%	0
Single Family	Cool Central	Central Air Conditioners - Standard	Federal Standard SEER 13	Federal Standard 13 SEER	Per Household	Existing	0.00	15	$0.00	100%	0
Single Family	Cool Central	Central Air Conditioners - Standard	Federal Standard SEER 13	Federal Standard 13 SEER	Per Household	New	0.00	15	$0.00	100%	0
Single Family	Cool Central	Construction - ICF	Insulated Concrete Forms - Concrete Construction	Standard Wood Framing	Per Building SqFt	New	0.09	40	$2	67%	0
Single Family	Cool Central	Construction - SIP	Structural Insulated Panels - Specialty Framing	Standard Wood Framing	Per Building SqFt	New	0.09	40	$0.76	67%	1,813
Single Family	Cool Central	Cool Roofs	Lighter Colored Shingles (White)	Standard Roof Shingles	Per Roof SqFT	Existing	0.33	20	$0.25	45%	0
Single Family	Cool Central	Cool Roofs	Lighter Colored Shingles (White)	Standard Roof Shingles	Per Roof SqFT	New	0.18	20	$0.25	45%	0
Single Family	Cool Central	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	0.34	20	$0.92	61%	98
Single Family	Cool Central	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	New	0.24	20	$0.92	61%	7
Single Family	Cool Central	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	0.61	20	$3	76%	3,398
Single Family	Cool Central	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	New	0.44	20	$3	76%	272
Single Family	Cool Central	Duct Sealing	4 CFM/100sqft of CFA	8 CFM/100sqft of CFA	Per Duct Sealing Installation	New	65	18	$333	65%	761
Single Family	Cool Central	Duct Sealing	4 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	343	18	$960	33%	21,861
Single Family	Cool Central	Duct Sealing	8 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	228	18	$587	65%	21,521
Single Family	Cool Central	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof sqft	New	0.13	30	$13	88%	0
Single Family	Cool Central	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	Existing	228	11	$611	35%	11,083
Single Family	Cool Central	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	New	85	11	$611	64%	0
Single Family	Cool Central	Infiltration Reduction	4.0 ACH50	7.0 ACH50	Per Building SqFt	New	0.05	11	$0.25	42%	656
Single Family	Cool Central	Infiltration Reduction	4.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.20	11	$0.44	19%	9,668
Single Family	Cool Central	Infiltration Reduction	7.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.10	11	$0.19	63%	18,514
Single Family	Cool Central	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-38 (To Code Zone 5)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.08	20	$0.99	23%	2,364
Single Family	Cool Central	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (To Code Zone 6)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.09	20	$1	23%	2,681
Single Family	Cool Central	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	Existing	0.01	20	$0.25	45%	0
Single Family	Cool Central	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	New	0.00	20	$0.25	45%	0
Single Family	Cool Central	Insulation - Basement Wall	Insulation Basement Wall (R-10 Zone 5)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.00	20	$1	12%	0
Single Family	Cool Central	Insulation - Basement Wall	Insulation Basement Wall (R-15 Zone 6)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.00	20	$1	24%	0
Single Family	Cool Central	Insulation - Duct	Insulation Duct (R-8)	No Duct Insulation	Per Duct Insulation Installation	Existing	72	20	$596	71%	6,774

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Single Family	Cool Central	Insulation - Floor	Insulation Floor (R-30)	Average Existing Insulation (R-1.8)	Per Insulated SqFt	Existing	0.00	20	$0.90	57%	0
Single Family	Cool Central	Insulation - Rim/Band Joist	Insulation Rim and Band Joist (R-10)	No Rim And Band Joist Insulation	Per Insulated SqFt	Existing	0.14	20	$1	16%	403
Single Family	Cool Central	Insulation - Siding	Vinyl Siding with Foam Backing (R-3)	No Siding Insulation	Per Insulated SqFt	Existing	0.12	20	$0.51	14%	4,799
Single Family	Cool Central	Insulation - Slab	Insulation Slab (R-15, 4ft)	Code Insulation (R-10, 4ft)	Per Insulated SqFt	New	0.00	20	$0.44	13%	0
Single Family	Cool Central	Insulation - Wall	Insulation Wall (R-13)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.24	20	$1	3%	810
Single Family	Cool Central	Insulation - Wall	Insulation Wall (R-20 or R-13 w/ R-5 sheathing) (To Code)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.28	20	$1	2%	1,437
Single Family	Cool Central	Insulation - Wall	Insulation Wall (R-21 + R-5 sheathing)	Code Insulation (R-20 or R-13 w/ R-5 sheathing)	Per Insulated SqFt	New	0.01	20	$0.16	90%	300
Single Family	Cool Central	Quality Install CAC	Quality Installation (QI)	Standard Installation	Per QI Install	Existing	240	5	$300	45%	0
Single Family	Cool Central	Quality Install CAC	Quality Installation (QI)	Standard Installation	Per QI Install	New	137	5	$300	45%	0
Single Family	Cool Central	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	Existing	233	30	$675	82%	31,276
Single Family	Cool Central	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	New	134	30	$480	82%	2,158
Single Family	Cool Central	Solar Attic Fan	Solar Electric Attic Ventilation	Standard Passive Ventilation	Per Solar Fan	Existing	137	19	$331	49%	14,892
Single Family	Cool Central	Solar Attic Fan	Solar Electric Attic Ventilation	Standard Passive Ventilation	Per Solar Fan	New	78	19	$331	49%	848
Single Family	Cool Central	Thermostat - Multi-Zone	Individual Room Temperature Control for Major Occupied Rooms	Programmable Thermostat - Central Control Only	Per Programmable Control System	New	89	11	$895	86%	0
Single Family	Cool Central	Thermostat - Programmable	Setback Thermostat 5-1-1, 5-2 or 7-Day	Manual Thermostat	Per Programmable Control	Existing	80	15	$33	48%	0
Single Family	Cool Central	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	Existing	80	15	$167	51%	3,076
Single Family	Cool Central	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	New	46	15	$167	90%	839
Single Family	Cool Central	Tune-up - Air Conditioner	Air Conditioner Maintenance (Tune-up)	Unmaintained Air Conditioner	Per Tune-up	Existing	171	5	$200	71%	15,628
Single Family	Cool Central	Whole-House Fan	Whole-House Fan to Offset Central Cooling	No Whole-House Fan	Per House Fan	Existing	343	20	$366	48%	36,471
Single Family	Cool Central	Whole-House Fan	Whole-House Fan to Offset Central Cooling	No Whole-House Fan	Per House Fan	New	196	20	$366	48%	2,076
Single Family	Cool Central	Window - Film	Window Film (SHGC Reduction=45%)	No Window Film	Per Window SqFt	Existing	0.56	10	$4	76%	0
Single Family	Cool Central	Window - Shade	Window Shade/Blind or Thermal Drapes	No Interior Shading Device	Per Window SqFt	Existing	0.37	3	$7	38%	0
Single Family	Cool Central	Window - Upgrade	Code Window U-Factor = 0.35 (2009 IECC)	Existing Windows U-Factor	Per Window SqFt	Existing	0.45	20	$24	24%	0
Single Family	Cool Central	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	0.12	20	$8	73%	0
Single Family	Cool Central	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	0.09	20	$8	82%	0
Single Family	Cool Central	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	0.32	20	$33	61%	0
Single Family	Cool Central	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	0.23	20	$33	68%	0
Single Family	Cool Room	Construction - ICF	Insulated Concrete Forms - Concrete Construction	Standard Wood Framing	Per Building SqFt	New	0.02	40	$2	67%	0
Single Family	Cool Room	Construction - SIP	Structural Insulated Panels - Specialty Framing	Standard Wood Framing	Per Building SqFt	New	0.02	40	$0.76	67%	0
Single Family	Cool Room	Cool Roofs	Lighter Colored Shingles (White)	Standard Roof Shingles	Per Roof SqFT	Existing	0.06	20	$0.25	45%	0
Single Family	Cool Room	Cool Roofs	Lighter Colored Shingles (White)	Standard Roof Shingles	Per Roof SqFT	New	0.05	20	$0.25	45%	0
Single Family	Cool Room	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	0.09	20	$0.92	61%	4
Single Family	Cool Room	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	New	0.08	20	$0.92	61%	0
Single Family	Cool Room	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	0.17	20	$3	76%	157

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Single Family	Cool Room	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	New	0.15	20	$3	76%	0
Single Family	Cool Room	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof sqft	New	0.01	30	$13	88%	0
Single Family	Cool Room	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	Existing	35	11	$611	35%	0
Single Family	Cool Room	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	New	19	11	$611	64%	0
Single Family	Cool Room	Infiltration Reduction	4.0 ACH50	7.0 ACH50	Per Building SqFt	New	0.01	11	$0.25	42%	0
Single Family	Cool Room	Infiltration Reduction	4.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.03	11	$0.44	19%	287
Single Family	Cool Room	Infiltration Reduction	7.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.01	11	$0.19	63%	475
Single Family	Cool Room	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-38 (To Code Zone 5)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.02	20	$0.99	23%	0
Single Family	Cool Room	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (To Code Zone 6)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.02	20	$1	23%	0
Single Family	Cool Room	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	Existing	0.00	20	$0.25	45%	0
Single Family	Cool Room	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	New	0.00	20	$0.25	45%	0
Single Family	Cool Room	Insulation - Basement Wall	Insulation Basement Wall (R-10 Zone 5)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.00	20	$1	12%	0
Single Family	Cool Room	Insulation - Basement Wall	Insulation Basement Wall (R-15 Zone 6)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.00	20	$1	24%	0
Single Family	Cool Room	Insulation - Floor	Insulation Floor (R-30)	Average Existing Insulation (R-1.8)	Per Insulated SqFt	Existing	0.00	20	$0.90	57%	0
Single Family	Cool Room	Insulation - Rim/Band Joist	Insulation Rim and Band Joist (R-10)	No Rim And Band Joist Insulation	Per Insulated SqFt	Existing	0.03	20	$1	16%	24
Single Family	Cool Room	Insulation - Siding	Vinyl Siding with Foam Backing (R-3)	No Siding Insulation	Per Insulated SqFt	Existing	0.03	20	$0.51	14%	201
Single Family	Cool Room	Insulation - Slab	Insulation Slab (R-15, 4ft)	Code Insulation (R-10, 4ft)	Per Insulated SqFt	New	0.00	20	$0.44	13%	0
Single Family	Cool Room	Insulation - Wall	Insulation Wall (R-13)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.06	20	$1	3%	34
Single Family	Cool Room	Insulation - Wall	Insulation Wall (R-20 or R-13 w/ R-5 sheathing) (To Code)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.07	20	$1	2%	60
Single Family	Cool Room	Insulation - Wall	Insulation Wall (R-21 + R-5 sheathing)	Code Insulation (R-20 or R-13 w/ R-5 sheathing)	Per Insulated SqFt	New	0.00	20	$0.16	90%	0
Single Family	Cool Room	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	Existing	36	30	$675	82%	0
Single Family	Cool Room	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	New	30	30	$480	82%	0
Single Family	Cool Room	Removal of Secondary Window Air Conditioner Unit	Proper Disposal of Window Air Conditioner Unit	Existing Non-Efficient Window Air Conditioner Unit	Per Recyled Unit	Existing	378	3	$30	19%	2,812
Single Family	Cool Room	Room AC - Below Standard	Below Standard 7.7 EER; 8,000-13,999 Btu	Below Standard 7.7 EER; 8,000-13,999 Btu	Per Unit	Existing	0.00	5	$0.00	100%	0
Single Family	Cool Room	Room AC - Below Standard	Below Standard 7.7 EER; 8,000-13,999 Btu	Below Standard 7.7 EER; 8,000-13,999 Btu	Per Unit	New	0.00	5	$0.00	100%	0
Single Family	Cool Room	Room AC - CEE Tier 1	CEE TIER 1 = 11.3 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Unit	Existing	39	9	$308	100%	0
Single Family	Cool Room	Room AC - CEE Tier 1	CEE TIER 1 = 11.3 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Unit	New	39	9	$308	100%	0
Single Family	Cool Room	Room AC - CEE Tier 2	CEE TIER 2 = 11.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Unit	Existing	50	9	$575	100%	0
Single Family	Cool Room	Room AC - CEE Tier 2	CEE TIER 2 = 11.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Unit	New	50	9	$575	100%	0
Single Family	Cool Room	Room AC - ENERGY STAR	ENERGY STAR = 10.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Unit	Existing	27	9	$41	100%	796
Single Family	Cool Room	Room AC - ENERGY STAR	ENERGY STAR = 10.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Unit	New	27	9	$41	100%	0
Single Family	Cool Room	Room AC - Standard	Federal Standard 9.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Unit	Existing	0.00	9	$0.00	100%	0
Single Family	Cool Room	Room AC - Standard	Federal Standard 9.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Unit	New	0.00	9	$0.00	100%	0
Single Family	Cool Room	Window - Film	Window Film (SHGC Reduction=45%)	No Window Film	Per Window SqFt	Existing	0.08	10	$4	76%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Single Family	Cool Room	Window - Shade	Window Shade/Blind or Thermal Drapes	No Interior Shading Device	Per Window SqFt	Existing	0.05	3	$7	38%	0
Single Family	Cool Room	Window - Upgrade	Code Window U-Factor = 0.35 (2009 IECC)	Existing Windows U-Factor	Per Window SqFt	Existing	0.12	20	$24	24%	0
Single Family	Cool Room	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	0.03	20	$8	73%	0
Single Family	Cool Room	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	0.03	20	$8	82%	0
Single Family	Cool Room	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	0.09	20	$33	61%	0
Single Family	Cool Room	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	0.08	20	$33	68%	0
Single Family	Copier	Copier - Standard	Standard Copier	Standard Copier	Per Unit	Existing	0.00	6	$0.00	100%	0
Single Family	Copier	Copier - Standard	Standard Copier	Standard Copier	Per Unit	New	0.00	6	$0.00	100%	0
Single Family	Copier	Copiers - Home Office ENERGY STAR	ENERGY STAR Office Copiers	Standard Copier	Per Unit	Existing	73	6	$1,505	100%	0
Single Family	Copier	Copiers - Home Office ENERGY STAR	ENERGY STAR Office Copiers	Standard Copier	Per Unit	New	73	6	$1,505	100%	0
Single Family	Dehumidifier	Dehumidifier - Standard	Standard Dehumidifier	Standard Dehumidifier	Per Unit	Existing	0.00	12	$0.00	100%	0
Single Family	Dehumidifier	Dehumidifier - Standard	Standard Dehumidifier	Standard Dehumidifier	Per Unit	New	0.00	12	$0.00	100%	0
Single Family	Dehumidifier	Dehumidifiers - ENERGY STAR	ENERGY STAR Dehumidifiers	Standard Dehumidifier	Per Unit	Existing	117	12	$34	100%	9,084
Single Family	Dehumidifier	Dehumidifiers - ENERGY STAR	ENERGY STAR Dehumidifiers	Standard Dehumidifier	Per Unit	New	117	12	$34	100%	1,066
Single Family	Dryer	Clothes Dryer - Moisture Sensor	Clothes Dryer w/ Moisture Sensor	Standard Dryer without Moisture Sensor	Per Unit	Existing	142	11	$137	100%	0
Single Family	Dryer	Clothes Dryer - Moisture Sensor	Clothes Dryer w/ Moisture Sensor	Standard Dryer without Moisture Sensor	Per Unit	New	142	11	$137	100%	0
Single Family	Dryer	Clothes Dryer - Standard without Moisture Sensor	Standard Dryer without Moisture Sensor	Standard Dryer without Moisture Sensor	Per Unit	Existing	0.00	11	$0.00	100%	0
Single Family	Dryer	Clothes Dryer - Standard without Moisture Sensor	Standard Dryer without Moisture Sensor	Standard Dryer without Moisture Sensor	Per Unit	New	0.00	11	$0.00	100%	0
Single Family	Dryer	Clothes Dryer - Steam	Steam Clothes Dryer	Standard Dryer without Moisture Sensor	Per Unit	Existing	142	11	$372	98%	0
Single Family	Dryer	Clothes Dryer - Steam	Steam Clothes Dryer	Standard Dryer without Moisture Sensor	Per Unit	New	142	11	$372	98%	0
Single Family	Freezer	Freezer - Below Standard	Below Standard Freezer	Below Standard Freezer	Per Unit	Existing	0.00	6	$0.00	100%	0
Single Family	Freezer	Freezer - Below Standard	Below Standard Freezer	Below Standard Freezer	Per Unit	New	0.00	6	$0.00	100%	0
Single Family	Freezer	Freezer - ENERGY STAR	ENERGY STAR Freezer	Standard Freezer - Federal Standard 2001	Per Unit	Existing	55	12	$75	100%	0
Single Family	Freezer	Freezer - ENERGY STAR	ENERGY STAR Freezer	Standard Freezer - Federal Standard 2001	Per Unit	New	55	12	$75	100%	0
Single Family	Freezer	Freezer - Federal Standard September 2014	Standard Freezer - Federal Standard 2014 (NAECA)	Standard Freezer - Federal Standard 2001	Per Unit	Existing	159	12	$214	100%	0
Single Family	Freezer	Freezer - Federal Standard September 2014	Standard Freezer - Federal Standard 2014 (NAECA)	Standard Freezer - Federal Standard 2001	Per Unit	New	159	12	$214	100%	0
Single Family	Freezer	Freezer - Standard 2001	Standard Freezer - Federal Standard 2001	Standard Freezer - Federal Standard 2001	Per Unit	Existing	0.00	12	$0.00	100%	0
Single Family	Freezer	Freezer - Standard 2001	Standard Freezer - Federal Standard 2001	Standard Freezer - Federal Standard 2001	Per Unit	New	0.00	12	$0.00	100%	0
Single Family	Freezer	Removal of Secondary Stand-Alone Freezer	Proper Disposal of Stand-Alone Freezer	Existing Non-Efficient Stand-Alone Freezer	Per Recyled Unit	Existing	916	5	$30	15%	29,482
Single Family	Heat Central	Central Heat - Standard	Standard Central Heat	Standard Central Heat	Per Household	Existing	0.00	10	$0.00	100%	0
Single Family	Heat Central	Central Heat - Standard	Standard Central Heat	Standard Central Heat	Per Household	New	0.00	10	$0.00	100%	0
Single Family	Heat Central	Construction - ICF	Insulated Concrete Forms - Concrete Construction	Standard Wood Framing	Per Building SqFt	New	0.85	40	$2	67%	0
Single Family	Heat Central	Construction - SIP	Structural Insulated Panels - Specialty Framing	Standard Wood Framing	Per Building SqFt	New	0.85	40	$0.76	67%	376

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Single Family	Heat Central	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	6.17	20	$0.92	61%	65
Single Family	Heat Central	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	New	6.17	20	$0.92	61%	4
Single Family	Heat Central	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	11	20	$3	76%	2,455
Single Family	Heat Central	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	New	11	20	$3	76%	171
Single Family	Heat Central	Duct Sealing	4 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	2,099	18	$960	32%	3,943
Single Family	Heat Central	Duct Sealing	8 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	1,399	18	$587	40%	3,345
Single Family	Heat Central	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof sqft	New	0.30	30	$13	88%	0
Single Family	Heat Central	Heat Exchanger - Air-to-Air	Air-to-Air Heat Exchanger	No Air-to-Air Heat Exchanger	Per Heat Exchanger	Existing	2,798	18	$1,085	75%	15,055
Single Family	Heat Central	Heat Exchanger - Air-to-Air	Air-to-Air Heat Exchanger	No Air-to-Air Heat Exchanger	Per Heat Exchanger	New	2,418	18	$1,085	75%	869
Single Family	Heat Central	Heat Pump - Ductless Mini-Split	ENERGY STAR 14.5 SEER, 8.2 HSPF	Electric Baseboard Heating	Per Ductless Heat Pump	Existing	3,905	15	$4,091	38%	0
Single Family	Heat Central	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	Existing	1,399	11	$611	35%	2,267
Single Family	Heat Central	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	New	785	11	$611	64%	0
Single Family	Heat Central	Infiltration Reduction	4.0 ACH50	7.0 ACH50	Per Building SqFt	New	0.53	11	$0.25	42%	138
Single Family	Heat Central	Infiltration Reduction	4.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	1.23	11	$0.44	19%	2,039
Single Family	Heat Central	Infiltration Reduction	7.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.61	11	$0.19	63%	3,446
Single Family	Heat Central	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-38 (To Code Zone 5)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	1.45	20	$0.99	23%	1,674
Single Family	Heat Central	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (To Code Zone 6)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	1.70	20	$1	23%	1,768
Single Family	Heat Central	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	Existing	0.24	20	$0.25	45%	0
Single Family	Heat Central	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	New	0.24	20	$0.25	45%	0
Single Family	Heat Central	Insulation - Basement Wall	Insulation Basement Wall (R-10 Zone 5)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	4.24	20	$1	12%	2,058
Single Family	Heat Central	Insulation - Basement Wall	Insulation Basement Wall (R-15 Zone 6)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	4.93	20	$1	24%	5,134
Single Family	Heat Central	Insulation - Duct	Insulation Duct (R-8)	No Duct Insulation	Per Duct Insulation Installation	Existing	594	20	$596	71%	0
Single Family	Heat Central	Insulation - Floor	Insulation Floor (R-30)	Average Existing Insulation (R-1.8)	Per Insulated SqFt	Existing	1.24	20	$0.90	57%	3,389
Single Family	Heat Central	Insulation - Rim/Band Joist	Insulation Rim and Band Joist (R-10)	No Rim And Band Joist Insulation	Per Insulated SqFt	Existing	2.53	20	$1	16%	300
Single Family	Heat Central	Insulation - Siding	Vinyl Siding with Foam Backing (R-3)	No Siding Insulation	Per Insulated SqFt	Existing	2.20	20	$0.51	14%	3,436
Single Family	Heat Central	Insulation - Slab	Insulation Slab (R-15, 4ft)	Code Insulation (R-10, 4ft)	Per Insulated SqFt	New	0.79	20	$0.44	13%	41
Single Family	Heat Central	Insulation - Wall	Insulation Wall (R-13)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	4.37	20	$1	3%	543
Single Family	Heat Central	Insulation - Wall	Insulation Wall (R-20 or R-13 w/ R-5 sheathing) (To Code)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	5.12	20	$1	2%	962
Single Family	Heat Central	Insulation - Wall	Insulation Wall (R-21 + R-5 sheathing)	Code Insulation (R-20 or R-13 w/ R-5 sheathing)	Per Insulated SqFt	New	0.36	20	$0.16	90%	235
Single Family	Heat Central	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	Existing	279	30	$675	82%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Single Family	Heat Central	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	New	241	30	$480	82%	0
Single Family	Heat Central	Thermostat - Multi-Zone	Individual Room Temperature Control for Major Occupied Rooms	Programmable Thermostat - Central Control Only	Per Programmable Control System	New	822	11	$895	86%	0
Single Family	Heat Central	Thermostat - Programmable	Setback Thermostat 5-1-1, 5-2 or 7-Day	Manual Thermostat	Per Programmable Control	Existing	489	15	$33	48%	0
Single Family	Heat Central	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	Existing	491	15	$167	51%	564
Single Family	Heat Central	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	New	424	15	$167	90%	156
Single Family	Heat Central	Window - Upgrade	Code Window U-Factor = 0.35 (2009 IECC)	Existing Windows U-Factor	Per Window SqFt	Existing	8.14	20	$24	24%	0
Single Family	Heat Central	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	2.26	20	$8	73%	0
Single Family	Heat Central	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	2.26	20	$8	82%	0
Single Family	Heat Central	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	5.88	20	$33	61%	0
Single Family	Heat Central	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	5.88	20	$33	68%	0
Single Family	Heat Pump	Attic Fan	Attic Fan For Summer Cooling	No Attic Fan with Central Cooling	Per Attic Fan	Existing	124	19	$249	82%	0
Single Family	Heat Pump	Construction - ICF	Insulated Concrete Forms - Concrete Construction	Standard Wood Framing	Per Building SqFt	New	0.86	40	$2	67%	0
Single Family	Heat Pump	Construction - SIP	Structural Insulated Panels - Specialty Framing	Standard Wood Framing	Per Building SqFt	New	0.86	40	$0.76	67%	1,978
Single Family	Heat Pump	Cool Roofs	Lighter Colored Shingles (White)	Standard Roof Shingles	Per Roof SqFT	Existing	0.06	20	$0.25	45%	0
Single Family	Heat Pump	Cool Roofs	Lighter Colored Shingles (White)	Standard Roof Shingles	Per Roof SqFT	New	0.03	20	$0.25	45%	0
Single Family	Heat Pump	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	3.27	20	$0.92	61%	15
Single Family	Heat Pump	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	New	2.81	20	$0.92	61%	9
Single Family	Heat Pump	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	5.87	20	$3	76%	400
Single Family	Heat Pump	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	New	5.05	20	$3	76%	283
Single Family	Heat Pump	Duct Sealing	4 CFM/100sqft of CFA	8 CFM/100sqft of CFA	Per Duct Sealing Installation	New	616	18	$333	65%	830
Single Family	Heat Pump	Duct Sealing	4 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	2,095	18	$960	33%	1,772
Single Family	Heat Pump	Duct Sealing	8 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	1,397	18	$587	65%	1,753
Single Family	Heat Pump	ECM Motor - Air Source Heat Pump	Air Source Heat Pump ECM Fan	Standard Motor	Per ECM	Existing	469	15	$200	62%	698
Single Family	Heat Pump	ECM Motor - Air Source Heat Pump	Air Source Heat Pump ECM Fan	Standard Motor	Per ECM	New	452	15	$200	90%	879
Single Family	Heat Pump	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof sqft	New	0.45	30	$13	88%	0
Single Family	Heat Pump	Heat Exchanger - Air-to-Air	Air-to-Air Heat Exchanger	No Air-to-Air Heat Exchanger	Per Heat Exchanger	Existing	2,794	18	$1,085	75%	6,782
Single Family	Heat Pump	Heat Exchanger - Air-to-Air	Air-to-Air Heat Exchanger	No Air-to-Air Heat Exchanger	Per Heat Exchanger	New	2,464	18	$1,085	75%	4,746
Single Family	Heat Pump	Heat Pump - Below Standard	Below Standard SEER 10 and HSPF 7.2	Below Standard SEER 10 and HSPF 7.2	Per Household	Existing	0.00	9	$0.00	100%	0
Single Family	Heat Pump	Heat Pump - Below Standard	Below Standard SEER 10 and HSPF 7.2	Below Standard SEER 10 and HSPF 7.2	Per Household	New	0.00	9	$0.00	100%	0
Single Family	Heat Pump	Heat Pump - CEE Tier 2	CEE Tier 2 SEER/EER 15/12.5 and HSPF 8.5 (Split System)	Federal Standard SEER 13 and HSPF 7.7	Per Household	Existing	1,299	18	$822	100%	0
Single Family	Heat Pump	Heat Pump - CEE Tier 2	CEE Tier 2 SEER/EER 15/12.5 and HSPF 8.5 (Split System)	Federal Standard SEER 13 and HSPF 7.7	Per Household	New	1,129	18	$822	100%	0
Single Family	Heat Pump	Heat Pump - ENERGY STAR	ENERGY STAR SEER/EER 14.5/12 and HSPF 8.2 (Split System)	Federal Standard SEER 13 and HSPF 7.7	Per Household	Existing	880	18	$616	100%	0
Single Family	Heat Pump	Heat Pump - ENERGY STAR	ENERGY STAR SEER/EER 14.5/12 and HSPF 8.2 (Split System)	Federal Standard SEER 13 and HSPF 7.7	Per Household	New	754	18	$616	100%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Single Family	Heat Pump	Heat Pump - Enhanced	Enhanced SEER/EER 16/13 and HSPF 9.0 (Split System)	Federal Standard SEER 13 and HSPF 7.7	Per Household	Existing	1,955	18	$1,233	100%	1,642
Single Family	Heat Pump	Heat Pump - Enhanced	Enhanced SEER/EER 16/13 and HSPF 9.0 (Split System)	Federal Standard SEER 13 and HSPF 7.7	Per Household	New	1,710	18	$1,233	100%	1,868
Single Family	Heat Pump	Heat Pump - Ground Source	GSHP ENERGY STAR EER 17.1 and 3.6 COP	Federal Standard SEER 13 and HSPF 7.7	Per Household	Existing	4,766	18	$9,986	25%	0
Single Family	Heat Pump	Heat Pump - Ground Source	GSHP ENERGY STAR EER 17.1 and 3.6 COP	Federal Standard SEER 13 and HSPF 7.7	Per Household	New	4,248	18	$10,109	25%	0
Single Family	Heat Pump	Heat Pump - Standard	Federal Standard SEER 13 and HSPF 7.7	Federal Standard SEER 13 and HSPF 7.7	Per Household	Existing	0.00	18	$0.00	100%	0
Single Family	Heat Pump	Heat Pump - Standard	Federal Standard SEER 13 and HSPF 7.7	Federal Standard SEER 13 and HSPF 7.7	Per Household	New	0.00	18	$0.00	100%	0
Single Family	Heat Pump	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	Existing	1,397	11	$611	35%	1,029
Single Family	Heat Pump	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	New	800	11	$611	64%	833
Single Family	Heat Pump	Infiltration Reduction	4.0 ACH50	7.0 ACH50	Per Building SqFt	New	0.54	11	$0.25	42%	717
Single Family	Heat Pump	Infiltration Reduction	4.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	1.23	11	$0.44	19%	865
Single Family	Heat Pump	Infiltration Reduction	7.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.61	11	$0.19	63%	1,477
Single Family	Heat Pump	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-38 (To Code Zone 5)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.77	20	$0.99	23%	292
Single Family	Heat Pump	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (To Code Zone 6)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.90	20	$1	23%	328
Single Family	Heat Pump	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	Existing	0.13	20	$0.25	45%	0
Single Family	Heat Pump	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	New	0.11	20	$0.25	45%	0
Single Family	Heat Pump	Insulation - Basement Wall	Insulation Basement Wall (R-10 Zone 5)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	1.88	20	$1	12%	259
Single Family	Heat Pump	Insulation - Basement Wall	Insulation Basement Wall (R-15 Zone 6)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	2.19	20	$1	24%	639
Single Family	Heat Pump	Insulation - Duct	Insulation Duct (R-8)	No Duct Insulation	Per Duct Insulation Installation	Existing	569	20	$596	71%	738
Single Family	Heat Pump	Insulation - Floor	Insulation Floor (R-30)	Average Existing Insulation (R-1.8)	Per Insulated SqFt	Existing	0.65	20	$0.90	57%	615
Single Family	Heat Pump	Insulation - Rim/Band Joist	Insulation Rim and Band Joist (R-10)	No Rim And Band Joist Insulation	Per Insulated SqFt	Existing	1.34	20	$1	16%	53
Single Family	Heat Pump	Insulation - Siding	Vinyl Siding with Foam Backing (R-3)	No Siding Insulation	Per Insulated SqFt	Existing	1.17	20	$0.51	14%	609
Single Family	Heat Pump	Insulation - Slab	Insulation Slab (R-15, 4ft)	Code Insulation (R-10, 4ft)	Per Insulated SqFt	New	0.30	20	$0.44	13%	61
Single Family	Heat Pump	Insulation - Wall	Insulation Wall (R-13)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	2.31	20	$1	3%	92
Single Family	Heat Pump	Insulation - Wall	Insulation Wall (R-20 or R-13 w/ R-5 sheathing) (To Code)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	2.71	20	$1	2%	172
Single Family	Heat Pump	Insulation - Wall	Insulation Wall (R-21 + R-5 sheathing)	Code Insulation (R-20 or R-13 w/ R-5 sheathing)	Per Insulated SqFt	New	0.16	20	$0.16	90%	361
Single Family	Heat Pump	Quality Install Heat Pump	Quality Installation (QI)	Standard Installation	Per QI Install	Existing	1,612	5	$300	45%	1,471
Single Family	Heat Pump	Quality Install Heat Pump	Quality Installation (QI)	Standard Installation	Per QI Install	New	1,422	5	$300	45%	1,134
Single Family	Heat Pump	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	Existing	1,426	30	$675	82%	4,144
Single Family	Heat Pump	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	New	1,257	30	$480	82%	2,901
Single Family	Heat Pump	Solar Attic Fan	Solar Electric Attic Ventilation	Standard Passive Ventilation	Per Solar Fan	Existing	134	19	$331	49%	0
Single Family	Heat Pump	Solar Attic Fan	Solar Electric Attic Ventilation	Standard Passive Ventilation	Per Solar Fan	New	118	19	$331	49%	0
Single Family	Heat Pump	Thermostat - Multi-Zone	Individual Room Temperature Control for Major Occupied Rooms	Programmable Thermostat - Central Control Only	Per Programmable Control System	New	837	11	$895	86%	0
Single Family	Heat Pump	Thermostat - Programmable	Setback Thermostat 5-1-1, 5-2 or 7-Day	Manual Thermostat	Per Programmable Control	Existing	488	15	$33	48%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Single Family	Heat Pump	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	Existing	490	15	$167	51%	250
Single Family	Heat Pump	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	New	432	15	$167	90%	313
Single Family	Heat Pump	Tune-up - Air Source Heat Pump	Air Source Heat Pump Maintenance (Tune-up)	Unmaintained Air Source Heat Pump	Per Tune-up	Existing	969	5	$200	71%	1,326
Single Family	Heat Pump	Tune-up - Ground Source Heat Pump	Ground Source Heat Pump Maintenance (Tune-up)	Unmaintained Ground Source Heat Pump	Per Tune-up	Existing	698	5	$200	0%	2
Single Family	Heat Pump	Whole-House Fan	Whole-House Fan to Offset Central Cooling	No Whole-House Fan	Per House Fan	Existing	335	20	$366	48%	567
Single Family	Heat Pump	Whole-House Fan	Whole-House Fan to Offset Central Cooling	No Whole-House Fan	Per House Fan	New	295	20	$366	48%	397
Single Family	Heat Pump	Window - Film	Window Film (SHGC Reduction=45%)	No Window Film	Per Window SqFt	Existing	0.55	10	$4	76%	0
Single Family	Heat Pump	Window - Shade	Window Shade/Blind or Thermal Drapes	No Interior Shading Device	Per Window SqFt	Existing	0.36	3	$7	38%	0
Single Family	Heat Pump	Window - Upgrade	Code Window U-Factor = 0.35 (2009 IECC)	Existing Windows U-Factor	Per Window SqFt	Existing	4.31	20	$24	24%	0
Single Family	Heat Pump	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	1.19	20	$8	73%	0
Single Family	Heat Pump	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	1.10	20	$8	82%	0
Single Family	Heat Pump	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	3.11	20	$33	61%	0
Single Family	Heat Pump	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	2.86	20	$33	68%	0
Single Family	Heat Room	Construction - ICF	Insulated Concrete Forms - Concrete Construction	Standard Wood Framing	Per Building SqFt	New	0.65	40	$2	67%	0
Single Family	Heat Room	Construction - SIP	Structural Insulated Panels - Specialty Framing	Standard Wood Framing	Per Building SqFt	New	0.65	40	$0.76	67%	0
Single Family	Heat Room	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	1.54	20	$0.92	61%	236
Single Family	Heat Room	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	New	1.54	20	$0.92	61%	0
Single Family	Heat Room	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	2.77	20	$3	76%	0
Single Family	Heat Room	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	New	2.77	20	$3	76%	0
Single Family	Heat Room	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof sqft	New	0.07	30	$13	88%	0
Single Family	Heat Room	Heat Pump - Ductless Mini-Split	ENERGY STAR 14.5 SEER, 8.2 HSPF	Electric Baseboard Heating	Per Ductless Heat Pump	Existing	3,905	15	$4,091	38%	0
Single Family	Heat Room	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	Existing	1,077	11	$611	35%	0
Single Family	Heat Room	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	New	605	11	$611	64%	0
Single Family	Heat Room	Infiltration Reduction	4.0 ACH50	7.0 ACH50	Per Building SqFt	New	0.41	11	$0.25	42%	0
Single Family	Heat Room	Infiltration Reduction	4.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.94	11	$0.44	19%	1,812
Single Family	Heat Room	Infiltration Reduction	7.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.47	11	$0.19	63%	2,993
Single Family	Heat Room	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-38 (To Code Zone 5)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.36	20	$0.99	23%	0
Single Family	Heat Room	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (To Code Zone 6)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.42	20	$1	23%	0
Single Family	Heat Room	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	Existing	0.06	20	$0.25	45%	0
Single Family	Heat Room	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	New	0.06	20	$0.25	45%	0
Single Family	Heat Room	Insulation - Basement Wall	Insulation Basement Wall (R-10 Zone 5)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	1.06	20	$1	12%	0
Single Family	Heat Room	Insulation - Basement Wall	Insulation Basement Wall (R-15 Zone 6)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	1.23	20	$1	24%	0
Single Family	Heat Room	Insulation - Floor	Insulation Floor (R-30)	Average Existing Insulation (R-1.8)	Per Insulated SqFt	Existing	0.31	20	$0.90	57%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Single Family	Heat Room	Insulation - Rim/Band Joist	Insulation Rim and Band Joist (R-10)	No Rim And Band Joist Insulation	Per Insulated SqFt	Existing	0.63	20	$1	16%	0
Single Family	Heat Room	Insulation - Siding	Vinyl Siding with Foam Backing (R-3)	No Siding Insulation	Per Insulated SqFt	Existing	0.55	20	$0.51	14%	0
Single Family	Heat Room	Insulation - Slab	Insulation Slab (R-15, 4ft)	Code Insulation (R-10, 4ft)	Per Insulated SqFt	New	0.19	20	$0.44	13%	0
Single Family	Heat Room	Insulation - Wall	Insulation Wall (R-13)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	1.09	20	$1	3%	0
Single Family	Heat Room	Insulation - Wall	Insulation Wall (R-20 or R-13 w/ R-5 sheathing) (To Code)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	1.28	20	$1	2%	0
Single Family	Heat Room	Insulation - Wall	Insulation Wall (R-21 + R-5 sheathing)	Code Insulation (R-20 or R-13 w/ R-5 sheathing)	Per Insulated SqFt	New	0.09	20	$0.16	90%	0
Single Family	Heat Room	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	Existing	215	30	$675	82%	0
Single Family	Heat Room	Radiant Barrier (Ceiling)	Radiant Barrier (Ceiling)	No Radiant Barrier	Per Radiant Barrier Install	New	186	30	$480	82%	0
Single Family	Heat Room	Room Heat - Standard	Standard Room Heat	Standard Room Heat	Per Household	Existing	0.00	10	$0.00	100%	0
Single Family	Heat Room	Room Heat - Standard	Standard Room Heat	Standard Room Heat	Per Household	New	0.00	10	$0.00	100%	0
Single Family	Heat Room	Window - Upgrade	Code Window U-Factor = 0.35 (2009 IECC)	Existing Windows U-Factor	Per Window SqFt	Existing	2.03	20	$24	24%	0
Single Family	Heat Room	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	0.56	20	$8	73%	0
Single Family	Heat Room	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	0.56	20	$8	82%	0
Single Family	Heat Room	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	1.47	20	$33	61%	0
Single Family	Heat Room	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	1.47	20	$33	68%	0
Single Family	Home Audio System	Home Audio System - ENERGY STAR	ENERGY STAR Home Audio System	Standard Home Audio System	Per Unit	Existing	22	7	$20	100%	0
Single Family	Home Audio System	Home Audio System - ENERGY STAR	ENERGY STAR Home Audio System	Standard Home Audio System	Per Unit	New	22	7	$20	100%	0
Single Family	Home Audio System	Home Audio System - Standard	Standard Home Audio System	Standard Home Audio System	Per Unit	Existing	0.00	7	$0.00	100%	0
Single Family	Home Audio System	Home Audio System - Standard	Standard Home Audio System	Standard Home Audio System	Per Unit	New	0.00	7	$0.00	100%	0
Single Family	Lighting Exterior	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	Existing	17	11	$611	35%	0
Single Family	Lighting Exterior	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	New	17	11	$611	64%	0
Single Family	Lighting Exterior	Lighitng Controls - Daylighting Controls (Photocell) - Outdoors	Lighitng Controls - Daylighting Controls (Photocell) - Outdoors	No Daylighting Controls	Per Photocell Control	Existing	17	10	$64	25%	0
Single Family	Lighting Exterior	Lighitng Controls - Daylighting Controls (Photocell) - Outdoors	Lighitng Controls - Daylighting Controls (Photocell) - Outdoors	No Daylighting Controls	Per Photocell Control	New	17	10	$64	25%	0
Single Family	Lighting Exterior	Lighting - CFL	Exterior - CFL	EISA Standard	Per Lamp	Existing	35	3	$4	100%	0
Single Family	Lighting Exterior	Lighting - CFL	Exterior - CFL	EISA Standard	Per Lamp	New	35	3	$4	100%	0
Single Family	Lighting Exterior	Lighting - EISA Backstop	Exterior - EISA Backstop	EISA Standard	Per Lamp	Existing	32	2	$0.00	100%	0
Single Family	Lighting Exterior	Lighting - EISA Backstop	Exterior - EISA Backstop	EISA Standard	Per Lamp	New	32	2	$0.00	100%	0
Single Family	Lighting Exterior	Lighting - EISA Standard	Exterior - EISA Standard	EISA Standard	Per Lamp	Existing	0.00	2	$0.00	100%	0
Single Family	Lighting Exterior	Lighting - EISA Standard	Exterior - EISA Standard	EISA Standard	Per Lamp	New	0.00	2	$0.00	100%	0
Single Family	Lighting Exterior	Lighting - Incandescent	Exterior - Incandescent	Incandescent	Per Lamp	Existing	0.00	2	$0.00	100%	0
Single Family	Lighting Exterior	Lighting - Incandescent	Exterior - Incandescent	Incandescent	Per Lamp	New	0.00	2	$0.00	100%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Single Family	Lighting Exterior	Lighting - LED	Exterior - LED	EISA Standard	Per Lamp	Existing	51	12	$36	100%	14,836
Single Family	Lighting Exterior	Lighting - LED	Exterior - LED	EISA Standard	Per Lamp	New	51	12	$36	100%	1,009
Single Family	Lighting Interior Specialty	LED Christmas Lighting	LED Christmas Lighting	Incandescent Christmas Lighting	Per LED String	Existing	6.08	5	$18	82%	0
Single Family	Lighting Interior Specialty	LED Christmas Lighting	LED Christmas Lighting	Incandescent Christmas Lighting	Per LED String	New	6.08	5	$18	82%	0
Single Family	Lighting Interior Specialty	Lighting - CFL	Interior Specialty - CFL	EISA Standard	Per Lamp	Existing	31	6	$6	65%	52,174
Single Family	Lighting Interior Specialty	Lighting - CFL	Interior Specialty - CFL	EISA Standard	Per Lamp	New	31	6	$6	65%	3,754
Single Family	Lighting Interior Specialty	Lighting - Incandescent	Interior Specialty - Incandescent	Incandescent	Per Lamp	Existing	0.00	2	$0.00	100%	0
Single Family	Lighting Interior Specialty	Lighting - Incandescent	Interior Specialty - Incandescent	Incandescent	Per Lamp	New	0.00	2	$0.00	100%	0
Single Family	Lighting Interior Specialty	Lighting - LED	Interior Specialty - LED	EISA Standard	Per Lamp	Existing	37	12	$28	50%	88,422
Single Family	Lighting Interior Specialty	Lighting - LED	Interior Specialty - LED	EISA Standard	Per Lamp	New	37	12	$28	50%	5,754
Single Family	Lighting Interior Standard	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	Existing	83	11	$611	35%	0
Single Family	Lighting Interior Standard	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	New	83	11	$611	64%	0
Single Family	Lighting Interior Standard	Lighitng Controls - Daylighting Controls (Photocell) - Indoors	Lighitng Controls - Daylighting Controls (Photocell) - Indoors	No Daylighting Controls	Per Photocell Control	Existing	16	10	$64	14%	0
Single Family	Lighting Interior Standard	Lighitng Controls - Daylighting Controls (Photocell) - Indoors	Lighitng Controls - Daylighting Controls (Photocell) - Indoors	No Daylighting Controls	Per Photocell Control	New	16	10	$64	14%	0
Single Family	Lighting Interior Standard	Lighting - CFL	Interior Standard - CFL	EISA Standard	Per Lamp	Existing	15	5	-0.2101	100%	0
Single Family	Lighting Interior Standard	Lighting - CFL	Interior Standard - CFL	EISA Standard	Per Lamp	New	15	5	-0.2101	100%	0
Single Family	Lighting Interior Standard	Lighting - EISA Backstop	Interior Standard - EISA Backstop	EISA Standard	Per Lamp	Existing	14	2	$0.00	100%	0
Single Family	Lighting Interior Standard	Lighting - EISA Backstop	Interior Standard - EISA Backstop	EISA Standard	Per Lamp	New	14	2	$0.00	100%	0
Single Family	Lighting Interior Standard	Lighting - EISA Standard	Interior Standard - EISA Standard	EISA Standard	Per Lamp	Existing	0.00	2	$0.00	100%	0
Single Family	Lighting Interior Standard	Lighting - EISA Standard	Interior Standard - EISA Standard	EISA Standard	Per Lamp	New	0.00	2	$0.00	100%	0
Single Family	Lighting Interior Standard	Lighting - Incandescent	Interior Standard - Incandescent	Incandescent	Per Lamp	Existing	0.00	2	$0.00	100%	0

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Single Family	Lighting Interior Standard	Lighting - Incandescent	Interior Standard - Incandescent	Incandescent	Per Lamp	New	0.00	2	$0.00	100%	0
Single Family	Lighting Interior Standard	Lighting - LED	Interior Standard - LED	EISA Standard	Per Lamp	Existing	22	12	$24	100%	73,013
Single Family	Lighting Interior Standard	Lighting - LED	Interior Standard - LED	EISA Standard	Per Lamp	New	22	12	$24	100%	5,022
Single Family	Lighting Interior Standard	Lighting Controls - Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Occupancy Sensor	Existing	31	10	$56	17%	0
Single Family	Lighting Interior Standard	Lighting Controls - Occupancy Sensors	Wall-Switch Occupancy Sensors	No Occupancy Sensor	Per Occupancy Sensor	New	31	10	$56	17%	0
Single Family	Microwave	Microwave - Standard	Standard Microwave	Standard Microwave	Per Unit	Existing	0.00	10	$0.00	100%	0
Single Family	Microwave	Microwave - Standard	Standard Microwave	Standard Microwave	Per Unit	New	0.00	10	$0.00	100%	0
Single Family	Monitor	Monitor - Home Office ENERGY STAR	ENERGY STAR Office Monitor	Standard Office Monitor	Per Unit	Existing	14	5	$0.00	100%	0
Single Family	Monitor	Monitor - Home Office ENERGY STAR	ENERGY STAR Office Monitor	Standard Office Monitor	Per Unit	New	14	5	$0.00	100%	0
Single Family	Monitor	Monitor - Home Office Standard	Standard Office Monitor	Standard Office Monitor	Per Unit	Existing	0.00	5	$0.00	100%	0
Single Family	Monitor	Monitor - Home Office Standard	Standard Office Monitor	Standard Office Monitor	Per Unit	New	0.00	5	$0.00	100%	0
Single Family	Other Plug Load	DVD System - ENERGY STAR	ENERGY STAR DVD System	Standard DVD System	Per Unit	Existing	18	3	$0.99	100%	8,113
Single Family	Other Plug Load	DVD System - ENERGY STAR	ENERGY STAR DVD System	Standard DVD System	Per Unit	New	18	3	$0.99	100%	563
Single Family	Other Plug Load	DVD System - Standard	Standard DVD System	Standard DVD System	Per Unit	Existing	0.00	3	$0.00	100%	0
Single Family	Other Plug Load	DVD System - Standard	Standard DVD System	Standard DVD System	Per Unit	New	0.00	3	$0.00	100%	0
Single Family	Plug Load Other	Battery Chargers	Energy Star Battery Chargers	Standard Battery Chargers	Per Battary Charger	Existing	12	3	$4	36%	0
Single Family	Plug Load Other	Battery Chargers	Energy Star Battery Chargers	Standard Battery Chargers	Per Battary Charger	New	12	3	$4	36%	0
Single Family	Plug Load Other	Ceiling Fans	ENERGY STAR Ceiling Fans with Light Kit	Standard Ceiling Fan	Per Ceiling Fan	Existing	65	10	$119	51%	0
Single Family	Plug Load Other	Ceiling Fans	ENERGY STAR Ceiling Fans with Light Kit	Standard Ceiling Fan	Per Ceiling Fan	New	65	10	$119	51%	0
Single Family	Plug Load Other	Ceiling Fans	ENERGY STAR Ceiling Fans without Light Kit	Standard Ceiling Fan	Per Ceiling Fan	Existing	4.33	10	$1	51%	814
Single Family	Plug Load Other	Ceiling Fans	ENERGY STAR Ceiling Fans without Light Kit	Standard Ceiling Fan	Per Ceiling Fan	New	4.33	10	$1	51%	56
Single Family	Plug Load Other	Cordless Phone - ENERGY STAR	ENERGY STAR Cordless Phone	Standard Cordless Phone	Per Cordless Phone	Existing	25	5	$1	29%	2,778
Single Family	Plug Load Other	Cordless Phone - ENERGY STAR	ENERGY STAR Cordless Phone	Standard Cordless Phone	Per Cordless Phone	New	25	5	$1	29%	189
Single Family	Plug Load Other	Home Office - Server	ENERGY STAR Home Server	Standard Office Server	Per Home Server	Existing	24	4	$8	4%	0
Single Family	Plug Load Other	Home Office - Server	ENERGY STAR Home Server	Standard Office Server	Per Home Server	New	24	4	$8	4%	0
Single Family	Plug Load Other	Plug Load - Other	Plug Load Other	Plug Load Other	Per Household	Existing	0.00	5	$0.00	100%	0
Single Family	Plug Load Other	Plug Load - Other	Plug Load Other	Plug Load Other	Per Household	New	0.00	5	$0.00	100%	0
Single Family	Plug Load Other	Smart Strip	Smart Strip	Standard Power Strip	Per Smart Strip	Existing	100	5	$22	62%	22,912
Single Family	Plug Load Other	Smart Strip	Smart Strip	Standard Power Strip	Per Smart Strip	New	100	5	$22	62%	1,562

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Single Family	Plug Load Other	Snow Melt System Control	Snow Melt System Control	Manual Control	Per Snow Melt Control	Existing	368	25	$3,318	0%	0
Single Family	Plug Load Other	Snow Melt System Control	Snow Melt System Control	Manual Control	Per Snow Melt Control	New	368	25	$3,318	0%	0
Single Family	Pool Pump	Pool Pump - Standard Constant Speed	Constant Speed Pool Pump	Constant Speed Pool Pump	Per Household	Existing	0.00	10	$0.00	100%	0
Single Family	Pool Pump	Pool Pump - Standard Constant Speed	Constant Speed Pool Pump	Constant Speed Pool Pump	Per Household	New	0.00	10	$0.00	100%	0
Single Family	Pool Pump	Pool Pump Timers	Pool Pump Timers	Pool Pump No Timers	Per Pool Pump Timer	Existing	291	10	$89	64%	714
Single Family	Pool Pump	Pool Pumps - 2-Speed	Pool Pumps (2-Speed)	Constant Speed Pool Pump	Per Household	Existing	660	10	$165	100%	0
Single Family	Pool Pump	Pool Pumps - 2-Speed	Pool Pumps (2-Speed)	Constant Speed Pool Pump	Per Household	New	660	10	$165	100%	0
Single Family	Pool Pump	Pool Pumps - VSD	Pool Pumps (VSD)	Constant Speed Pool Pump	Per Household	Existing	1,080	10	$695	100%	4,605
Single Family	Pool Pump	Pool Pumps - VSD	Pool Pumps (VSD)	Constant Speed Pool Pump	Per Household	New	1,080	10	$695	100%	528
Single Family	Printer	Printer - Home Office ENERGY STAR	ENERGY STAR Office Printer	Standard Printer	Per Unit	Existing	32	5	$13	100%	0
Single Family	Printer	Printer - Home Office ENERGY STAR	ENERGY STAR Office Printer	Standard Printer	Per Unit	New	32	5	$13	100%	0
Single Family	Printer	Printer - Standard	Standard Printer	Standard Printer	Per Unit	Existing	0.00	5	$0.00	100%	0
Single Family	Printer	Printer - Standard	Standard Printer	Standard Printer	Per Unit	New	0.00	5	$0.00	100%	0
Single Family	Refrigerator	Refrigerator - Below Standard	Below Standard Refrigerator	Below Standard Refrigerator	Per Unit	Existing	0.00	7	$0.00	100%	0
Single Family	Refrigerator	Refrigerator - Below Standard	Below Standard Refrigerator	Below Standard Refrigerator	Per Unit	New	0.00	7	$0.00	100%	0
Single Family	Refrigerator	Refrigerator - CEE Tier 2	CEE Tier 2 Refrigerator	Standard Refrigerator - Federal Standard 2001	Per Unit	Existing	142	13	$429	100%	0
Single Family	Refrigerator	Refrigerator - CEE Tier 2	CEE Tier 2 Refrigerator	Standard Refrigerator - Federal Standard 2001	Per Unit	New	142	13	$429	100%	0
Single Family	Refrigerator	Refrigerator - CEE Tier 3	CEE Tier 3 Refrigerator	Standard Refrigerator - Federal Standard 2001	Per Unit	Existing	170	13	$580	100%	0
Single Family	Refrigerator	Refrigerator - CEE Tier 3	CEE Tier 3 Refrigerator	Standard Refrigerator - Federal Standard 2001	Per Unit	New	170	13	$580	100%	0
Single Family	Refrigerator	Refrigerator - ENERGY STAR	ENERGY STAR Refrigerator	Standard Refrigerator - Federal Standard 2001	Per Unit	Existing	113	13	$251	100%	0
Single Family	Refrigerator	Refrigerator - ENERGY STAR	ENERGY STAR Refrigerator	Standard Refrigerator - Federal Standard 2001	Per Unit	New	113	13	$251	100%	0
Single Family	Refrigerator	Refrigerator - Federal Standard September 2014	Federal Standard In 2014 (NAECA)	Standard Refrigerator - Federal Standard 2001	Per Unit	Existing	56	13	$124	100%	0
Single Family	Refrigerator	Refrigerator - Federal Standard September 2014	Federal Standard In 2014 (NAECA)	Standard Refrigerator - Federal Standard 2001	Per Unit	New	56	13	$124	100%	0
Single Family	Refrigerator	Refrigerator - Standard 2001	Standard Refrigerator - Federal Standard 2001	Standard Refrigerator - Federal Standard 2001	Per Unit	Existing	0.00	13	$0.00	100%	0
Single Family	Refrigerator	Refrigerator - Standard 2001	Standard Refrigerator - Federal Standard 2001	Standard Refrigerator - Federal Standard 2001	Per Unit	New	0.00	13	$0.00	100%	0
Single Family	Refrigerator	Removal of Secondary Refrigerator/Freezer	Proper Disposal of Refrigerator/Freezer Combo	Existing Non-Efficient Refrigerator/Freezer	Per Recyled Unit	Existing	1,140	5	$30	3%	18,049
Single Family	Set Top Box	Digital Set Top Receiver - ENERGY STAR	ENERGY STAR Digital Set Top Receiver	Standard Digital Set Top Receiver	Per Unit	Existing	164	5	$12	100%	42,149
Single Family	Set Top Box	Digital Set Top Receiver - ENERGY STAR	ENERGY STAR Digital Set Top Receiver	Standard Digital Set Top Receiver	Per Unit	New	164	5	$12	100%	3,220
Single Family	Set Top Box	Digital Set Top Receiver - Standard	Standard Digital Set Top Receiver	Standard Digital Set Top Receiver	Per Unit	Existing	0.00	5	$0.00	100%	0
Single Family	Set Top Box	Digital Set Top Receiver - Standard	Standard Digital Set Top Receiver	Standard Digital Set Top Receiver	Per Unit	New	0.00	5	$0.00	100%	0
Single Family	Television	TV - ENERGY STAR	ENERGY STAR TV	Standard TV	Per Unit	Existing	118	5	$55	100%	0
Single Family	Television	TV - ENERGY STAR	ENERGY STAR TV	Standard TV	Per Unit	New	118	5	$55	100%	0
Single Family	Television	TV - Standard	Standard TV	Standard TV	Per Unit	Existing	0.00	5	$0.00	100%	0
Single Family	Television	TV - Standard	Standard TV	Standard TV	Per Unit	New	0.00	5	$0.00	100%	0
Single Family	Ventilation And Circulation	ECM Motor - Air Conditioner/Electric/Gas Furnace ECM Fan	Air Conditioner/Electric/Gas Furnace ECM Fan	Standard Motor	Per ECM	Existing	469	15	$200	62%	107,178

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Single Family	Ventilation And Circulation	ECM Motor - Air Conditioner/Electric/Gas Furnace ECM Fan	Air Conditioner/Electric/Gas Furnace ECM Fan	Standard Motor	Per ECM	New	452	15	$200	90%	11,199
Single Family	Ventilation And Circulation	Motor - Standard	Standard Motor - Ventilation And Circulation	Standard Motor	Per Household	Existing	0.00	20	$0.00	100%	0
Single Family	Ventilation And Circulation	Motor - Standard	Standard Motor - Ventilation And Circulation	Standard Motor	Per Household	New	0.00	20	$0.00	100%	0
Single Family	Water Heat	Clothes Washer	Clothes Washer Enhanced Efficiency MEF = 3.10 and WF = 3.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	649	11	$789	83%	0
Single Family	Water Heat	Clothes Washer	Clothes Washer Enhanced Efficiency MEF = 3.10 and WF = 3.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	649	11	$789	83%	0
Single Family	Water Heat	Clothes Washer	Clothes Washer CEE Tier 2 MEF = 2.2 and WF = 4.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	467	11	$391	80%	0
Single Family	Water Heat	Clothes Washer	Clothes Washer CEE Tier 2 MEF = 2.2 and WF = 4.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	467	11	$391	80%	0
Single Family	Water Heat	Clothes Washer	Clothes Washer CEE Tier 3 MEF = 2.4 and WF = 4.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	519	11	$565	80%	0
Single Family	Water Heat	Clothes Washer	Clothes Washer CEE Tier 3 MEF = 2.4 and WF = 4.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	519	11	$565	80%	0
Single Family	Water Heat	Clothes Washer	Clothes Washer ENERGY STAR MEF = 2.0 and WF = 6.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	404	11	$134	73%	19,878
Single Family	Water Heat	Clothes Washer	Clothes Washer ENERGY STAR MEF = 2.0 and WF = 6.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	404	11	$134	73%	1,141
Single Family	Water Heat	Clothes Washer	Steam Clothes Washer	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	649	11	$789	83%	0
Single Family	Water Heat	Clothes Washer	Steam Clothes Washer	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	649	11	$789	83%	0
Single Family	Water Heat	Desuperheaters - Air Conditioner	Add-on Desuperheaters to Air Conditioner	No Desuperheater	Per Desuperheater	Existing	350	10	$600	55%	0
Single Family	Water Heat	Desuperheaters - Air Source Heat Pump	Add-on Desuperheaters to Air Source Heat Pump	No Desuperheater	Per Desuperheater	Existing	701	10	$600	1%	0
Single Family	Water Heat	Desuperheaters - Ground Source Heat Pump	Add-on Desuperheaters to Ground Source Heat Pump	No Desuperheater	Per Desuperheater	Existing	701	10	$600	0%	0
Single Family	Water Heat	Dishwasher	Dishwasher Enhanced Efficiency (EF 1.00) 200 kWh/yr and 4.00 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle	Per Dishwasher	Existing	155	11	$1,067	54%	0
Single Family	Water Heat	Dishwasher	Dishwasher Enhanced Efficiency (EF 1.00) 200 kWh/yr and 4.00 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle	Per Dishwasher	New	155	11	$1,067	54%	0
Single Family	Water Heat	Dishwasher	ENERGY STAR 295 kWh/yr and 4.25 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle	Per Dishwasher	Existing	60	11	$272	18%	0
Single Family	Water Heat	Dishwasher	ENERGY STAR 295 kWh/yr and 4.25 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle	Per Dishwasher	New	60	11	$272	18%	0
Single Family	Water Heat	Drain-Water Heat Recovery	Drain-Water Heat Recovery	No Drain Water Heat Recovery	Per Drain-Water Heat Recovery System	Existing	820	40	$935	27%	11,785
Single Family	Water Heat	Drain-Water Heat Recovery	Drain-Water Heat Recovery	No Drain Water Heat Recovery	Per Drain-Water Heat Recovery System	New	773	40	$935	68%	1,611
Single Family	Water Heat	Faucet Aerators	0.5 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	Existing	113	10	$1	85%	6,481
Single Family	Water Heat	Faucet Aerators	0.5 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	New	107	10	$1	90%	373

Table A.3.1. MidAm Residential Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Single Family	Water Heat	Faucet Aerators	1.5 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	Existing	46	10	$1	26%	43
Single Family	Water Heat	Faucet Aerators	1.5 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	New	44	10	$1	28%	0
Single Family	Water Heat	Faucet Aerators	2.0 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	Existing	13	10	$0.53	14%	0
Single Family	Water Heat	Faucet Aerators	2.0 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	New	12	10	$0.53	15%	0
Single Family	Water Heat	Faucet Aerators	2.2 GPM (Federal Code)	Existing Faucet Aerator GPM	Per Faucet Aerator	Existing	53	10	$3	9%	325
Single Family	Water Heat	Hot Tub Covers	Hot Tub Covers R-21	Existing Cover R-10	Per Hot Tub Cover	Existing	172	6	$524	1%	0
Single Family	Water Heat	Low-Flow Showerheads	1.5 GPM - Showerhead	2.5 GPM (Federal Code)	Per Showerhead	Existing	222	10	$8	80%	12,006
Single Family	Water Heat	Low-Flow Showerheads	1.5 GPM - Showerhead	2.5 GPM (Federal Code)	Per Showerhead	New	211	10	$8	80%	656
Single Family	Water Heat	Low-Flow Showerheads	2.0 GPM - Showerhead	2.5 GPM (Federal Code)	Per Showerhead	Existing	111	10	$13	38%	148
Single Family	Water Heat	Low-Flow Showerheads	2.0 GPM - Showerhead	2.5 GPM (Federal Code)	Per Showerhead	New	105	10	$13	38%	8
Single Family	Water Heat	Low-Flow Showerheads	2.5 GPM (Federal Code)	Existing Showerhead GPM	Per Showerhead	Existing	111	10	$24	23%	1,742
Single Family	Water Heat	Solar Hot Water (SHW)	Solar Thermal Collector	Standard Storage Hot Water Heater	Per Solar Water System	Existing	1,753	15	$6,238	15%	0
Single Family	Water Heat	Solar Hot Water (SHW)	Solar Thermal Collector	Standard Storage Hot Water Heater	Per Solar Water System	New	1,653	15	$4,878	15%	0
Single Family	Water Heat	Water Heater - Below Standard	EF = 0.88 Below Standard Water Heater	EF = 0.88 Below Standard Water Heater	Per Unit	Existing	0.00	7	$0.00	100%	0
Single Family	Water Heat	Water Heater - Below Standard	EF = 0.88 Below Standard Water Heater	EF = 0.88 Below Standard Water Heater	Per Unit	New	0.00	7	$0.00	100%	0
Single Family	Water Heat	Water Heater - Heat Pump	Heat Pump Water Heater ENERGY STAR EF = 2.0	EF = 0.92 Federal Standard 2001	Per Unit	Existing	1,884	13	$1,281	60%	43,598
Single Family	Water Heat	Water Heater - Heat Pump	Heat Pump Water Heater ENERGY STAR EF = 2.0	EF = 0.92 Federal Standard 2001	Per Unit	New	1,794	13	$1,281	60%	3,960
Single Family	Water Heat	Water Heater - Pipe Insulation	Hot Water Pipe Insulation (R-4)	No Pipe Insulation	Per Pipe Insulation	Existing	69	13	$6	36%	1,485
Single Family	Water Heat	Water Heater - Pipe Insulation	Hot Water Pipe Insulation (R-4)	No Pipe Insulation	Per Pipe Insulation	New	69	13	$6	43%	103
Single Family	Water Heat	Water Heater - Storage 2001 Standard	EF = 0.92 Federal Standard 2001	EF = 0.92 Federal Standard 2001	Per Unit	Existing	0.00	13	$0.00	100%	0
Single Family	Water Heat	Water Heater - Storage 2001 Standard	EF = 0.92 Federal Standard 2001	EF = 0.92 Federal Standard 2001	Per Unit	New	0.00	13	$0.00	100%	0
Single Family	Water Heat	Water Heater - Storage 2015 Standard	Water Heater - Storage Federal Standard April 2015 EF = 0.95	EF = 0.92 Federal Standard 2001	Per Unit	Existing	113	13	$43	100%	0
Single Family	Water Heat	Water Heater - Storage 2015 Standard	Water Heater - Storage Federal Standard April 2015 EF = 0.95	EF = 0.92 Federal Standard 2001	Per Unit	New	107	13	$43	100%	0
Single Family	Water Heat	Water Heater - Tank Blanket/Insulation	Install Insulation (R-11)	No Tank Insulation	Per Tank Wrap	Existing	227	13	$17	14%	1,982
Single Family	Water Heat	Water Heater - Tankless	Tankless EF= 0.98	EF = 0.92 Federal Standard 2001	Per Unit	Existing	223	20	$260	0%	0
Single Family	Water Heat	Water Heater - Tankless	Tankless EF= 0.98	EF = 0.92 Federal Standard 2001	Per Unit	New	212	20	$260	0%	0
Single Family	Water Heat	Water Heater - Thermostat Setback	120 Degrees	135 Degrees	Per Set-Back	Existing	670	4	$10	13%	5,403
Single Family	Water Heat	Water Heater - Thermostat Setback	120 Degrees	135 Degrees	Per Set-Back	New	631	4	$10	13%	292

Table A.3.2. MidAm Residential Gas Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (Therm)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (Thousand Therms)
Low Income Multi Family	Cooking Oven	Oven - Convection	Convection Oven	Standard Oven	Per Unit	Existing	10	19	$125	100%	0
Low Income Multi Family	Cooking Oven	Oven - Convection	Convection Oven	Standard Oven	Per Unit	New	10	19	$125	100%	0
Low Income Multi Family	Cooking Oven	Oven - Standard	Standard Oven	Standard Oven	Per Unit	Existing	0.00	19	$0.00	100%	0
Low Income Multi Family	Cooking Oven	Oven - Standard	Standard Oven	Standard Oven	Per Unit	New	0.00	19	$0.00	100%	0
Low Income Multi Family	Cooking Range	Cooking Range - Standard	Standard Cooking Range	Standard Cooking Range	Per Unit	Existing	0.00	19	$0.00	100%	0
Low Income Multi Family	Cooking Range	Cooking Range - Standard	Standard Cooking Range	Standard Cooking Range	Per Unit	New	0.00	19	$0.00	100%	0
Low Income Multi Family	Dryer	Clothes Dryer - Moisture Sensor	Clothes Dryer w/ Moisture Sensor	Standard Dryer without Moisture Sensor	Per Unit	Existing	4.08	11	$208	100%	0
Low Income Multi Family	Dryer	Clothes Dryer - Moisture Sensor	Clothes Dryer w/ Moisture Sensor	Standard Dryer without Moisture Sensor	Per Unit	New	4.08	11	$208	100%	0
Low Income Multi Family	Dryer	Clothes Dryer - Standard without Moisture Sensor	Standard Dryer without Moisture Sensor	Standard Dryer without Moisture Sensor	Per Unit	Existing	0.00	11	$0.00	100%	0
Low Income Multi Family	Dryer	Clothes Dryer - Standard without Moisture Sensor	Standard Dryer without Moisture Sensor	Standard Dryer without Moisture Sensor	Per Unit	New	0.00	11	$0.00	100%	0
Low Income Multi Family	Heat Central Boiler	Boiler - 85% AFUE	85% AFUE	Federal Standard 82% AFUE (EISA 2007)	Per Household	Existing	11	20	$314	100%	0
Low Income Multi Family	Heat Central Boiler	Boiler - 85% AFUE	85% AFUE	Federal Standard 82% AFUE (EISA 2007)	Per Household	New	9	20	$314	100%	0
Low Income Multi Family	Heat Central Boiler	Boiler - 90% AFUE	90% AFUE	Federal Standard 82% AFUE (EISA 2007)	Per Household	Existing	17	20	$2,038	100%	0
Low Income Multi Family	Heat Central Boiler	Boiler - 90% AFUE	90% AFUE	Federal Standard 82% AFUE (EISA 2007)	Per Household	New	14	20	$2,038	100%	0
Low Income Multi Family	Heat Central Boiler	Boiler - 94% AFUE	94% AFUE	Federal Standard 82% AFUE (EISA 2007)	Per Household	Existing	22	20	$2,457	100%	0
Low Income Multi Family	Heat Central Boiler	Boiler - 94% AFUE	94% AFUE	Federal Standard 82% AFUE (EISA 2007)	Per Household	New	18	20	$2,457	100%	0
Low Income Multi Family	Heat Central Boiler	Boiler - 96% AFUE	96% AFUE	Federal Standard 82% AFUE (EISA 2007)	Per Household	Existing	33	20	$2,895	100%	0
Low Income Multi Family	Heat Central Boiler	Boiler - 96% AFUE	96% AFUE	Federal Standard 82% AFUE (EISA 2007)	Per Household	New	27	20	$2,895	100%	0
Low Income Multi Family	Heat Central Boiler	Boiler - Below Standard 80% AFUE	Below Standard 80% AFUE	Below Standard 80% AFUE	Per Household	Existing	0.00	10	$0.00	100%	0
Low Income Multi Family	Heat Central Boiler	Boiler - Below Standard 80% AFUE	Below Standard 80% AFUE	Below Standard 80% AFUE	Per Household	New	0.00	10	$0.00	100%	0
Low Income Multi Family	Heat Central Boiler	Boiler - Controls	Boiler Controls	No Boiler Control	Per Boiler Control	Existing	27	20	$383	50%	0
Low Income Multi Family	Heat Central Boiler	Boiler - Pipe Insulation	R-6	No Insulation	Per Pipe Insulation	Existing	9	15	$44	23%	1
Low Income Multi Family	Heat Central Boiler	Boiler - Standard 82% AFUE	Federal Standard 82% AFUE (EISA 2007)	Federal Standard 82% AFUE (EISA 2007)	Per Household	Existing	0.00	20	$0.00	100%	0

Table A.3.2. MidAm Residential Gas Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (Therm)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (Thousand Therms)
Low Income Multi Family	Heat Central Boiler	Boiler - Standard 82% AFUE	Federal Standard 82% AFUE (EISA 2007)	Federal Standard 82% AFUE (EISA 2007)	Per Household	New	0.00	20	$0.00	100%	0
Low Income Multi Family	Heat Central Boiler	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	0.26	20	$0.92	32%	1
Low Income Multi Family	Heat Central Boiler	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	New	0.25	20	$0.92	32%	0
Low Income Multi Family	Heat Central Boiler	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	0.47	20	$3	40%	2
Low Income Multi Family	Heat Central Boiler	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	New	0.46	20	$3	40%	0
Low Income Multi Family	Heat Central Boiler	Duct Sealing	4 CFM/100sqft of CFA	8 CFM/100sqft of CFA	Per Duct Sealing Installation	New	22	18	$333	0%	0
Low Income Multi Family	Heat Central Boiler	Duct Sealing	4 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	82	18	$960	0%	0
Low Income Multi Family	Heat Central Boiler	Duct Sealing	8 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	55	18	$587	0%	0
Low Income Multi Family	Heat Central Boiler	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof sqft	New	0.01	30	$13	88%	0
Low Income Multi Family	Heat Central Boiler	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	Existing	55	11	$611	13%	4
Low Income Multi Family	Heat Central Boiler	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	New	29	11	$611	20%	0
Low Income Multi Family	Heat Central Boiler	Infiltration Reduction	4.0 ACH50	7.0 ACH50	Per Building SqFt	New	0.03	11	$0.25	42%	1
Low Income Multi Family	Heat Central Boiler	Infiltration Reduction	4.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.07	11	$0.44	19%	10
Low Income Multi Family	Heat Central Boiler	Infiltration Reduction	7.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.03	11	$0.19	63%	16
Low Income Multi Family	Heat Central Boiler	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-38 (To Code Zone 5)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.06	20	$0.99	7%	2
Low Income Multi Family	Heat Central Boiler	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (To Code Zone 6)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.07	20	$1	7%	3
Low Income Multi Family	Heat Central Boiler	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	Existing	0.01	20	$0.25	17%	0
Low Income Multi Family	Heat Central Boiler	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	New	0.01	20	$0.25	17%	0
Low Income Multi Family	Heat Central Boiler	Insulation - Basement Wall	Insulation Basement Wall (R-10 Zone 5)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.18	20	$1	7%	4
Low Income Multi Family	Heat Central Boiler	Insulation - Basement Wall	Insulation Basement Wall (R-15 Zone 6)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.21	20	$1	14%	9

Table A.3.2. MidAm Residential Gas Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (Therm)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (Thousand Therms)
Low Income Multi Family	Heat Central Boiler	Insulation - Duct	Insulation Duct (R-8)	No Duct Insulation	Per Duct Insulation Installation	Existing	23	20	$375	0%	0
Low Income Multi Family	Heat Central Boiler	Insulation - Floor	Insulation Floor (R-30)	Average Existing Insulation (R-1.8)	Per Insulated SqFt	Existing	0.05	20	$0.90	57%	0
Low Income Multi Family	Heat Central Boiler	Insulation - Rim/Band Joist	Insulation Rim and Band Joist (R-10)	No Rim And Band Joist Insulation	Per Insulated SqFt	Existing	0.10	20	$1	8%	1
Low Income Multi Family	Heat Central Boiler	Insulation - Siding	Vinyl Siding with Foam Backing (R-3)	No Siding Insulation	Per Insulated SqFt	Existing	0.09	20	$0.51	9%	3
Low Income Multi Family	Heat Central Boiler	Insulation - Slab	Insulation Slab (R-15, 4ft)	Code Insulation (R-10, 4ft)	Per Insulated SqFt	New	0.03	20	$0.44	28%	0
Low Income Multi Family	Heat Central Boiler	Insulation - Wall	Insulation Wall (R-13)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.18	20	$1	3%	1
Low Income Multi Family	Heat Central Boiler	Insulation - Wall	Insulation Wall (R-20 or R-13 w/ R-5 sheathing) (To Code)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.21	20	$1	1%	0
Low Income Multi Family	Heat Central Boiler	Insulation - Wall	Insulation Wall (R-21 + R-5 sheathing)	Code Insulation (R-20 or R-13 w/ R-5 sheathing)	Per Insulated SqFt	New	0.01	20	$0.16	90%	0
Low Income Multi Family	Heat Central Boiler	Integrated Space Heating and Water Heating	84% CAE or Above	Standard Boiler AFUE 82% and Water Heater EF = 0.59	Per Integrated Equipment	Existing	49	20	$746	0%	0
Low Income Multi Family	Heat Central Boiler	Integrated Space Heating and Water Heating	84% CAE or Above	Standard Boiler AFUE 82% and Water Heater EF = 0.59	Per Integrated Equipment	New	40	20	$746	0%	0
Low Income Multi Family	Heat Central Boiler	Quality Install Boiler	Quality Installation (QI)	Standard Installation	Per QI Install	Existing	27	5	$300	38%	0
Low Income Multi Family	Heat Central Boiler	Quality Install Boiler	Quality Installation (QI)	Standard Installation	Per QI Install	New	22	5	$300	38%	0
Low Income Multi Family	Heat Central Boiler	Thermostat - Multi-Zone	Individual Room Temperature Control for Major Occupied Rooms	Programmable Thermostat - Central Control Only	Per Programmable Control System	New	30	11	$895	62%	0
Low Income Multi Family	Heat Central Boiler	Thermostat - Programmable	Setback Thermostat 5-1-1, 5-2 or 7-Day	Manual Thermostat	Per Programmable Control	Existing	19	15	$33	42%	1
Low Income Multi Family	Heat Central Boiler	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	Existing	19	15	$167	44%	5
Low Income Multi Family	Heat Central Boiler	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	New	15	15	$167	62%	0
Low Income Multi Family	Heat Central Boiler	Tune-up - Boiler Maintenance	Boiler Maintenance (Tune-up)	Unmaintained Boiler	Per Tune-up	Existing	27	5	$200	66%	0
Low Income Multi Family	Heat Central Boiler	Window - Upgrade	Code Window U-Factor = 0.35 (2009 IECC)	Existing Windows U-Factor	Per Window SqFt	Existing	0.34	20	$19	24%	0
Low Income Multi Family	Heat Central Boiler	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	0.09	20	$3	73%	0
Low Income Multi Family	Heat Central Boiler	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	0.09	20	$3	82%	0

Table A.3.2. MidAm Residential Gas Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (Therm)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (Thousand Therms)
Low Income Multi Family	Heat Central Boiler	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	0.25	20	$28	63%	0
Low Income Multi Family	Heat Central Boiler	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	0.24	20	$28	68%	0
Low Income Multi Family	Heat Central Furnace	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	0.26	20	$0.92	32%	58
Low Income Multi Family	Heat Central Furnace	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	New	0.23	20	$0.92	32%	3
Low Income Multi Family	Heat Central Furnace	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	0.47	20	$3	40%	126
Low Income Multi Family	Heat Central Furnace	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	New	0.42	20	$3	40%	7
Low Income Multi Family	Heat Central Furnace	Duct Sealing	4 CFM/100sqft of CFA	8 CFM/100sqft of CFA	Per Duct Sealing Installation	New	12	18	$333	54%	0
Low Income Multi Family	Heat Central Furnace	Duct Sealing	4 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	53	18	$960	24%	337
Low Income Multi Family	Heat Central Furnace	Duct Sealing	8 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	35	18	$587	54%	541
Low Income Multi Family	Heat Central Furnace	Furnace - 92% AFUE	92% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	Existing	7.53	20	$82	100%	118
Low Income Multi Family	Heat Central Furnace	Furnace - 92% AFUE	92% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	New	5.36	20	$82	100%	0
Low Income Multi Family	Heat Central Furnace	Furnace - 93% AFUE	93% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	Existing	11	20	$220	100%	0
Low Income Multi Family	Heat Central Furnace	Furnace - 93% AFUE	93% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	New	7.96	20	$220	100%	0
Low Income Multi Family	Heat Central Furnace	Furnace - 94% AFUE	94% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	Existing	14	20	$498	100%	0
Low Income Multi Family	Heat Central Furnace	Furnace - 94% AFUE	94% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	New	10	20	$498	100%	0
Low Income Multi Family	Heat Central Furnace	Furnace - 96% AFUE	96% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	Existing	21	20	$653	100%	0
Low Income Multi Family	Heat Central Furnace	Furnace - 96% AFUE	96% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	New	15	20	$653	100%	0
Low Income Multi Family	Heat Central Furnace	Furnace - Below Standard 78% AFUE	Below Standard 78% AFUE	Below Standard 78% AFUE	Per Household	Existing	0.00	10	$0.00	100%	0
Low Income Multi Family	Heat Central Furnace	Furnace - Below Standard 78% AFUE	Below Standard 78% AFUE	Below Standard 78% AFUE	Per Household	New	0.00	10	$0.00	100%	0
Low Income Multi Family	Heat Central Furnace	Furnace - Standard 90% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	Existing	0.00	20	$0.00	100%	0

Table A.3.2. MidAm Residential Gas Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (Therm)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (Thousand Therms)
Low Income Multi Family	Heat Central Furnace	Furnace - Standard 90% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	New	0.00	20	$0.00	100%	0
Low Income Multi Family	Heat Central Furnace	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof sqft	New	0.00	30	$13	88%	0
Low Income Multi Family	Heat Central Furnace	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	Existing	35	11	$611	13%	0
Low Income Multi Family	Heat Central Furnace	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	New	16	11	$611	20%	0
Low Income Multi Family	Heat Central Furnace	Infiltration Reduction	4.0 ACH50	7.0 ACH50	Per Building SqFt	New	0.01	11	$0.25	42%	16
Low Income Multi Family	Heat Central Furnace	Infiltration Reduction	4.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.04	11	$0.44	19%	298
Low Income Multi Family	Heat Central Furnace	Infiltration Reduction	7.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.02	11	$0.19	63%	502
Low Income Multi Family	Heat Central Furnace	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-38 (To Code Zone 5)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.06	20	$0.99	7%	104
Low Income Multi Family	Heat Central Furnace	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (To Code Zone 6)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.07	20	$1	7%	121
Low Income Multi Family	Heat Central Furnace	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	Existing	0.01	20	$0.25	17%	0
Low Income Multi Family	Heat Central Furnace	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	New	0.00	20	$0.25	17%	0
Low Income Multi Family	Heat Central Furnace	Insulation - Basement Wall	Insulation Basement Wall (R-10 Zone 5)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.18	20	$1	7%	202
Low Income Multi Family	Heat Central Furnace	Insulation - Basement Wall	Insulation Basement Wall (R-15 Zone 6)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.21	20	$1	14%	520
Low Income Multi Family	Heat Central Furnace	Insulation - Duct	Insulation Duct (R-8)	No Duct Insulation	Per Duct Insulation Installation	Existing	15	20	$375	71%	0
Low Income Multi Family	Heat Central Furnace	Insulation - Floor	Insulation Floor (R-30)	Average Existing Insulation (R-1.8)	Per Insulated SqFt	Existing	0.05	20	$0.90	57%	0
Low Income Multi Family	Heat Central Furnace	Insulation - Rim/Band Joist	Insulation Rim and Band Joist (R-10)	No Rim And Band Joist Insulation	Per Insulated SqFt	Existing	0.10	20	$1	8%	31
Low Income Multi Family	Heat Central Furnace	Insulation - Siding	Vinyl Siding with Foam Backing (R-3)	No Siding Insulation	Per Insulated SqFt	Existing	0.09	20	$0.51	9%	135
Low Income Multi Family	Heat Central Furnace	Insulation - Slab	Insulation Slab (R-15, 4ft)	Code Insulation (R-10, 4ft)	Per Insulated SqFt	New	0.03	20	$0.44	28%	0
Low Income Multi Family	Heat Central Furnace	Insulation - Wall	Insulation Wall (R-13)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.18	20	$1	3%	65
Low Income Multi Family	Heat Central Furnace	Insulation - Wall	Insulation Wall (R-20 or R-13 w/ R-5 sheathing) (To Code)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.21	20	$1	1%	25

Table A.3.2. MidAm Residential Gas Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (Therm)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (Thousand Therms)
Low Income Multi Family	Heat Central Furnace	Insulation - Wall	Insulation Wall (R-21 + R-5 sheathing)	Code Insulation (R-20 or R-13 w/ R-5 sheathing)	Per Insulated SqFt	New	0.01	20	$0.16	90%	12
Low Income Multi Family	Heat Central Furnace	Quality Install Furnace	Quality Installation (QI)	Standard Installation	Per QI Install	Existing	7.07	5	$300	38%	0
Low Income Multi Family	Heat Central Furnace	Quality Install Furnace	Quality Installation (QI)	Standard Installation	Per QI Install	New	5.04	5	$300	38%	0
Low Income Multi Family	Heat Central Furnace	Thermostat - Multi-Zone	Individual Room Temperature Control for Major Occupied Rooms	Programmable Thermostat - Central Control Only	Per Programmable Control System	New	17	11	$895	62%	0
Low Income Multi Family	Heat Central Furnace	Thermostat - Programmable	Setback Thermostat 5-1-1, 5-2 or 7-Day	Manual Thermostat	Per Programmable Control	Existing	12	15	$33	42%	96
Low Income Multi Family	Heat Central Furnace	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	Existing	12	15	$167	44%	156
Low Income Multi Family	Heat Central Furnace	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	New	8.84	15	$167	62%	11
Low Income Multi Family	Heat Central Furnace	Tune-up - Furnace Maintenance	Furnace Maintenance (Tune-up)	Unmaintained Furnace	Per Tune-up	Existing	17	5	$200	66%	0
Low Income Multi Family	Heat Central Furnace	Window - Upgrade	Code Window U-Factor = 0.35 (2009 IECC)	Existing Windows U-Factor	Per Window SqFt	Existing	0.35	20	$19	24%	0
Low Income Multi Family	Heat Central Furnace	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	0.09	20	$3	73%	0
Low Income Multi Family	Heat Central Furnace	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	0.08	20	$3	82%	0
Low Income Multi Family	Heat Central Furnace	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	0.25	20	$28	63%	0
Low Income Multi Family	Heat Central Furnace	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	0.22	20	$28	68%	0
Low Income Multi Family	Other	Other	Other	Other	Per Unit	Existing	0.00	10	$0.00	100%	0
Low Income Multi Family	Other	Other	Other	Other	Per Unit	New	0.00	10	$0.00	100%	0
Low Income Multi Family	Water Heat	Clothes Washer	Clothes Washer Enhanced Efficiency MEF = 3.10 and WF = 3.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	16	11	$789	26%	0
Low Income Multi Family	Water Heat	Clothes Washer	Clothes Washer Enhanced Efficiency MEF = 3.10 and WF = 3.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	16	11	$789	27%	0
Low Income Multi Family	Water Heat	Clothes Washer	Clothes Washer CEE Tier 2 MEF = 2.2 and WF = 4.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	11	11	$391	24%	0
Low Income Multi Family	Water Heat	Clothes Washer	Clothes Washer CEE Tier 2 MEF = 2.2 and WF = 4.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	11	11	$391	25%	0
Low Income Multi Family	Water Heat	Clothes Washer	Clothes Washer CEE Tier 3 MEF = 2.4 and WF = 4.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	12	11	$565	26%	0
Low Income Multi Family	Water Heat	Clothes Washer	Clothes Washer CEE Tier 3 MEF = 2.4 and WF = 4.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	12	11	$565	26%	0

Table A.3.2. MidAm Residential Gas Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (Therm)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (Thousand Therms)
Low Income Multi Family	Water Heat	Clothes Washer	Clothes Washer ENERGY STAR MEF = 2.0 and WF = 6.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	10	11	$134	20%	0
Low Income Multi Family	Water Heat	Clothes Washer	Clothes Washer ENERGY STAR MEF = 2.0 and WF = 6.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	10	11	$134	20%	0
Low Income Multi Family	Water Heat	Clothes Washer	Steam Clothes Washer	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	16	11	$789	27%	0
Low Income Multi Family	Water Heat	Clothes Washer	Steam Clothes Washer	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	16	11	$789	27%	0
Low Income Multi Family	Water Heat	Dishwasher	Dishwasher Enhanced Efficiency (EF 1.00) 200 kWh/yr and 4.00 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle	Per Dishwasher	Existing	4.26	11	$1,067	21%	0
Low Income Multi Family	Water Heat	Dishwasher	Dishwasher Enhanced Efficiency (EF 1.00) 200 kWh/yr and 4.00 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle	Per Dishwasher	New	4.26	11	$1,067	21%	0
Low Income Multi Family	Water Heat	Dishwasher	ENERGY STAR 295 kWh/yr and 4.25 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle	Per Dishwasher	Existing	1.88	11	$272	7%	0
Low Income Multi Family	Water Heat	Dishwasher	ENERGY STAR 295 kWh/yr and 4.25 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle	Per Dishwasher	New	1.88	11	$272	7%	0
Low Income Multi Family	Water Heat	Drain-Water Heat Recovery	Drain-Water Heat Recovery	No Drain Water Heat Recovery	Per Drain-Water Heat Recovery System	Existing	29	40	$935	10%	0
Low Income Multi Family	Water Heat	Drain-Water Heat Recovery	Drain-Water Heat Recovery	No Drain Water Heat Recovery	Per Drain-Water Heat Recovery System	New	28	40	$935	71%	0
Low Income Multi Family	Water Heat	Faucet Aerators	0.5 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	Existing	5.03	10	$1	85%	78
Low Income Multi Family	Water Heat	Faucet Aerators	0.5 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	New	4.79	10	$1	90%	5
Low Income Multi Family	Water Heat	Faucet Aerators	1.5 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	Existing	2.07	10	$1	26%	1
Low Income Multi Family	Water Heat	Faucet Aerators	1.5 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	New	1.97	10	$1	28%	0
Low Income Multi Family	Water Heat	Faucet Aerators	2.0 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	Existing	0.59	10	$0.53	14%	0
Low Income Multi Family	Water Heat	Faucet Aerators	2.0 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	New	0.56	10	$0.53	15%	0
Low Income Multi Family	Water Heat	Faucet Aerators	2.2 GPM (Federal Code)	Existing Faucet Aerator GPM	Per Faucet Aerator	Existing	2.36	10	$3	9%	4
Low Income Multi Family	Water Heat	Hot Tub Covers	Hot Tub Covers R-21	Existing Cover R-10	Per Hot Tub Cover	Existing	7.83	6	$524	1%	0
Low Income Multi Family	Water Heat	Integrated Space Heating and Water Heating	84% CAE or Above	Standard Boiler AFUE 82% and Water Heater EF = 0.59	Per Integrated Equipment	Existing	40	20	$746	0%	0
Low Income Multi Family	Water Heat	Integrated Space Heating and Water Heating	84% CAE or Above	Standard Boiler AFUE 82% and Water Heater EF = 0.59	Per Integrated Equipment	New	38	20	$746	0%	0
Low Income Multi Family	Water Heat	Low-Flow Showerheads	1.5 GPM - Showerhead	2.5 GPM (Federal Code)	Per Showerhead	Existing	14	10	$8	80%	217
Low Income Multi Family	Water Heat	Low-Flow Showerheads	1.5 GPM - Showerhead	2.5 GPM (Federal Code)	Per Showerhead	New	14	10	$8	80%	13
Low Income Multi Family	Water Heat	Low-Flow Showerheads	2.0 GPM - Showerhead	2.5 GPM (Federal Code)	Per Showerhead	Existing	7.40	10	$13	38%	3
Low Income Multi Family	Water Heat	Low-Flow Showerheads	2.0 GPM - Showerhead	2.5 GPM (Federal Code)	Per Showerhead	New	7.05	10	$13	38%	0
Low Income Multi Family	Water Heat	Low-Flow Showerheads	2.5 GPM (Federal Code)	Existing Showerhead GPM	Per Showerhead	Existing	7.40	10	$24	23%	31
Low Income Multi Family	Water Heat	Solar Hot Water (SHW)	Solar Thermal Collector	Standard Storage Hot Water Heater	Per Solar Water System	Existing	63	15	$6,238	15%	0

Table A.3.2. MidAm Residential Gas Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (Therm)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (Thousand Therms)
Low Income Multi Family	Water Heat	Solar Hot Water (SHW)	Solar Thermal Collector	Standard Storage Hot Water Heater	Per Solar Water System	New	60	15	$4,878	15%	0
Low Income Multi Family	Water Heat	Water Heater - Condensing	Condensing ENERGY STAR EF = 0.80 EF or = 90% TE and = 40 Gallon	EF = 0.59 Federal Standard 2001	Per Unit	Existing	32	11	$1,281	90%	0
Low Income Multi Family	Water Heat	Water Heater - Condensing	Condensing ENERGY STAR EF = 0.80 EF or = 90% TE and = 40 Gallon	EF = 0.59 Federal Standard 2001	Per Unit	New	31	11	$1,281	90%	0
Low Income Multi Family	Water Heat	Water Heater - Pipe Insulation	Hot Water Pipe Insulation (R-4)	No Pipe Insulation	Per Pipe Insulation	Existing	3.09	13	$6	30%	14
Low Income Multi Family	Water Heat	Water Heater - Pipe Insulation	Hot Water Pipe Insulation (R-4)	No Pipe Insulation	Per Pipe Insulation	New	3.09	13	$6	45%	1
Low Income Multi Family	Water Heat	Water Heater - Storage	Below Standard EF = 0.55	Below Standard EF = 0.55	Per Unit	Existing	0.00	6	$0.00	100%	0
Low Income Multi Family	Water Heat	Water Heater - Storage	Below Standard EF = 0.55	Below Standard EF = 0.55	Per Unit	New	0.00	6	$0.00	100%	0
Low Income Multi Family	Water Heat	Water Heater - Storage	EF = 0.59 Federal Standard 2001	Below Standard EF = 0.55	Per Unit	Existing	10	11	$561	100%	0
Low Income Multi Family	Water Heat	Water Heater - Storage	EF = 0.59 Federal Standard 2001	Below Standard EF = 0.55	Per Unit	New	9	11	$561	100%	0
Low Income Multi Family	Water Heat	Water Heater - Storage	EF = 0.62 Federal Standard 2015	EF = 0.59 Federal Standard 2001	Per Unit	Existing	4.37	11	$43	100%	0
Low Income Multi Family	Water Heat	Water Heater - Storage	EF = 0.62 Federal Standard 2015	EF = 0.59 Federal Standard 2001	Per Unit	New	4.16	11	$43	100%	0
Low Income Multi Family	Water Heat	Water Heater - Storage	Storage ENERGY STAR EF = 0.67 = 40 Gallon and = 75,000 Btuh	EF = 0.59 Federal Standard 2001	Per Unit	Existing	14	11	$260	100%	0
Low Income Multi Family	Water Heat	Water Heater - Storage	Storage ENERGY STAR EF = 0.67 = 40 Gallon and = 75,000 Btuh	EF = 0.59 Federal Standard 2001	Per Unit	New	13	11	$260	100%	0
Low Income Multi Family	Water Heat	Water Heater - Tank Blanket/Insulation	Install Insulation (R-11)	No Tank Insulation	Per Tank Wrap	Existing	8.28	13	$17	10%	13
Low Income Multi Family	Water Heat	Water Heater - Tankless	Tankless ENERGY STAR EF = 0.82	EF = 0.59 Federal Standard 2001	Per Unit	Existing	35	20	$832	90%	0
Low Income Multi Family	Water Heat	Water Heater - Tankless	Tankless ENERGY STAR EF = 0.82	EF = 0.59 Federal Standard 2001	Per Unit	New	33	20	$693	90%	0
Low Income Multi Family	Water Heat	Water Heater - Thermostat Setback	120 Degrees	135 Degrees	Per Set-Back	Existing	24	4	$10	7%	27
Low Income Multi Family	Water Heat	Water Heater - Thermostat Setback	120 Degrees	135 Degrees	Per Set-Back	New	23	4	$10	7%	2
Low Income Single Family	Cooking Oven	Oven - Convection	Convection Oven	Standard Oven	Per Unit	Existing	10	19	$125	100%	0
Low Income Single Family	Cooking Oven	Oven - Convection	Convection Oven	Standard Oven	Per Unit	New	10	19	$125	100%	0
Low Income Single Family	Cooking Oven	Oven - Standard	Standard Oven	Standard Oven	Per Unit	Existing	0.00	19	$0.00	100%	0
Low Income Single Family	Cooking Oven	Oven - Standard	Standard Oven	Standard Oven	Per Unit	New	0.00	19	$0.00	100%	0
Low Income Single Family	Cooking Range	Cooking Range - Standard	Standard Cooking Range	Standard Cooking Range	Per Unit	Existing	0.00	19	$0.00	100%	0
Low Income Single Family	Cooking Range	Cooking Range - Standard	Standard Cooking Range	Standard Cooking Range	Per Unit	New	0.00	19	$0.00	100%	0
Low Income Single Family	Dryer	Clothes Dryer - Moisture Sensor	Clothes Dryer w/ Moisture Sensor	Standard Dryer without Moisture Sensor	Per Unit	Existing	5.42	11	$208	100%	0
Low Income Single Family	Dryer	Clothes Dryer - Moisture Sensor	Clothes Dryer w/ Moisture Sensor	Standard Dryer without Moisture Sensor	Per Unit	New	5.42	11	$208	100%	0
Low Income Single Family	Dryer	Clothes Dryer - Standard without Moisture Sensor	Standard Dryer without Moisture Sensor	Standard Dryer without Moisture Sensor	Per Unit	Existing	0.00	11	$0.00	100%	0

Table A.3.2. MidAm Residential Gas Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (Therm)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (Thousand Therms)
Low Income Single Family	Dryer	Clothes Dryer - Standard without Moisture Sensor	Standard Dryer without Moisture Sensor	Standard Dryer without Moisture Sensor	Per Unit	New	0.00	11	$0.00	100%	0
Low Income Single Family	Heat Central Boiler	Boiler - 85% AFUE	85% AFUE	Federal Standard 82% AFUE (EISA 2007)	Per Household	Existing	15	20	$471	100%	0
Low Income Single Family	Heat Central Boiler	Boiler - 85% AFUE	85% AFUE	Federal Standard 82% AFUE (EISA 2007)	Per Household	New	11	20	$471	100%	0
Low Income Single Family	Heat Central Boiler	Boiler - 90% AFUE	90% AFUE	Federal Standard 82% AFUE (EISA 2007)	Per Household	Existing	23	20	$3,057	100%	0
Low Income Single Family	Heat Central Boiler	Boiler - 90% AFUE	90% AFUE	Federal Standard 82% AFUE (EISA 2007)	Per Household	New	17	20	$3,057	100%	0
Low Income Single Family	Heat Central Boiler	Boiler - 94% AFUE	94% AFUE	Federal Standard 82% AFUE (EISA 2007)	Per Household	Existing	30	20	$3,685	100%	0
Low Income Single Family	Heat Central Boiler	Boiler - 94% AFUE	94% AFUE	Federal Standard 82% AFUE (EISA 2007)	Per Household	New	22	20	$3,685	100%	0
Low Income Single Family	Heat Central Boiler	Boiler - 96% AFUE	96% AFUE	Federal Standard 82% AFUE (EISA 2007)	Per Household	Existing	45	20	$4,342	100%	0
Low Income Single Family	Heat Central Boiler	Boiler - 96% AFUE	96% AFUE	Federal Standard 82% AFUE (EISA 2007)	Per Household	New	33	20	$4,342	100%	0
Low Income Single Family	Heat Central Boiler	Boiler - Below Standard 80% AFUE	Below Standard 80% AFUE	Below Standard 80% AFUE	Per Household	Existing	0.00	10	$0.00	100%	0
Low Income Single Family	Heat Central Boiler	Boiler - Below Standard 80% AFUE	Below Standard 80% AFUE	Below Standard 80% AFUE	Per Household	New	0.00	10	$0.00	100%	0
Low Income Single Family	Heat Central Boiler	Boiler - Controls	Boiler Controls	No Boiler Control	Per Boiler Control	Existing	36	20	$383	50%	51
Low Income Single Family	Heat Central Boiler	Boiler - Pipe Insulation	R-6	No Insulation	Per Pipe Insulation	Existing	11	15	$44	23%	8
Low Income Single Family	Heat Central Boiler	Boiler - Standard 82% AFUE	Federal Standard 82% AFUE (EISA 2007)	Federal Standard 82% AFUE (EISA 2007)	Per Household	Existing	0.00	20	$0.00	100%	0
Low Income Single Family	Heat Central Boiler	Boiler - Standard 82% AFUE	Federal Standard 82% AFUE (EISA 2007)	Federal Standard 82% AFUE (EISA 2007)	Per Household	New	0.00	20	$0.00	100%	0
Low Income Single Family	Heat Central Boiler	Construction - ICF	Insulated Concrete Forms - Concrete Construction	Standard Wood Framing	Per Building SqFt	New	0.03	40	$2	67%	0
Low Income Single Family	Heat Central Boiler	Construction - SIP	Structural Insulated Panels - Specialty Framing	Standard Wood Framing	Per Building SqFt	New	0.03	40	$0.76	67%	9
Low Income Single Family	Heat Central Boiler	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	0.26	20	$0.92	61%	1
Low Income Single Family	Heat Central Boiler	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	New	0.25	20	$0.92	61%	0
Low Income Single Family	Heat Central Boiler	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	0.47	20	$3	76%	47
Low Income Single Family	Heat Central Boiler	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	New	0.46	20	$3	76%	3

Table A.3.2. MidAm Residential Gas Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (Therm)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (Thousand Therms)
Low Income Single Family	Heat Central Boiler	Duct Sealing	4 CFM/100sqft of CFA	8 CFM/100sqft of CFA	Per Duct Sealing Installation	New	27	18	$333	0%	0
Low Income Single Family	Heat Central Boiler	Duct Sealing	4 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	110	18	$960	0%	0
Low Income Single Family	Heat Central Boiler	Duct Sealing	8 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	73	18	$587	0%	0
Low Income Single Family	Heat Central Boiler	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof sqft	New	0.01	30	$15	88%	0
Low Income Single Family	Heat Central Boiler	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	Existing	73	11	$611	48%	107
Low Income Single Family	Heat Central Boiler	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	New	35	11	$611	64%	0
Low Income Single Family	Heat Central Boiler	Infiltration Reduction	4.0 ACH50	7.0 ACH50	Per Building SqFt	New	0.02	11	$0.25	42%	3
Low Income Single Family	Heat Central Boiler	Infiltration Reduction	4.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.06	11	$0.44	19%	68
Low Income Single Family	Heat Central Boiler	Infiltration Reduction	7.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.03	11	$0.19	63%	114
Low Income Single Family	Heat Central Boiler	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-38 (To Code Zone 5)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.06	20	$0.99	27%	44
Low Income Single Family	Heat Central Boiler	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (To Code Zone 6)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.07	20	$1	27%	50
Low Income Single Family	Heat Central Boiler	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	Existing	0.01	20	$0.25	45%	0
Low Income Single Family	Heat Central Boiler	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	New	0.01	20	$0.25	45%	0
Low Income Single Family	Heat Central Boiler	Insulation - Basement Wall	Insulation Basement Wall (R-10 Zone 5)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.18	20	$1	12%	34
Low Income Single Family	Heat Central Boiler	Insulation - Basement Wall	Insulation Basement Wall (R-15 Zone 6)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.21	20	$1	24%	86
Low Income Single Family	Heat Central Boiler	Insulation - Duct	Insulation Duct (R-8)	No Duct Insulation	Per Duct Insulation Installation	Existing	31	20	$248	0%	0
Low Income Single Family	Heat Central Boiler	Insulation - Floor	Insulation Floor (R-30)	Average Existing Insulation (R-1.8)	Per Insulated SqFt	Existing	0.05	20	$0.90	60%	0
Low Income Single Family	Heat Central Boiler	Insulation - Rim/Band Joist	Insulation Rim and Band Joist (R-10)	No Rim And Band Joist Insulation	Per Insulated SqFt	Existing	0.10	20	$1	22%	9
Low Income Single Family	Heat Central Boiler	Insulation - Siding	Vinyl Siding with Foam Backing (R-3)	No Siding Insulation	Per Insulated SqFt	Existing	0.09	20	$0.51	9%	43
Low Income Single Family	Heat Central Boiler	Insulation - Slab	Insulation Slab (R-15, 4ft)	Code Insulation (R-10, 4ft)	Per Insulated SqFt	New	0.03	20	$0.44	17%	0

Table A.3.2. MidAm Residential Gas Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (Therm)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (Thousand Therms)
Low Income Single Family	Heat Central Boiler	Insulation - Wall	Insulation Wall (R-13)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.18	20	$1	3%	11
Low Income Single Family	Heat Central Boiler	Insulation - Wall	Insulation Wall (R-20 or R-13 w/ R-5 sheathing) (To Code)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.21	20	$1	2%	19
Low Income Single Family	Heat Central Boiler	Insulation - Wall	Insulation Wall (R-21 + R-5 sheathing)	Code Insulation (R-20 or R-13 w/ R-5 sheathing)	Per Insulated SqFt	New	0.01	20	$0.16	90%	4
Low Income Single Family	Heat Central Boiler	Integrated Space Heating and Water Heating	84% CAE or Above	Standard Boiler AFUE 82% and Water Heater EF = 0.59	Per Integrated Equipment	Existing	66	20	$746	0%	0
Low Income Single Family	Heat Central Boiler	Integrated Space Heating and Water Heating	84% CAE or Above	Standard Boiler AFUE 82% and Water Heater EF = 0.59	Per Integrated Equipment	New	49	20	$746	0%	0
Low Income Single Family	Heat Central Boiler	Quality Install Boiler	Quality Installation (QI)	Standard Installation	Per QI Install	Existing	36	5	$300	38%	0
Low Income Single Family	Heat Central Boiler	Quality Install Boiler	Quality Installation (QI)	Standard Installation	Per QI Install	New	27	5	$300	38%	0
Low Income Single Family	Heat Central Boiler	Thermostat - Multi-Zone	Individual Room Temperature Control for Major Occupied Rooms	Programmable Thermostat - Central Control Only	Per Programmable Control System	New	37	11	$895	86%	0
Low Income Single Family	Heat Central Boiler	Thermostat - Programmable	Setback Thermostat 5-1-1, 5-2 or 7-Day	Manual Thermostat	Per Programmable Control	Existing	25	15	$33	67%	0
Low Income Single Family	Heat Central Boiler	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	Existing	25	15	$167	70%	24
Low Income Single Family	Heat Central Boiler	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	New	19	15	$167	90%	4
Low Income Single Family	Heat Central Boiler	Tune-up - Boiler Maintenance	Boiler Maintenance (Tune-up)	Unmaintained Boiler	Per Tune-up	Existing	36	5	$200	66%	0
Low Income Single Family	Heat Central Boiler	Window - Upgrade	Code Window U-Factor = 0.35 (2009 IECC)	Existing Windows U-Factor	Per Window SqFt	Existing	0.34	20	$24	24%	0
Low Income Single Family	Heat Central Boiler	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	0.09	20	$8	73%	0
Low Income Single Family	Heat Central Boiler	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	0.09	20	$8	82%	0
Low Income Single Family	Heat Central Boiler	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	0.25	20	$33	61%	0
Low Income Single Family	Heat Central Boiler	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	0.24	20	$33	68%	0
Low Income Single Family	Heat Central Furnace	Construction - ICF	Insulated Concrete Forms - Concrete Construction	Standard Wood Framing	Per Building SqFt	New	0.03	40	$2	67%	0
Low Income Single Family	Heat Central Furnace	Construction - SIP	Structural Insulated Panels - Specialty Framing	Standard Wood Framing	Per Building SqFt	New	0.03	40	$0.76	67%	132
Low Income Single Family	Heat Central Furnace	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	0.26	20	$0.92	61%	21

Table A.3.2. MidAm Residential Gas Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (Therm)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (Thousand Therms)
Low Income Single Family	Heat Central Furnace	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	New	0.23	20	$0.92	61%	1
Low Income Single Family	Heat Central Furnace	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	0.47	20	$3	76%	768
Low Income Single Family	Heat Central Furnace	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	New	0.42	20	$3	76%	44
Low Income Single Family	Heat Central Furnace	Duct Sealing	4 CFM/100sqft of CFA	8 CFM/100sqft of CFA	Per Duct Sealing Installation	New	24	18	$333	65%	55
Low Income Single Family	Heat Central Furnace	Duct Sealing	4 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	88	18	$960	33%	1,544
Low Income Single Family	Heat Central Furnace	Duct Sealing	8 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	58	18	$587	65%	1,606
Low Income Single Family	Heat Central Furnace	Furnace - 92% AFUE	92% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	Existing	12	20	$124	100%	310
Low Income Single Family	Heat Central Furnace	Furnace - 92% AFUE	92% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	New	10	20	$124	100%	32
Low Income Single Family	Heat Central Furnace	Furnace - 93% AFUE	93% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	Existing	18	20	$330	100%	0
Low Income Single Family	Heat Central Furnace	Furnace - 93% AFUE	93% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	New	15	20	$330	100%	0
Low Income Single Family	Heat Central Furnace	Furnace - 94% AFUE	94% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	Existing	24	20	$747	100%	0
Low Income Single Family	Heat Central Furnace	Furnace - 94% AFUE	94% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	New	20	20	$747	100%	0
Low Income Single Family	Heat Central Furnace	Furnace - 96% AFUE	96% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	Existing	36	20	$979	100%	0
Low Income Single Family	Heat Central Furnace	Furnace - 96% AFUE	96% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	New	30	20	$979	100%	0
Low Income Single Family	Heat Central Furnace	Furnace - Below Standard 78% AFUE	Below Standard 78% AFUE	Below Standard 78% AFUE	Per Household	Existing	0.00	10	$0.00	100%	0
Low Income Single Family	Heat Central Furnace	Furnace - Below Standard 78% AFUE	Below Standard 78% AFUE	Below Standard 78% AFUE	Per Household	New	0.00	10	$0.00	100%	0
Low Income Single Family	Heat Central Furnace	Furnace - Standard 90% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	Existing	0.00	20	$0.00	100%	0
Low Income Single Family	Heat Central Furnace	Furnace - Standard 90% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	New	0.00	20	$0.00	100%	0
Low Income Single Family	Heat Central Furnace	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof sqft	New	0.01	30	$15	88%	0
Low Income Single Family	Heat Central Furnace	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	Existing	58	11	$611	48%	1,227

Table A.3.2. MidAm Residential Gas Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (Therm)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (Thousand Therms)
Low Income Single Family	Heat Central Furnace	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	New	32	11	$611	64%	0
Low Income Single Family	Heat Central Furnace	Infiltration Reduction	4.0 ACH50	7.0 ACH50	Per Building SqFt	New	0.02	11	$0.25	42%	47
Low Income Single Family	Heat Central Furnace	Infiltration Reduction	4.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.05	11	$0.44	19%	761
Low Income Single Family	Heat Central Furnace	Infiltration Reduction	7.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.02	11	$0.19	63%	1,318
Low Income Single Family	Heat Central Furnace	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-38 (To Code Zone 5)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.06	20	$0.99	27%	650
Low Income Single Family	Heat Central Furnace	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (To Code Zone 6)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.07	20	$1	27%	739
Low Income Single Family	Heat Central Furnace	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	Existing	0.01	20	$0.25	45%	0
Low Income Single Family	Heat Central Furnace	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	New	0.00	20	$0.25	45%	0
Low Income Single Family	Heat Central Furnace	Insulation - Basement Wall	Insulation Basement Wall (R-10 Zone 5)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.18	20	$1	12%	518
Low Income Single Family	Heat Central Furnace	Insulation - Basement Wall	Insulation Basement Wall (R-15 Zone 6)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.21	20	$1	24%	1,312
Low Income Single Family	Heat Central Furnace	Insulation - Duct	Insulation Duct (R-8)	No Duct Insulation	Per Duct Insulation Installation	Existing	25	20	$248	71%	990
Low Income Single Family	Heat Central Furnace	Insulation - Floor	Insulation Floor (R-30)	Average Existing Insulation (R-1.8)	Per Insulated SqFt	Existing	0.05	20	$0.90	60%	0
Low Income Single Family	Heat Central Furnace	Insulation - Rim/Band Joist	Insulation Rim and Band Joist (R-10)	No Rim And Band Joist Insulation	Per Insulated SqFt	Existing	0.10	20	$1	22%	132
Low Income Single Family	Heat Central Furnace	Insulation - Siding	Vinyl Siding with Foam Backing (R-3)	No Siding Insulation	Per Insulated SqFt	Existing	0.09	20	$0.51	9%	725
Low Income Single Family	Heat Central Furnace	Insulation - Slab	Insulation Slab (R-15, 4ft)	Code Insulation (R-10, 4ft)	Per Insulated SqFt	New	0.03	20	$0.44	17%	0
Low Income Single Family	Heat Central Furnace	Insulation - Wall	Insulation Wall (R-13)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.18	20	$1	3%	182
Low Income Single Family	Heat Central Furnace	Insulation - Wall	Insulation Wall (R-20 or R-13 w/ R-5 sheathing) (To Code)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.21	20	$1	2%	322
Low Income Single Family	Heat Central Furnace	Insulation - Wall	Insulation Wall (R-21 + R-5 sheathing)	Code Insulation (R-20 or R-13 w/ R-5 sheathing)	Per Insulated SqFt	New	0.01	20	$0.16	90%	54
Low Income Single Family	Heat Central Furnace	Quality Install Furnace	Quality Installation (QI)	Standard Installation	Per QI Install	Existing	11	5	$300	38%	0
Low Income Single Family	Heat Central Furnace	Quality Install Furnace	Quality Installation (QI)	Standard Installation	Per QI Install	New	9	5	$300	38%	0

Table A.3.2. MidAm Residential Gas Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (Therm)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (Thousand Therms)
Low Income Single Family	Heat Central Furnace	Thermostat - Multi-Zone	Individual Room Temperature Control for Major Occupied Rooms	Programmable Thermostat - Central Control Only	Per Programmable Control System	New	33	11	$895	86%	0
Low Income Single Family	Heat Central Furnace	Thermostat - Programmable	Setback Thermostat 5-1-1, 5-2 or 7-Day	Manual Thermostat	Per Programmable Control	Existing	20	15	$33	67%	0
Low Income Single Family	Heat Central Furnace	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	Existing	20	15	$167	70%	315
Low Income Single Family	Heat Central Furnace	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	New	17	15	$167	90%	57
Low Income Single Family	Heat Central Furnace	Tune-up - Furnace Maintenance	Furnace Maintenance (Tune-up)	Unmaintained Furnace	Per Tune-up	Existing	29	5	$200	66%	0
Low Income Single Family	Heat Central Furnace	Window - Upgrade	Code Window U-Factor = 0.35 (2009 IECC)	Existing Windows U-Factor	Per Window SqFt	Existing	0.35	20	$24	24%	0
Low Income Single Family	Heat Central Furnace	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	0.09	20	$8	73%	0
Low Income Single Family	Heat Central Furnace	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	0.08	20	$8	82%	0
Low Income Single Family	Heat Central Furnace	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	0.25	20	$33	61%	0
Low Income Single Family	Heat Central Furnace	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	0.22	20	$33	68%	0
Low Income Single Family	Other	Other	Other	Other	Per Unit	Existing	0.00	10	$0.00	100%	0
Low Income Single Family	Other	Other	Other	Other	Per Unit	New	0.00	10	$0.00	100%	0
Low Income Single Family	Water Heat	Clothes Washer	Clothes Washer Enhanced Efficiency MEF = 3.10 and WF = 3.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	23	11	$789	83%	0
Low Income Single Family	Water Heat	Clothes Washer	Clothes Washer Enhanced Efficiency MEF = 3.10 and WF = 3.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	23	11	$789	83%	0
Low Income Single Family	Water Heat	Clothes Washer	Clothes Washer CEE Tier 2 MEF = 2.2 and WF = 4.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	17	11	$391	75%	0
Low Income Single Family	Water Heat	Clothes Washer	Clothes Washer CEE Tier 2 MEF = 2.2 and WF = 4.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	17	11	$391	79%	0
Low Income Single Family	Water Heat	Clothes Washer	Clothes Washer CEE Tier 3 MEF = 2.4 and WF = 4.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	18	11	$565	80%	0
Low Income Single Family	Water Heat	Clothes Washer	Clothes Washer CEE Tier 3 MEF = 2.4 and WF = 4.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	18	11	$565	80%	0
Low Income Single Family	Water Heat	Clothes Washer	Clothes Washer ENERGY STAR MEF = 2.0 and WF = 6.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	14	11	$134	68%	505
Low Income Single Family	Water Heat	Clothes Washer	Clothes Washer ENERGY STAR MEF = 2.0 and WF = 6.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	14	11	$134	68%	31
Low Income Single Family	Water Heat	Clothes Washer	Steam Clothes Washer	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	23	11	$789	83%	0

Table A.3.2. MidAm Residential Gas Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (Therm)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (Thousand Therms)
Low Income Single Family	Water Heat	Clothes Washer	Steam Clothes Washer	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	23	11	$789	83%	0
Low Income Single Family	Water Heat	Dishwasher	Dishwasher Enhanced Efficiency (EF 1.00) 200 kWh/yr and 4.00 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle	Per Dishwasher	Existing	4.26	11	$1,067	14%	0
Low Income Single Family	Water Heat	Dishwasher	Dishwasher Enhanced Efficiency (EF 1.00) 200 kWh/yr and 4.00 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle	Per Dishwasher	New	4.26	11	$1,067	14%	0
Low Income Single Family	Water Heat	Dishwasher	ENERGY STAR 295 kWh/yr and 4.25 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle	Per Dishwasher	Existing	1.88	11	$272	5%	0
Low Income Single Family	Water Heat	Dishwasher	ENERGY STAR 295 kWh/yr and 4.25 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle	Per Dishwasher	New	1.88	11	$272	5%	0
Low Income Single Family	Water Heat	Drain-Water Heat Recovery	Drain-Water Heat Recovery	No Drain Water Heat Recovery	Per Drain-Water Heat Recovery System	Existing	43	40	$935	27%	0
Low Income Single Family	Water Heat	Drain-Water Heat Recovery	Drain-Water Heat Recovery	No Drain Water Heat Recovery	Per Drain-Water Heat Recovery System	New	41	40	$935	68%	0
Low Income Single Family	Water Heat	Faucet Aerators	0.5 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	Existing	5.24	10	$1	85%	224
Low Income Single Family	Water Heat	Faucet Aerators	0.5 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	New	4.99	10	$1	90%	14
Low Income Single Family	Water Heat	Faucet Aerators	1.5 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	Existing	2.16	10	$1	26%	1
Low Income Single Family	Water Heat	Faucet Aerators	1.5 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	New	2.05	10	$1	28%	0
Low Income Single Family	Water Heat	Faucet Aerators	2.0 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	Existing	0.61	10	$0.53	14%	0
Low Income Single Family	Water Heat	Faucet Aerators	2.0 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	New	0.58	10	$0.53	15%	0
Low Income Single Family	Water Heat	Faucet Aerators	2.2 GPM (Federal Code)	Existing Faucet Aerator GPM	Per Faucet Aerator	Existing	2.46	10	$3	9%	11
Low Income Single Family	Water Heat	Hot Tub Covers	Hot Tub Covers R-21	Existing Cover R-10	Per Hot Tub Cover	Existing	7.83	6	$524	1%	0
Low Income Single Family	Water Heat	Integrated Space Heating and Water Heating	84% CAE or Above	Standard Boiler AFUE 82% and Water Heater EF = 0.59	Per Integrated Equipment	Existing	58	20	$746	0%	0
Low Income Single Family	Water Heat	Integrated Space Heating and Water Heating	84% CAE or Above	Standard Boiler AFUE 82% and Water Heater EF = 0.59	Per Integrated Equipment	New	55	20	$746	0%	0
Low Income Single Family	Water Heat	Low-Flow Showerheads	1.5 GPM - Showerhead	2.5 GPM (Federal Code)	Per Showerhead	Existing	10	10	$8	80%	415
Low Income Single Family	Water Heat	Low-Flow Showerheads	1.5 GPM - Showerhead	2.5 GPM (Federal Code)	Per Showerhead	New	9	10	$8	80%	24
Low Income Single Family	Water Heat	Low-Flow Showerheads	2.0 GPM - Showerhead	2.5 GPM (Federal Code)	Per Showerhead	Existing	5.14	10	$13	38%	5
Low Income Single Family	Water Heat	Low-Flow Showerheads	2.0 GPM - Showerhead	2.5 GPM (Federal Code)	Per Showerhead	New	4.90	10	$13	38%	0
Low Income Single Family	Water Heat	Low-Flow Showerheads	2.5 GPM (Federal Code)	Existing Showerhead GPM	Per Showerhead	Existing	5.14	10	$24	23%	60
Low Income Single Family	Water Heat	Solar Hot Water (SHW)	Solar Thermal Collector	Standard Storage Hot Water Heater	Per Solar Water System	Existing	92	15	$6,238	15%	0
Low Income Single Family	Water Heat	Solar Hot Water (SHW)	Solar Thermal Collector	Standard Storage Hot Water Heater	Per Solar Water System	New	88	15	$4,878	15%	0
Low Income Single Family	Water Heat	Water Heater - Condensing	Condensing ENERGY STAR EF = 0.80 EF or = 90% TE and = 40 Gallon	EF = 0.59 Federal Standard 2001	Per Unit	Existing	48	11	$1,281	90%	0
Low Income Single Family	Water Heat	Water Heater - Condensing	Condensing ENERGY STAR EF = 0.80 EF or = 90% TE and = 40 Gallon	EF = 0.59 Federal Standard 2001	Per Unit	New	45	11	$1,281	90%	0
Low Income Single Family	Water Heat	Water Heater - Pipe Insulation	Hot Water Pipe Insulation (R-4)	No Pipe Insulation	Per Pipe Insulation	Existing	3.09	13	$6	37%	52

Table A.3.2. MidAm Residential Gas Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (Therm)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (Thousand Therms)
Low Income Single Family	Water Heat	Water Heater - Pipe Insulation	Hot Water Pipe Insulation (R-4)	No Pipe Insulation	Per Pipe Insulation	New	3.09	13	$6	45%	4
Low Income Single Family	Water Heat	Water Heater - Storage	Below Standard EF = 0.55	Below Standard EF = 0.55	Per Unit	Existing	0.00	6	$0.00	100%	0
Low Income Single Family	Water Heat	Water Heater - Storage	Below Standard EF = 0.55	Below Standard EF = 0.55	Per Unit	New	0.00	6	$0.00	100%	0
Low Income Single Family	Water Heat	Water Heater - Storage	EF = 0.59 Federal Standard 2001	Below Standard EF = 0.55	Per Unit	Existing	14	11	$561	100%	-20
Low Income Single Family	Water Heat	Water Heater - Storage	EF = 0.59 Federal Standard 2001	Below Standard EF = 0.55	Per Unit	New	14	11	$561	100%	0
Low Income Single Family	Water Heat	Water Heater - Storage	EF = 0.62 Federal Standard 2015	EF = 0.59 Federal Standard 2001	Per Unit	Existing	6.38	11	$43	100%	0
Low Income Single Family	Water Heat	Water Heater - Storage	EF = 0.62 Federal Standard 2015	EF = 0.59 Federal Standard 2001	Per Unit	New	6.07	11	$43	100%	0
Low Income Single Family	Water Heat	Water Heater - Storage	Storage ENERGY STAR EF = 0.67 = 40 Gallon and = 75,000 Btuh	EF = 0.59 Federal Standard 2001	Per Unit	Existing	21	11	$260	100%	0
Low Income Single Family	Water Heat	Water Heater - Storage	Storage ENERGY STAR EF = 0.67 = 40 Gallon and = 75,000 Btuh	EF = 0.59 Federal Standard 2001	Per Unit	New	20	11	$260	100%	0
Low Income Single Family	Water Heat	Water Heater - Tank Blanket/Insulation	Install Insulation (R-11)	No Tank Insulation	Per Tank Wrap	Existing	12	13	$17	17%	92
Low Income Single Family	Water Heat	Water Heater - Tankless	Tankless ENERGY STAR EF = 0.82	EF = 0.59 Federal Standard 2001	Per Unit	Existing	51	20	$832	90%	0
Low Income Single Family	Water Heat	Water Heater - Tankless	Tankless ENERGY STAR EF = 0.82	EF = 0.59 Federal Standard 2001	Per Unit	New	49	20	$693	90%	0
Low Income Single Family	Water Heat	Water Heater - Thermostat Setback	120 Degrees	135 Degrees	Per Set-Back	Existing	35	4	$10	11%	191
Low Income Single Family	Water Heat	Water Heater - Thermostat Setback	120 Degrees	135 Degrees	Per Set-Back	New	33	4	$10	11%	11
Manufactured	Cooking Oven	Oven - Convection	Convection Oven	Standard Oven	Per Unit	Existing	10	19	$125	100%	0
Manufactured	Cooking Oven	Oven - Convection	Convection Oven	Standard Oven	Per Unit	New	10	19	$125	100%	0
Manufactured	Cooking Oven	Oven - Standard	Standard Oven	Standard Oven	Per Unit	Existing	0.00	19	$0.00	100%	0
Manufactured	Cooking Oven	Oven - Standard	Standard Oven	Standard Oven	Per Unit	New	0.00	19	$0.00	100%	0
Manufactured	Cooking Range	Cooking Range - Standard	Standard Cooking Range	Standard Cooking Range	Per Unit	Existing	0.00	19	$0.00	100%	0
Manufactured	Cooking Range	Cooking Range - Standard	Standard Cooking Range	Standard Cooking Range	Per Unit	New	0.00	19	$0.00	100%	0
Manufactured	Dryer	Clothes Dryer - Moisture Sensor	Clothes Dryer w/ Moisture Sensor	Standard Dryer without Moisture Sensor	Per Unit	Existing	4.55	11	$208	100%	0
Manufactured	Dryer	Clothes Dryer - Moisture Sensor	Clothes Dryer w/ Moisture Sensor	Standard Dryer without Moisture Sensor	Per Unit	New	4.55	11	$208	100%	0
Manufactured	Dryer	Clothes Dryer - Standard without Moisture Sensor	Standard Dryer without Moisture Sensor	Standard Dryer without Moisture Sensor	Per Unit	Existing	0.00	11	$0.00	100%	0
Manufactured	Dryer	Clothes Dryer - Standard without Moisture Sensor	Standard Dryer without Moisture Sensor	Standard Dryer without Moisture Sensor	Per Unit	New	0.00	11	$0.00	100%	0
Manufactured	Heat Central Boiler	Boiler - 85% AFUE	85% AFUE	Federal Standard 82% AFUE (EISA 2007)	Per Household	Existing	14	20	$392	100%	0
Manufactured	Heat Central Boiler	Boiler - 85% AFUE	85% AFUE	Federal Standard 82% AFUE (EISA 2007)	Per Household	New	9	20	$392	100%	0
Manufactured	Heat Central Boiler	Boiler - 90% AFUE	90% AFUE	Federal Standard 82% AFUE (EISA 2007)	Per Household	Existing	21	20	$2,547	100%	0

Table A.3.2. MidAm Residential Gas Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (Therm)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (Thousand Therms)
Manufactured	Heat Central Boiler	Boiler - 90% AFUE	90% AFUE	Federal Standard 82% AFUE (EISA 2007)	Per Household	New	13	20	$2,547	100%	0
Manufactured	Heat Central Boiler	Boiler - 94% AFUE	94% AFUE	Federal Standard 82% AFUE (EISA 2007)	Per Household	Existing	27	20	$3,071	100%	0
Manufactured	Heat Central Boiler	Boiler - 94% AFUE	94% AFUE	Federal Standard 82% AFUE (EISA 2007)	Per Household	New	18	20	$3,071	100%	0
Manufactured	Heat Central Boiler	Boiler - 96% AFUE	96% AFUE	Federal Standard 82% AFUE (EISA 2007)	Per Household	Existing	40	20	$3,619	100%	0
Manufactured	Heat Central Boiler	Boiler - 96% AFUE	96% AFUE	Federal Standard 82% AFUE (EISA 2007)	Per Household	New	26	20	$3,619	100%	0
Manufactured	Heat Central Boiler	Boiler - Below Standard 80% AFUE	Below Standard 80% AFUE	Below Standard 80% AFUE	Per Household	Existing	0.00	10	$0.00	100%	0
Manufactured	Heat Central Boiler	Boiler - Below Standard 80% AFUE	Below Standard 80% AFUE	Below Standard 80% AFUE	Per Household	New	0.00	10	$0.00	100%	0
Manufactured	Heat Central Boiler	Boiler - Controls	Boiler Controls	No Boiler Control	Per Boiler Control	Existing	33	20	$383	50%	0
Manufactured	Heat Central Boiler	Boiler - Pipe Insulation	R-6	No Insulation	Per Pipe Insulation	Existing	11	15	$44	23%	0
Manufactured	Heat Central Boiler	Boiler - Standard 82% AFUE	Federal Standard 82% AFUE (EISA 2007)	Federal Standard 82% AFUE (EISA 2007)	Per Household	Existing	0.00	20	$0.00	100%	0
Manufactured	Heat Central Boiler	Boiler - Standard 82% AFUE	Federal Standard 82% AFUE (EISA 2007)	Federal Standard 82% AFUE (EISA 2007)	Per Household	New	0.00	20	$0.00	100%	0
Manufactured	Heat Central Boiler	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	0.26	20	$0.92	61%	0
Manufactured	Heat Central Boiler	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	New	0.25	20	$0.92	61%	0
Manufactured	Heat Central Boiler	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	0.47	20	$3	76%	0
Manufactured	Heat Central Boiler	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	New	0.46	20	$3	76%	0
Manufactured	Heat Central Boiler	Duct Sealing	4 CFM/100sqft of CFA	8 CFM/100sqft of CFA	Per Duct Sealing Installation	New	21	18	$333	0%	0
Manufactured	Heat Central Boiler	Duct Sealing	4 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	100	18	$960	0%	0
Manufactured	Heat Central Boiler	Duct Sealing	8 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	67	18	$587	0%	0
Manufactured	Heat Central Boiler	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	Existing	67	11	$611	56%	0
Manufactured	Heat Central Boiler	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	New	28	11	$611	64%	0

Table A.3.2. MidAm Residential Gas Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (Therm)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (Thousand Therms)
Manufactured	Heat Central Boiler	Infiltration Reduction	4.0 ACH50	7.0 ACH50	Per Building SqFt	New	0.02	11	$0.25	61%	0
Manufactured	Heat Central Boiler	Infiltration Reduction	4.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.08	11	$0.44	19%	0
Manufactured	Heat Central Boiler	Infiltration Reduction	7.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.04	11	$0.19	72%	0
Manufactured	Heat Central Boiler	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-38 (To Code Zone 5)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.06	20	$0.99	21%	0
Manufactured	Heat Central Boiler	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (To Code Zone 6)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.07	20	$1	20%	0
Manufactured	Heat Central Boiler	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	Existing	0.01	20	$0.25	45%	0
Manufactured	Heat Central Boiler	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	New	0.01	20	$0.25	45%	0
Manufactured	Heat Central Boiler	Insulation - Basement Wall	Insulation Basement Wall (R-10 Zone 5)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.18	20	$1	7%	0
Manufactured	Heat Central Boiler	Insulation - Basement Wall	Insulation Basement Wall (R-15 Zone 6)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.21	20	$1	14%	0
Manufactured	Heat Central Boiler	Insulation - Duct	Insulation Duct (R-8)	No Duct Insulation	Per Duct Insulation Installation	Existing	28	20	$366	0%	0
Manufactured	Heat Central Boiler	Insulation - Floor	Insulation Floor (R-30)	Average Existing Insulation (R-1.8)	Per Insulated SqFt	Existing	0.05	20	$0.90	38%	0
Manufactured	Heat Central Boiler	Insulation - Rim/Band Joist	Insulation Rim and Band Joist (R-10)	No Rim And Band Joist Insulation	Per Insulated SqFt	Existing	0.10	20	$1	11%	0
Manufactured	Heat Central Boiler	Insulation - Siding	Vinyl Siding with Foam Backing (R-3)	No Siding Insulation	Per Insulated SqFt	Existing	0.09	20	$0.51	9%	0
Manufactured	Heat Central Boiler	Insulation - Skirting	Insulation Skirting for Manufactured Homes (R-19)	No Skirting	Per Insulated SqFt	Existing	0.07	20	$0.59	9%	0
Manufactured	Heat Central Boiler	Insulation - Slab	Insulation Slab (R-15, 4ft)	Code Insulation (R-10, 4ft)	Per Insulated SqFt	New	0.03	20	$0.44	13%	0
Manufactured	Heat Central Boiler	Insulation - Wall	Insulation Wall (R-13)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.18	20	$1	3%	0
Manufactured	Heat Central Boiler	Insulation - Wall	Insulation Wall (R-20 or R-13 w/ R-5 sheathing) (To Code)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.21	20	$1	2%	0
Manufactured	Heat Central Boiler	Insulation - Wall	Insulation Wall (R-21 + R-5 sheathing)	Code Insulation (R-20 or R-13 w/ R-5 sheathing)	Per Insulated SqFt	New	0.01	20	$0.16	87%	0
Manufactured	Heat Central Boiler	Integrated Space Heating and Water Heating	84% CAE or Above	Standard Boiler AFUE 82% and Water Heater EF = 0.59	Per Integrated Equipment	Existing	60	20	$746	0%	0
Manufactured	Heat Central Boiler	Integrated Space Heating and Water Heating	84% CAE or Above	Standard Boiler AFUE 82% and Water Heater EF = 0.59	Per Integrated Equipment	New	39	20	$746	0%	0

Table A.3.2. MidAm Residential Gas Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (Therm)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (Thousand Therms)
Manufactured	Heat Central Boiler	Quality Install Boiler	Quality Installation (QI)	Standard Installation	Per QI Install	Existing	33	5	$300	38%	0
Manufactured	Heat Central Boiler	Quality Install Boiler	Quality Installation (QI)	Standard Installation	Per QI Install	New	21	5	$300	38%	0
Manufactured	Heat Central Boiler	Thermostat - Multi-Zone	Individual Room Temperature Control for Major Occupied Rooms	Programmable Thermostat - Central Control Only	Per Programmable Control System	New	29	11	$895	62%	0
Manufactured	Heat Central Boiler	Thermostat - Programmable	Setback Thermostat 5-1-1, 5-2 or 7-Day	Manual Thermostat	Per Programmable Control	Existing	23	15	$33	79%	0
Manufactured	Heat Central Boiler	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	Existing	23	15	$167	82%	0
Manufactured	Heat Central Boiler	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	New	15	15	$167	90%	0
Manufactured	Heat Central Boiler	Tune-up - Boiler Maintenance	Boiler Maintenance (Tune-up)	Unmaintained Boiler	Per Tune-up	Existing	33	5	$200	66%	0
Manufactured	Heat Central Boiler	Window - Upgrade	Code Window U-Factor = 0.35 (2009 IECC)	Existing Windows U-Factor	Per Window SqFt	Existing	0.34	20	$24	24%	0
Manufactured	Heat Central Boiler	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	0.09	20	$8	73%	0
Manufactured	Heat Central Boiler	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	0.09	20	$8	82%	0
Manufactured	Heat Central Boiler	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	0.25	20	$33	61%	0
Manufactured	Heat Central Boiler	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	0.24	20	$33	68%	0
Manufactured	Heat Central Furnace	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	0.26	20	$0.92	61%	8
Manufactured	Heat Central Furnace	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	New	0.23	20	$0.92	61%	0
Manufactured	Heat Central Furnace	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	0.47	20	$3	76%	314
Manufactured	Heat Central Furnace	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	New	0.42	20	$3	76%	19
Manufactured	Heat Central Furnace	Duct Sealing	4 CFM/100sqft of CFA	8 CFM/100sqft of CFA	Per Duct Sealing Installation	New	18	18	$333	61%	15
Manufactured	Heat Central Furnace	Duct Sealing	4 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	78	18	$960	33%	526
Manufactured	Heat Central Furnace	Duct Sealing	8 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	52	18	$587	61%	520
Manufactured	Heat Central Furnace	Furnace - 92% AFUE	92% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	Existing	11	20	$103	100%	103

Table A.3.2. MidAm Residential Gas Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (Therm)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (Thousand Therms)
Manufactured	Heat Central Furnace	Furnace - 92% AFUE	92% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	New	8.19	20	$103	100%	10
Manufactured	Heat Central Furnace	Furnace - 93% AFUE	93% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	Existing	16	20	$275	100%	0
Manufactured	Heat Central Furnace	Furnace - 93% AFUE	93% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	New	12	20	$275	100%	0
Manufactured	Heat Central Furnace	Furnace - 94% AFUE	94% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	Existing	22	20	$622	100%	0
Manufactured	Heat Central Furnace	Furnace - 94% AFUE	94% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	New	16	20	$622	100%	0
Manufactured	Heat Central Furnace	Furnace - 96% AFUE	96% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	Existing	32	20	$816	100%	0
Manufactured	Heat Central Furnace	Furnace - 96% AFUE	96% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	New	23	20	$816	100%	0
Manufactured	Heat Central Furnace	Furnace - Below Standard 78% AFUE	Below Standard 78% AFUE	Below Standard 78% AFUE	Per Household	Existing	0.00	10	$0.00	100%	0
Manufactured	Heat Central Furnace	Furnace - Below Standard 78% AFUE	Below Standard 78% AFUE	Below Standard 78% AFUE	Per Household	New	0.00	10	$0.00	100%	0
Manufactured	Heat Central Furnace	Furnace - Standard 90% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	Existing	0.00	20	$0.00	100%	0
Manufactured	Heat Central Furnace	Furnace - Standard 90% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	New	0.00	20	$0.00	100%	0
Manufactured	Heat Central Furnace	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	Existing	52	11	$611	56%	518
Manufactured	Heat Central Furnace	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	New	24	11	$611	64%	0
Manufactured	Heat Central Furnace	Infiltration Reduction	4.0 ACH50	7.0 ACH50	Per Building SqFt	New	0.02	11	$0.25	61%	23
Manufactured	Heat Central Furnace	Infiltration Reduction	4.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.06	11	$0.44	19%	338
Manufactured	Heat Central Furnace	Infiltration Reduction	7.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.03	11	$0.19	72%	639
Manufactured	Heat Central Furnace	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-38 (To Code Zone 5)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.06	20	$0.99	21%	209
Manufactured	Heat Central Furnace	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (To Code Zone 6)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.07	20	$1	20%	233
Manufactured	Heat Central Furnace	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	Existing	0.01	20	$0.25	45%	0
Manufactured	Heat Central Furnace	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	New	0.00	20	$0.25	45%	0

Table A.3.2. MidAm Residential Gas Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (Therm)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (Thousand Therms)
Manufactured	Heat Central Furnace	Insulation - Basement Wall	Insulation Basement Wall (R-10 Zone 5)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.18	20	$1	7%	125
Manufactured	Heat Central Furnace	Insulation - Basement Wall	Insulation Basement Wall (R-15 Zone 6)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.21	20	$1	14%	303
Manufactured	Heat Central Furnace	Insulation - Duct	Insulation Duct (R-8)	No Duct Insulation	Per Duct Insulation Installation	Existing	22	20	$366	71%	290
Manufactured	Heat Central Furnace	Insulation - Floor	Insulation Floor (R-30)	Average Existing Insulation (R-1.8)	Per Insulated SqFt	Existing	0.05	20	$0.90	38%	0
Manufactured	Heat Central Furnace	Insulation - Rim/Band Joist	Insulation Rim and Band Joist (R-10)	No Rim And Band Joist Insulation	Per Insulated SqFt	Existing	0.10	20	$1	11%	31
Manufactured	Heat Central Furnace	Insulation - Siding	Vinyl Siding with Foam Backing (R-3)	No Siding Insulation	Per Insulated SqFt	Existing	0.09	20	$0.51	9%	196
Manufactured	Heat Central Furnace	Insulation - Skirting	Insulation Skirting for Manufactured Homes (R-19)	No Skirting	Per Insulated SqFt	Existing	0.07	20	$0.59	9%	43
Manufactured	Heat Central Furnace	Insulation - Slab	Insulation Slab (R-15, 4ft)	Code Insulation (R-10, 4ft)	Per Insulated SqFt	New	0.03	20	$0.44	13%	0
Manufactured	Heat Central Furnace	Insulation - Wall	Insulation Wall (R-13)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.18	20	$1	3%	47
Manufactured	Heat Central Furnace	Insulation - Wall	Insulation Wall (R-20 or R-13 w/ R-5 sheathing) (To Code)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.21	20	$1	2%	88
Manufactured	Heat Central Furnace	Insulation - Wall	Insulation Wall (R-21 + R-5 sheathing)	Code Insulation (R-20 or R-13 w/ R-5 sheathing)	Per Insulated SqFt	New	0.01	20	$0.16	87%	16
Manufactured	Heat Central Furnace	Quality Install Furnace	Quality Installation (QI)	Standard Installation	Per QI Install	Existing	10	5	$300	38%	0
Manufactured	Heat Central Furnace	Quality Install Furnace	Quality Installation (QI)	Standard Installation	Per QI Install	New	7.56	5	$300	38%	0
Manufactured	Heat Central Furnace	Thermostat - Multi-Zone	Individual Room Temperature Control for Major Occupied Rooms	Programmable Thermostat - Central Control Only	Per Programmable Control System	New	25	11	$895	62%	0
Manufactured	Heat Central Furnace	Thermostat - Programmable	Setback Thermostat 5-1-1, 5-2 or 7-Day	Manual Thermostat	Per Programmable Control	Existing	18	15	$33	79%	0
Manufactured	Heat Central Furnace	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	Existing	18	15	$167	82%	119
Manufactured	Heat Central Furnace	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	New	13	15	$167	90%	17
Manufactured	Heat Central Furnace	Tune-up - Furnace Maintenance	Furnace Maintenance (Tune-up)	Unmaintained Furnace	Per Tune-up	Existing	26	5	$200	66%	0
Manufactured	Heat Central Furnace	Window - Upgrade	Code Window U-Factor = 0.35 (2009 IECC)	Existing Windows U-Factor	Per Window SqFt	Existing	0.35	20	$24	24%	0
Manufactured	Heat Central Furnace	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	0.09	20	$8	73%	0

Table A.3.2. MidAm Residential Gas Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (Therm)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (Thousand Therms)
Manufactured	Heat Central Furnace	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	0.08	20	$8	82%	0
Manufactured	Heat Central Furnace	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	0.25	20	$33	61%	0
Manufactured	Heat Central Furnace	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	0.22	20	$33	68%	0
Manufactured	Other	Other	Other	Other	Per Unit	Existing	0.00	10	$0.00	100%	0
Manufactured	Other	Other	Other	Other	Per Unit	New	0.00	10	$0.00	100%	0
Manufactured	Water Heat	Clothes Washer	Clothes Washer Enhanced Efficiency MEF = 3.10 and WF = 3.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	22	11	$789	83%	0
Manufactured	Water Heat	Clothes Washer	Clothes Washer Enhanced Efficiency MEF = 3.10 and WF = 3.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	22	11	$789	83%	0
Manufactured	Water Heat	Clothes Washer	Clothes Washer CEE Tier 2 MEF = 2.2 and WF = 4.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	16	11	$391	83%	0
Manufactured	Water Heat	Clothes Washer	Clothes Washer CEE Tier 2 MEF = 2.2 and WF = 4.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	16	11	$391	83%	0
Manufactured	Water Heat	Clothes Washer	Clothes Washer CEE Tier 3 MEF = 2.4 and WF = 4.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	17	11	$565	80%	0
Manufactured	Water Heat	Clothes Washer	Clothes Washer CEE Tier 3 MEF = 2.4 and WF = 4.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	17	11	$565	80%	0
Manufactured	Water Heat	Clothes Washer	Clothes Washer ENERGY STAR MEF = 2.0 and WF = 6.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	13	11	$134	81%	0
Manufactured	Water Heat	Clothes Washer	Clothes Washer ENERGY STAR MEF = 2.0 and WF = 6.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	13	11	$134	81%	0
Manufactured	Water Heat	Clothes Washer	Steam Clothes Washer	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	22	11	$789	83%	0
Manufactured	Water Heat	Clothes Washer	Steam Clothes Washer	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	22	11	$789	83%	0
Manufactured	Water Heat	Dishwasher	Dishwasher Enhanced Efficiency (EF 1.00) 200 kWh/yr and 4.00 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle	Per Dishwasher	Existing	4.26	11	$1,067	47%	0
Manufactured	Water Heat	Dishwasher	Dishwasher Enhanced Efficiency (EF 1.00) 200 kWh/yr and 4.00 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle	Per Dishwasher	New	4.26	11	$1,067	47%	0
Manufactured	Water Heat	Dishwasher	ENERGY STAR 295 kWh/yr and 4.25 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle	Per Dishwasher	Existing	1.88	11	$272	16%	0
Manufactured	Water Heat	Dishwasher	ENERGY STAR 295 kWh/yr and 4.25 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle	Per Dishwasher	New	1.88	11	$272	16%	0
Manufactured	Water Heat	Drain-Water Heat Recovery	Drain-Water Heat Recovery	No Drain Water Heat Recovery	Per Drain-Water Heat Recovery System	Existing	41	40	$935	19%	0
Manufactured	Water Heat	Drain-Water Heat Recovery	Drain-Water Heat Recovery	No Drain Water Heat Recovery	Per Drain-Water Heat Recovery System	New	39	40	$935	71%	0
Manufactured	Water Heat	Faucet Aerators	0.5 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	Existing	5.81	10	$1	85%	52
Manufactured	Water Heat	Faucet Aerators	0.5 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	New	5.53	10	$1	90%	3
Manufactured	Water Heat	Faucet Aerators	1.5 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	Existing	2.39	10	$1	26%	0
Manufactured	Water Heat	Faucet Aerators	1.5 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	New	2.27	10	$1	28%	0
Manufactured	Water Heat	Faucet Aerators	2.0 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	Existing	0.68	10	$0.53	14%	0

Table A.3.2. MidAm Residential Gas Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (Therm)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (Thousand Therms)
Manufactured	Water Heat	Faucet Aerators	2.0 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	New	0.65	10	$0.53	15%	0
Manufactured	Water Heat	Faucet Aerators	2.2 GPM (Federal Code)	Existing Faucet Aerator GPM	Per Faucet Aerator	Existing	2.73	10	$3	9%	3
Manufactured	Water Heat	Integrated Space Heating and Water Heating	84% CAE or Above	Standard Boiler AFUE 82% and Water Heater EF = 0.59	Per Integrated Equipment	Existing	55	20	$746	0%	0
Manufactured	Water Heat	Integrated Space Heating and Water Heating	84% CAE or Above	Standard Boiler AFUE 82% and Water Heater EF = 0.59	Per Integrated Equipment	New	52	20	$746	0%	0
Manufactured	Water Heat	Low-Flow Showerheads	1.5 GPM - Showerhead	2.5 GPM (Federal Code)	Per Showerhead	Existing	13	10	$8	80%	116
Manufactured	Water Heat	Low-Flow Showerheads	1.5 GPM - Showerhead	2.5 GPM (Federal Code)	Per Showerhead	New	13	10	$8	80%	7
Manufactured	Water Heat	Low-Flow Showerheads	2.0 GPM - Showerhead	2.5 GPM (Federal Code)	Per Showerhead	Existing	6.84	10	$13	38%	1
Manufactured	Water Heat	Low-Flow Showerheads	2.0 GPM - Showerhead	2.5 GPM (Federal Code)	Per Showerhead	New	6.51	10	$13	38%	0
Manufactured	Water Heat	Low-Flow Showerheads	2.5 GPM (Federal Code)	Existing Showerhead GPM	Per Showerhead	Existing	6.84	10	$24	23%	17
Manufactured	Water Heat	Solar Hot Water (SHW)	Solar Thermal Collector	Standard Storage Hot Water Heater	Per Solar Water System	Existing	87	15	$6,238	15%	0
Manufactured	Water Heat	Solar Hot Water (SHW)	Solar Thermal Collector	Standard Storage Hot Water Heater	Per Solar Water System	New	83	15	$4,878	15%	0
Manufactured	Water Heat	Water Heater - Condensing	Condensing ENERGY STAR EF = 0.80 EF or = 90% TE and = 40 Gallon	EF = 0.59 Federal Standard 2001	Per Unit	Existing	45	11	$1,281	90%	0
Manufactured	Water Heat	Water Heater - Condensing	Condensing ENERGY STAR EF = 0.80 EF or = 90% TE and = 40 Gallon	EF = 0.59 Federal Standard 2001	Per Unit	New	43	11	$1,281	90%	0
Manufactured	Water Heat	Water Heater - Pipe Insulation	Hot Water Pipe Insulation (R-4)	No Pipe Insulation	Per Pipe Insulation	Existing	3.09	13	$6	14%	4
Manufactured	Water Heat	Water Heater - Pipe Insulation	Hot Water Pipe Insulation (R-4)	No Pipe Insulation	Per Pipe Insulation	New	3.09	13	$6	20%	0
Manufactured	Water Heat	Water Heater - Storage	Below Standard EF = 0.55	Below Standard EF = 0.55	Per Unit	Existing	0.00	6	$0.00	100%	0
Manufactured	Water Heat	Water Heater - Storage	Below Standard EF = 0.55	Below Standard EF = 0.55	Per Unit	New	0.00	6	$0.00	100%	0
Manufactured	Water Heat	Water Heater - Storage	EF = 0.59 Federal Standard 2001	Below Standard EF = 0.55	Per Unit	Existing	14	11	$561	100%	0
Manufactured	Water Heat	Water Heater - Storage	EF = 0.59 Federal Standard 2001	Below Standard EF = 0.55	Per Unit	New	13	11	$561	100%	0
Manufactured	Water Heat	Water Heater - Storage	EF = 0.62 Federal Standard 2015	EF = 0.59 Federal Standard 2001	Per Unit	Existing	6.05	11	$43	100%	0
Manufactured	Water Heat	Water Heater - Storage	EF = 0.62 Federal Standard 2015	EF = 0.59 Federal Standard 2001	Per Unit	New	5.76	11	$43	100%	0
Manufactured	Water Heat	Water Heater - Storage	Storage ENERGY STAR EF = 0.67 = 40 Gallon and = 75,000 Btuh	EF = 0.59 Federal Standard 2001	Per Unit	Existing	20	11	$260	100%	0
Manufactured	Water Heat	Water Heater - Storage	Storage ENERGY STAR EF = 0.67 = 40 Gallon and = 75,000 Btuh	EF = 0.59 Federal Standard 2001	Per Unit	New	19	11	$260	100%	0
Manufactured	Water Heat	Water Heater - Tank Blanket/Insulation	Install Insulation (R-11)	No Tank Insulation	Per Tank Wrap	Existing	11	13	$17	17%	19
Manufactured	Water Heat	Water Heater - Tankless	Tankless ENERGY STAR EF = 0.82	EF = 0.59 Federal Standard 2001	Per Unit	Existing	48	20	$832	90%	0
Manufactured	Water Heat	Water Heater - Tankless	Tankless ENERGY STAR EF = 0.82	EF = 0.59 Federal Standard 2001	Per Unit	New	46	20	$693	90%	0
Manufactured	Water Heat	Water Heater - Thermostat Setback	120 Degrees	135 Degrees	Per Set-Back	Existing	33	4	$10	5%	16
Manufactured	Water Heat	Water Heater - Thermostat Setback	120 Degrees	135 Degrees	Per Set-Back	New	31	4	$10	5%	1
Multi Family	Cooking Oven	Oven - Convection	Convection Oven	Standard Oven	Per Unit	Existing	10	19	$125	100%	0
Multi Family	Cooking Oven	Oven - Convection	Convection Oven	Standard Oven	Per Unit	New	10	19	$125	100%	0
Multi Family	Cooking Oven	Oven - Standard	Standard Oven	Standard Oven	Per Unit	Existing	0.00	19	$0.00	100%	0
Multi Family	Cooking Oven	Oven - Standard	Standard Oven	Standard Oven	Per Unit	New	0.00	19	$0.00	100%	0
Multi Family	Cooking Range	Cooking Range - Standard	Standard Cooking Range	Standard Cooking Range	Per Unit	Existing	0.00	19	$0.00	100%	0
Multi Family	Cooking Range	Cooking Range - Standard	Standard Cooking Range	Standard Cooking Range	Per Unit	New	0.00	19	$0.00	100%	0

Table A.3.2. MidAm Residential Gas Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (Therm)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (Thousand Therms)
Multi Family	Dryer	Clothes Dryer - Moisture Sensor	Clothes Dryer w/ Moisture Sensor	Standard Dryer without Moisture Sensor	Per Unit	Existing	4.08	11	$208	100%	0
Multi Family	Dryer	Clothes Dryer - Moisture Sensor	Clothes Dryer w/ Moisture Sensor	Standard Dryer without Moisture Sensor	Per Unit	New	4.08	11	$208	100%	0
Multi Family	Dryer	Clothes Dryer - Standard without Moisture Sensor	Standard Dryer without Moisture Sensor	Standard Dryer without Moisture Sensor	Per Unit	Existing	0.00	11	$0.00	100%	0
Multi Family	Dryer	Clothes Dryer - Standard without Moisture Sensor	Standard Dryer without Moisture Sensor	Standard Dryer without Moisture Sensor	Per Unit	New	0.00	11	$0.00	100%	0
Multi Family	Heat Central Boiler	Boiler - 85% AFUE	85% AFUE	Federal Standard 82% AFUE (EISA 2007)	Per Household	Existing	11	20	$314	100%	0
Multi Family	Heat Central Boiler	Boiler - 85% AFUE	85% AFUE	Federal Standard 82% AFUE (EISA 2007)	Per Household	New	9	20	$314	100%	0
Multi Family	Heat Central Boiler	Boiler - 90% AFUE	90% AFUE	Federal Standard 82% AFUE (EISA 2007)	Per Household	Existing	17	20	$2,038	100%	0
Multi Family	Heat Central Boiler	Boiler - 90% AFUE	90% AFUE	Federal Standard 82% AFUE (EISA 2007)	Per Household	New	14	20	$2,038	100%	0
Multi Family	Heat Central Boiler	Boiler - 94% AFUE	94% AFUE	Federal Standard 82% AFUE (EISA 2007)	Per Household	Existing	22	20	$2,457	100%	0
Multi Family	Heat Central Boiler	Boiler - 94% AFUE	94% AFUE	Federal Standard 82% AFUE (EISA 2007)	Per Household	New	18	20	$2,457	100%	0
Multi Family	Heat Central Boiler	Boiler - 96% AFUE	96% AFUE	Federal Standard 82% AFUE (EISA 2007)	Per Household	Existing	33	20	$2,895	100%	0
Multi Family	Heat Central Boiler	Boiler - 96% AFUE	96% AFUE	Federal Standard 82% AFUE (EISA 2007)	Per Household	New	27	20	$2,895	100%	0
Multi Family	Heat Central Boiler	Boiler - Below Standard 80% AFUE	Below Standard 80% AFUE	Below Standard 80% AFUE	Per Household	Existing	0.00	10	$0.00	100%	0
Multi Family	Heat Central Boiler	Boiler - Below Standard 80% AFUE	Below Standard 80% AFUE	Below Standard 80% AFUE	Per Household	New	0.00	10	$0.00	100%	0
Multi Family	Heat Central Boiler	Boiler - Controls	Boiler Controls	No Boiler Control	Per Boiler Control	Existing	27	20	$383	50%	0
Multi Family	Heat Central Boiler	Boiler - Pipe Insulation	R-6	No Insulation	Per Pipe Insulation	Existing	9	15	$44	23%	1
Multi Family	Heat Central Boiler	Boiler - Standard 82% AFUE	Federal Standard 82% AFUE (EISA 2007)	Federal Standard 82% AFUE (EISA 2007)	Per Household	Existing	0.00	20	$0.00	100%	0
Multi Family	Heat Central Boiler	Boiler - Standard 82% AFUE	Federal Standard 82% AFUE (EISA 2007)	Federal Standard 82% AFUE (EISA 2007)	Per Household	New	0.00	20	$0.00	100%	0
Multi Family	Heat Central Boiler	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	0.26	20	$0.92	32%	1
Multi Family	Heat Central Boiler	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	New	0.25	20	$0.92	32%	0
Multi Family	Heat Central Boiler	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	0.47	20	$3	40%	3

Table A.3.2. MidAm Residential Gas Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (Therm)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (Thousand Therms)
Multi Family	Heat Central Boiler	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	New	0.46	20	$3	40%	0
Multi Family	Heat Central Boiler	Duct Sealing	4 CFM/100sqft of CFA	8 CFM/100sqft of CFA	Per Duct Sealing Installation	New	22	18	$333	0%	0
Multi Family	Heat Central Boiler	Duct Sealing	4 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	81	18	$960	0%	0
Multi Family	Heat Central Boiler	Duct Sealing	8 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	54	18	$587	0%	0
Multi Family	Heat Central Boiler	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof sqft	New	0.01	30	$13	88%	0
Multi Family	Heat Central Boiler	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	Existing	54	11	$611	15%	6
Multi Family	Heat Central Boiler	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	New	28	11	$611	20%	0
Multi Family	Heat Central Boiler	Infiltration Reduction	4.0 ACH50	7.0 ACH50	Per Building SqFt	New	0.02	11	$0.25	42%	1
Multi Family	Heat Central Boiler	Infiltration Reduction	4.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.07	11	$0.44	19%	11
Multi Family	Heat Central Boiler	Infiltration Reduction	7.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.03	11	$0.19	63%	18
Multi Family	Heat Central Boiler	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-38 (To Code Zone 5)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.06	20	$0.99	9%	4
Multi Family	Heat Central Boiler	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (To Code Zone 6)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.07	20	$1	9%	4
Multi Family	Heat Central Boiler	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	Existing	0.01	20	$0.25	16%	0
Multi Family	Heat Central Boiler	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	New	0.01	20	$0.25	16%	0
Multi Family	Heat Central Boiler	Insulation - Basement Wall	Insulation Basement Wall (R-10 Zone 5)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.18	20	$1	7%	4
Multi Family	Heat Central Boiler	Insulation - Basement Wall	Insulation Basement Wall (R-15 Zone 6)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.21	20	$1	14%	11
Multi Family	Heat Central Boiler	Insulation - Duct	Insulation Duct (R-8)	No Duct Insulation	Per Duct Insulation Installation	Existing	22	20	$375	0%	0
Multi Family	Heat Central Boiler	Insulation - Floor	Insulation Floor (R-30)	Average Existing Insulation (R-1.8)	Per Insulated SqFt	Existing	0.05	20	$0.90	57%	0
Multi Family	Heat Central Boiler	Insulation - Rim/Band Joist	Insulation Rim and Band Joist (R-10)	No Rim And Band Joist Insulation	Per Insulated SqFt	Existing	0.10	20	$1	8%	1
Multi Family	Heat Central Boiler	Insulation - Siding	Vinyl Siding with Foam Backing (R-3)	No Siding Insulation	Per Insulated SqFt	Existing	0.09	20	$0.51	9%	3

Table A.3.2. MidAm Residential Gas Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (Therm)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (Thousand Therms)
Multi Family	Heat Central Boiler	Insulation - Slab	Insulation Slab (R-15, 4ft)	Code Insulation (R-10, 4ft)	Per Insulated SqFt	New	0.03	20	$0.44	26%	0
Multi Family	Heat Central Boiler	Insulation - Wall	Insulation Wall (R-13)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.18	20	$1	3%	1
Multi Family	Heat Central Boiler	Insulation - Wall	Insulation Wall (R-20 or R-13 w/ R-5 sheathing) (To Code)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.21	20	$1	1%	1
Multi Family	Heat Central Boiler	Insulation - Wall	Insulation Wall (R-21 + R-5 sheathing)	Code Insulation (R-20 or R-13 w/ R-5 sheathing)	Per Insulated SqFt	New	0.01	20	$0.16	90%	0
Multi Family	Heat Central Boiler	Integrated Space Heating and Water Heating	84% CAE or Above	Standard Boiler AFUE 82% and Water Heater EF = 0.59	Per Integrated Equipment	Existing	48	20	$746	0%	0
Multi Family	Heat Central Boiler	Integrated Space Heating and Water Heating	84% CAE or Above	Standard Boiler AFUE 82% and Water Heater EF = 0.59	Per Integrated Equipment	New	39	20	$746	0%	0
Multi Family	Heat Central Boiler	Quality Install Boiler	Quality Installation (QI)	Standard Installation	Per QI Install	Existing	27	5	$300	38%	0
Multi Family	Heat Central Boiler	Quality Install Boiler	Quality Installation (QI)	Standard Installation	Per QI Install	New	22	5	$300	38%	0
Multi Family	Heat Central Boiler	Thermostat - Multi-Zone	Individual Room Temperature Control for Major Occupied Rooms	Programmable Thermostat - Central Control Only	Per Programmable Control System	New	30	11	$895	62%	0
Multi Family	Heat Central Boiler	Thermostat - Programmable	Setback Thermostat 5-1-1, 5-2 or 7-Day	Manual Thermostat	Per Programmable Control	Existing	18	15	$33	48%	2
Multi Family	Heat Central Boiler	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	Existing	18	15	$167	50%	7
Multi Family	Heat Central Boiler	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	New	15	15	$167	62%	0
Multi Family	Heat Central Boiler	Tune-up - Boiler Maintenance	Boiler Maintenance (Tune-up)	Unmaintained Boiler	Per Tune-up	Existing	27	5	$200	66%	0
Multi Family	Heat Central Boiler	Window - Upgrade	Code Window U-Factor = 0.35 (2009 IECC)	Existing Windows U-Factor	Per Window SqFt	Existing	0.34	20	$19	24%	0
Multi Family	Heat Central Boiler	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	0.09	20	$3	73%	0
Multi Family	Heat Central Boiler	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	0.09	20	$3	82%	0
Multi Family	Heat Central Boiler	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	0.25	20	$28	61%	0
Multi Family	Heat Central Boiler	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	0.24	20	$28	68%	0
Multi Family	Heat Central Furnace	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	0.26	20	$0.92	32%	69
Multi Family	Heat Central Furnace	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	New	0.23	20	$0.92	32%	4

Table A.3.2. MidAm Residential Gas Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (Therm)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (Thousand Therms)
Multi Family	Heat Central Furnace	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	0.47	20	$3	40%	148
Multi Family	Heat Central Furnace	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	New	0.42	20	$3	40%	8
Multi Family	Heat Central Furnace	Duct Sealing	4 CFM/100sqft of CFA	8 CFM/100sqft of CFA	Per Duct Sealing Installation	New	12	18	$333	54%	0
Multi Family	Heat Central Furnace	Duct Sealing	4 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	52	18	$960	24%	390
Multi Family	Heat Central Furnace	Duct Sealing	8 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	34	18	$587	54%	626
Multi Family	Heat Central Furnace	Furnace - 92% AFUE	92% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	Existing	7.53	20	$82	100%	124
Multi Family	Heat Central Furnace	Furnace - 92% AFUE	92% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	New	5.36	20	$82	100%	0
Multi Family	Heat Central Furnace	Furnace - 93% AFUE	93% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	Existing	11	20	$220	100%	0
Multi Family	Heat Central Furnace	Furnace - 93% AFUE	93% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	New	7.96	20	$220	100%	0
Multi Family	Heat Central Furnace	Furnace - 94% AFUE	94% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	Existing	14	20	$498	100%	0
Multi Family	Heat Central Furnace	Furnace - 94% AFUE	94% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	New	10	20	$498	100%	0
Multi Family	Heat Central Furnace	Furnace - 96% AFUE	96% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	Existing	21	20	$653	100%	0
Multi Family	Heat Central Furnace	Furnace - 96% AFUE	96% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	New	15	20	$653	100%	0
Multi Family	Heat Central Furnace	Furnace - Below Standard 78% AFUE	Below Standard 78% AFUE	Below Standard 78% AFUE	Per Household	Existing	0.00	10	$0.00	100%	0
Multi Family	Heat Central Furnace	Furnace - Below Standard 78% AFUE	Below Standard 78% AFUE	Below Standard 78% AFUE	Per Household	New	0.00	10	$0.00	100%	0
Multi Family	Heat Central Furnace	Furnace - Standard 90% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	Existing	0.00	20	$0.00	100%	0
Multi Family	Heat Central Furnace	Furnace - Standard 90% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	New	0.00	20	$0.00	100%	0
Multi Family	Heat Central Furnace	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof sqft	New	0.00	30	$13	88%	0
Multi Family	Heat Central Furnace	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	Existing	34	11	$611	15%	0
Multi Family	Heat Central Furnace	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	New	16	11	$611	20%	0

Table A.3.2. MidAm Residential Gas Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (Therm)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (Thousand Therms)
Multi Family	Heat Central Furnace	Infiltration Reduction	4.0 ACH50	7.0 ACH50	Per Building SqFt	New	0.01	11	$0.25	42%	19
Multi Family	Heat Central Furnace	Infiltration Reduction	4.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.04	11	$0.44	19%	345
Multi Family	Heat Central Furnace	Infiltration Reduction	7.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.02	11	$0.19	63%	581
Multi Family	Heat Central Furnace	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-38 (To Code Zone 5)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.06	20	$0.99	9%	170
Multi Family	Heat Central Furnace	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (To Code Zone 6)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.07	20	$1	9%	196
Multi Family	Heat Central Furnace	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	Existing	0.01	20	$0.25	16%	0
Multi Family	Heat Central Furnace	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	New	0.00	20	$0.25	16%	0
Multi Family	Heat Central Furnace	Insulation - Basement Wall	Insulation Basement Wall (R-10 Zone 5)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.18	20	$1	7%	238
Multi Family	Heat Central Furnace	Insulation - Basement Wall	Insulation Basement Wall (R-15 Zone 6)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.21	20	$1	14%	613
Multi Family	Heat Central Furnace	Insulation - Duct	Insulation Duct (R-8)	No Duct Insulation	Per Duct Insulation Installation	Existing	14	20	$375	71%	0
Multi Family	Heat Central Furnace	Insulation - Floor	Insulation Floor (R-30)	Average Existing Insulation (R-1.8)	Per Insulated SqFt	Existing	0.05	20	$0.90	57%	0
Multi Family	Heat Central Furnace	Insulation - Rim/Band Joist	Insulation Rim and Band Joist (R-10)	No Rim And Band Joist Insulation	Per Insulated SqFt	Existing	0.10	20	$1	8%	35
Multi Family	Heat Central Furnace	Insulation - Siding	Vinyl Siding with Foam Backing (R-3)	No Siding Insulation	Per Insulated SqFt	Existing	0.09	20	$0.51	9%	159
Multi Family	Heat Central Furnace	Insulation - Slab	Insulation Slab (R-15, 4ft)	Code Insulation (R-10, 4ft)	Per Insulated SqFt	New	0.03	20	$0.44	26%	0
Multi Family	Heat Central Furnace	Insulation - Wall	Insulation Wall (R-13)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.18	20	$1	3%	76
Multi Family	Heat Central Furnace	Insulation - Wall	Insulation Wall (R-20 or R-13 w/ R-5 sheathing) (To Code)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.21	20	$1	1%	30
Multi Family	Heat Central Furnace	Insulation - Wall	Insulation Wall (R-21 + R-5 sheathing)	Code Insulation (R-20 or R-13 w/ R-5 sheathing)	Per Insulated SqFt	New	0.01	20	$0.16	90%	15
Multi Family	Heat Central Furnace	Quality Install Furnace	Quality Installation (QI)	Standard Installation	Per QI Install	Existing	6.95	5	$300	38%	0
Multi Family	Heat Central Furnace	Quality Install Furnace	Quality Installation (QI)	Standard Installation	Per QI Install	New	4.95	5	$300	38%	0
Multi Family	Heat Central Furnace	Thermostat - Multi-Zone	Individual Room Temperature Control for Major Occupied Rooms	Programmable Thermostat - Central Control Only	Per Programmable Control System	New	16	11	$895	62%	0

Table A.3.2. MidAm Residential Gas Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (Therm)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (Thousand Therms)
Multi Family	Heat Central Furnace	Thermostat - Programmable	Setback Thermostat 5-1-1, 5-2 or 7-Day	Manual Thermostat	Per Programmable Control	Existing	12	15	$33	48%	128
Multi Family	Heat Central Furnace	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	Existing	12	15	$167	50%	207
Multi Family	Heat Central Furnace	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	New	8.69	15	$167	62%	13
Multi Family	Heat Central Furnace	Tune-up - Furnace Maintenance	Furnace Maintenance (Tune-up)	Unmaintained Furnace	Per Tune-up	Existing	17	5	$200	66%	0
Multi Family	Heat Central Furnace	Window - Upgrade	Code Window U-Factor = 0.35 (2009 IECC)	Existing Windows U-Factor	Per Window SqFt	Existing	0.35	20	$19	24%	0
Multi Family	Heat Central Furnace	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	0.09	20	$3	73%	0
Multi Family	Heat Central Furnace	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	0.08	20	$3	82%	0
Multi Family	Heat Central Furnace	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	0.25	20	$28	61%	0
Multi Family	Heat Central Furnace	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	0.22	20	$28	68%	0
Multi Family	Other	Other	Other	Other	Per Unit	Existing	0.00	10	$0.00	100%	0
Multi Family	Other	Other	Other	Other	Per Unit	New	0.00	10	$0.00	100%	0
Multi Family	Water Heat	Clothes Washer	Clothes Washer Enhanced Efficiency MEF = 3.10 and WF = 3.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	16	11	$789	48%	0
Multi Family	Water Heat	Clothes Washer	Clothes Washer Enhanced Efficiency MEF = 3.10 and WF = 3.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	16	11	$789	48%	0
Multi Family	Water Heat	Clothes Washer	Clothes Washer CEE Tier 2 MEF = 2.2 and WF = 4.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	11	11	$391	44%	0
Multi Family	Water Heat	Clothes Washer	Clothes Washer CEE Tier 2 MEF = 2.2 and WF = 4.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	11	11	$391	46%	0
Multi Family	Water Heat	Clothes Washer	Clothes Washer CEE Tier 3 MEF = 2.4 and WF = 4.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	12	11	$565	46%	0
Multi Family	Water Heat	Clothes Washer	Clothes Washer CEE Tier 3 MEF = 2.4 and WF = 4.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	12	11	$565	46%	0
Multi Family	Water Heat	Clothes Washer	Clothes Washer ENERGY STAR MEF = 2.0 and WF = 6.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	10	11	$134	37%	0
Multi Family	Water Heat	Clothes Washer	Clothes Washer ENERGY STAR MEF = 2.0 and WF = 6.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	10	11	$134	37%	0
Multi Family	Water Heat	Clothes Washer	Steam Clothes Washer	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	16	11	$789	48%	0
Multi Family	Water Heat	Clothes Washer	Steam Clothes Washer	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	16	11	$789	48%	0

Table A.3.2. MidAm Residential Gas Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (Therm)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (Thousand Therms)
Multi Family	Water Heat	Dishwasher	Dishwasher Enhanced Efficiency (EF 1.00) 200 kWh/yr and 4.00 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle	Per Dishwasher	Existing	4.26	11	$1,067	47%	0
Multi Family	Water Heat	Dishwasher	Dishwasher Enhanced Efficiency (EF 1.00) 200 kWh/yr and 4.00 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle	Per Dishwasher	New	4.26	11	$1,067	47%	0
Multi Family	Water Heat	Dishwasher	ENERGY STAR 295 kWh/yr and 4.25 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle	Per Dishwasher	Existing	1.88	11	$272	16%	0
Multi Family	Water Heat	Dishwasher	ENERGY STAR 295 kWh/yr and 4.25 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle	Per Dishwasher	New	1.88	11	$272	16%	0
Multi Family	Water Heat	Drain-Water Heat Recovery	Drain-Water Heat Recovery	No Drain Water Heat Recovery	Per Drain-Water Heat Recovery System	Existing	29	40	$935	10%	0
Multi Family	Water Heat	Drain-Water Heat Recovery	Drain-Water Heat Recovery	No Drain Water Heat Recovery	Per Drain-Water Heat Recovery System	New	28	40	$935	71%	0
Multi Family	Water Heat	Faucet Aerators	0.5 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	Existing	5.03	10	$1	85%	92
Multi Family	Water Heat	Faucet Aerators	0.5 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	New	4.79	10	$1	90%	6
Multi Family	Water Heat	Faucet Aerators	1.5 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	Existing	2.07	10	$1	26%	1
Multi Family	Water Heat	Faucet Aerators	1.5 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	New	1.97	10	$1	28%	0
Multi Family	Water Heat	Faucet Aerators	2.0 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	Existing	0.59	10	$0.53	14%	0
Multi Family	Water Heat	Faucet Aerators	2.0 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	New	0.56	10	$0.53	15%	0
Multi Family	Water Heat	Faucet Aerators	2.2 GPM (Federal Code)	Existing Faucet Aerator GPM	Per Faucet Aerator	Existing	2.36	10	$3	9%	5
Multi Family	Water Heat	Hot Tub Covers	Hot Tub Covers R-21	Existing Cover R-10	Per Hot Tub Cover	Existing	7.83	6	$524	1%	0
Multi Family	Water Heat	Integrated Space Heating and Water Heating	84% CAE or Above	Standard Boiler AFUE 82% and Water Heater EF = 0.59	Per Integrated Equipment	Existing	39	20	$746	0%	0
Multi Family	Water Heat	Integrated Space Heating and Water Heating	84% CAE or Above	Standard Boiler AFUE 82% and Water Heater EF = 0.59	Per Integrated Equipment	New	37	20	$746	0%	0
Multi Family	Water Heat	Low-Flow Showerheads	1.5 GPM - Showerhead	2.5 GPM (Federal Code)	Per Showerhead	Existing	14	10	$8	80%	255
Multi Family	Water Heat	Low-Flow Showerheads	1.5 GPM - Showerhead	2.5 GPM (Federal Code)	Per Showerhead	New	14	10	$8	80%	15
Multi Family	Water Heat	Low-Flow Showerheads	2.0 GPM - Showerhead	2.5 GPM (Federal Code)	Per Showerhead	Existing	7.40	10	$13	38%	3
Multi Family	Water Heat	Low-Flow Showerheads	2.0 GPM - Showerhead	2.5 GPM (Federal Code)	Per Showerhead	New	7.05	10	$13	38%	0
Multi Family	Water Heat	Low-Flow Showerheads	2.5 GPM (Federal Code)	Existing Showerhead GPM	Per Showerhead	Existing	7.40	10	$24	23%	37
Multi Family	Water Heat	Solar Hot Water (SHW)	Solar Thermal Collector	Standard Storage Hot Water Heater	Per Solar Water System	Existing	63	15	$6,238	15%	0
Multi Family	Water Heat	Solar Hot Water (SHW)	Solar Thermal Collector	Standard Storage Hot Water Heater	Per Solar Water System	New	60	15	$4,878	15%	0
Multi Family	Water Heat	Water Heater - Condensing	Condensing ENERGY STAR EF = 0.80 EF or = 90% TE and = 40 Gallon	EF = 0.59 Federal Standard 2001	Per Unit	Existing	32	11	$1,281	90%	0
Multi Family	Water Heat	Water Heater - Condensing	Condensing ENERGY STAR EF = 0.80 EF or = 90% TE and = 40 Gallon	EF = 0.59 Federal Standard 2001	Per Unit	New	31	11	$1,281	90%	0
Multi Family	Water Heat	Water Heater - Pipe Insulation	Hot Water Pipe Insulation (R-4)	No Pipe Insulation	Per Pipe Insulation	Existing	3.09	13	$6	10%	6
Multi Family	Water Heat	Water Heater - Pipe Insulation	Hot Water Pipe Insulation (R-4)	No Pipe Insulation	Per Pipe Insulation	New	3.09	13	$6	15%	1
Multi Family	Water Heat	Water Heater - Storage	Below Standard EF = 0.55	Below Standard EF = 0.55	Per Unit	Existing	0.00	6	$0.00	100%	0
Multi Family	Water Heat	Water Heater - Storage	Below Standard EF = 0.55	Below Standard EF = 0.55	Per Unit	New	0.00	6	$0.00	100%	0
Multi Family	Water Heat	Water Heater - Storage	EF = 0.59 Federal Standard 2001	Below Standard EF = 0.55	Per Unit	Existing	10	11	$561	100%	0
Multi Family	Water Heat	Water Heater - Storage	EF = 0.59 Federal Standard 2001	Below Standard EF = 0.55	Per Unit	New	9	11	$561	100%	0
Multi Family	Water Heat	Water Heater - Storage	EF = 0.62 Federal Standard 2015	EF = 0.59 Federal Standard 2001	Per Unit	Existing	4.37	11	$43	100%	0
Multi Family	Water Heat	Water Heater - Storage	EF = 0.62 Federal Standard 2015	EF = 0.59 Federal Standard 2001	Per Unit	New	4.16	11	$43	100%	0
Multi Family	Water Heat	Water Heater - Storage	Storage ENERGY STAR EF = 0.67 = 40 Gallon and = 75,000 Btuh	EF = 0.59 Federal Standard 2001	Per Unit	Existing	14	11	$260	100%	0
Multi Family	Water Heat	Water Heater - Storage	Storage ENERGY STAR EF = 0.67 = 40 Gallon and = 75,000 Btuh	EF = 0.59 Federal Standard 2001	Per Unit	New	13	11	$260	100%	0

Table A.3.2. MidAm Residential Gas Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (Therm)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (Thousand Therms)
Multi Family	Water Heat	Water Heater - Tank Blanket/Insulation	Install Insulation (R-11)	No Tank Insulation	Per Tank Wrap	Existing	8.22	13	$17	13%	20
Multi Family	Water Heat	Water Heater - Tankless	Tankless ENERGY STAR EF = 0.82	EF = 0.59 Federal Standard 2001	Per Unit	Existing	35	20	$832	90%	0
Multi Family	Water Heat	Water Heater - Tankless	Tankless ENERGY STAR EF = 0.82	EF = 0.59 Federal Standard 2001	Per Unit	New	33	20	$693	90%	0
Multi Family	Water Heat	Water Heater - Thermostat Setback	120 Degrees	135 Degrees	Per Set-Back	Existing	24	4	$10	13%	59
Multi Family	Water Heat	Water Heater - Thermostat Setback	120 Degrees	135 Degrees	Per Set-Back	New	23	4	$10	13%	3
Single Family	Cooking Oven	Oven - Convection	Convection Oven	Standard Oven	Per Unit	Existing	10	19	$125	100%	0
Single Family	Cooking Oven	Oven - Convection	Convection Oven	Standard Oven	Per Unit	New	10	19	$125	100%	0
Single Family	Cooking Oven	Oven - Standard	Standard Oven	Standard Oven	Per Unit	Existing	0.00	19	$0.00	100%	0
Single Family	Cooking Oven	Oven - Standard	Standard Oven	Standard Oven	Per Unit	New	0.00	19	$0.00	100%	0
Single Family	Cooking Range	Cooking Range - Standard	Standard Cooking Range	Standard Cooking Range	Per Unit	Existing	0.00	19	$0.00	100%	0
Single Family	Cooking Range	Cooking Range - Standard	Standard Cooking Range	Standard Cooking Range	Per Unit	New	0.00	19	$0.00	100%	0
Single Family	Dryer	Clothes Dryer - Moisture Sensor	Clothes Dryer w/ Moisture Sensor	Standard Dryer without Moisture Sensor	Per Unit	Existing	5.42	11	$208	100%	0
Single Family	Dryer	Clothes Dryer - Moisture Sensor	Clothes Dryer w/ Moisture Sensor	Standard Dryer without Moisture Sensor	Per Unit	New	5.42	11	$208	100%	0
Single Family	Dryer	Clothes Dryer - Standard without Moisture Sensor	Standard Dryer without Moisture Sensor	Standard Dryer without Moisture Sensor	Per Unit	Existing	0.00	11	$0.00	100%	0
Single Family	Dryer	Clothes Dryer - Standard without Moisture Sensor	Standard Dryer without Moisture Sensor	Standard Dryer without Moisture Sensor	Per Unit	New	0.00	11	$0.00	100%	0
Single Family	Heat Central Boiler	Boiler - 85% AFUE	85% AFUE	Federal Standard 82% AFUE (EISA 2007)	Per Household	Existing	16	20	$471	100%	0
Single Family	Heat Central Boiler	Boiler - 85% AFUE	85% AFUE	Federal Standard 82% AFUE (EISA 2007)	Per Household	New	15	20	$471	100%	0
Single Family	Heat Central Boiler	Boiler - 90% AFUE	90% AFUE	Federal Standard 82% AFUE (EISA 2007)	Per Household	Existing	24	20	$3,057	100%	0
Single Family	Heat Central Boiler	Boiler - 90% AFUE	90% AFUE	Federal Standard 82% AFUE (EISA 2007)	Per Household	New	22	20	$3,057	100%	0
Single Family	Heat Central Boiler	Boiler - 94% AFUE	94% AFUE	Federal Standard 82% AFUE (EISA 2007)	Per Household	Existing	32	20	$3,685	100%	0
Single Family	Heat Central Boiler	Boiler - 94% AFUE	94% AFUE	Federal Standard 82% AFUE (EISA 2007)	Per Household	New	29	20	$3,685	100%	0
Single Family	Heat Central Boiler	Boiler - 96% AFUE	96% AFUE	Federal Standard 82% AFUE (EISA 2007)	Per Household	Existing	47	20	$4,342	100%	0
Single Family	Heat Central Boiler	Boiler - 96% AFUE	96% AFUE	Federal Standard 82% AFUE (EISA 2007)	Per Household	New	43	20	$4,342	100%	0
Single Family	Heat Central Boiler	Boiler - Below Standard 80% AFUE	Below Standard 80% AFUE	Below Standard 80% AFUE	Per Household	Existing	0.00	10	$0.00	100%	0
Single Family	Heat Central Boiler	Boiler - Below Standard 80% AFUE	Below Standard 80% AFUE	Below Standard 80% AFUE	Per Household	New	0.00	10	$0.00	100%	0

Table A.3.2. MidAm Residential Gas Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (Therm)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (Thousand Therms)
Single Family	Heat Central Boiler	Boiler - Controls	Boiler Controls	No Boiler Control	Per Boiler Control	Existing	37	20	$383	50%	217
Single Family	Heat Central Boiler	Boiler - Pipe Insulation	R-6	No Insulation	Per Pipe Insulation	Existing	11	15	$44	23%	35
Single Family	Heat Central Boiler	Boiler - Standard 82% AFUE	Federal Standard 82% AFUE (EISA 2007)	Federal Standard 82% AFUE (EISA 2007)	Per Household	Existing	0.00	20	$0.00	100%	0
Single Family	Heat Central Boiler	Boiler - Standard 82% AFUE	Federal Standard 82% AFUE (EISA 2007)	Federal Standard 82% AFUE (EISA 2007)	Per Household	New	0.00	20	$0.00	100%	0
Single Family	Heat Central Boiler	Construction - ICF	Insulated Concrete Forms - Concrete Construction	Standard Wood Framing	Per Building SqFt	New	0.04	40	$2	67%	0
Single Family	Heat Central Boiler	Construction - SIP	Structural Insulated Panels - Specialty Framing	Standard Wood Framing	Per Building SqFt	New	0.04	40	$0.76	67%	47
Single Family	Heat Central Boiler	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	0.26	20	$0.92	61%	5
Single Family	Heat Central Boiler	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	New	0.25	20	$0.92	61%	0
Single Family	Heat Central Boiler	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	0.47	20	$3	76%	194
Single Family	Heat Central Boiler	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	New	0.46	20	$3	76%	12
Single Family	Heat Central Boiler	Duct Sealing	4 CFM/100sqft of CFA	8 CFM/100sqft of CFA	Per Duct Sealing Installation	New	34	18	$333	0%	0
Single Family	Heat Central Boiler	Duct Sealing	4 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	112	18	$960	0%	0
Single Family	Heat Central Boiler	Duct Sealing	8 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	74	18	$587	0%	0
Single Family	Heat Central Boiler	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof sqft	New	0.01	30	$15	88%	0
Single Family	Heat Central Boiler	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	Existing	74	11	$611	35%	325
Single Family	Heat Central Boiler	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	New	44	11	$611	64%	0
Single Family	Heat Central Boiler	Infiltration Reduction	4.0 ACH50	7.0 ACH50	Per Building SqFt	New	0.03	11	$0.25	42%	17
Single Family	Heat Central Boiler	Infiltration Reduction	4.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.06	11	$0.44	19%	281
Single Family	Heat Central Boiler	Infiltration Reduction	7.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.03	11	$0.19	63%	475
Single Family	Heat Central Boiler	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-38 (To Code Zone 5)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.06	20	$0.99	23%	156

Table A.3.2. MidAm Residential Gas Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (Therm)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (Thousand Therms)
Single Family	Heat Central Boiler	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (To Code Zone 6)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.07	20	$1	23%	179
Single Family	Heat Central Boiler	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	Existing	0.01	20	$0.25	45%	0
Single Family	Heat Central Boiler	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	New	0.01	20	$0.25	45%	0
Single Family	Heat Central Boiler	Insulation - Basement Wall	Insulation Basement Wall (R-10 Zone 5)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.18	20	$1	12%	140
Single Family	Heat Central Boiler	Insulation - Basement Wall	Insulation Basement Wall (R-15 Zone 6)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.21	20	$1	24%	355
Single Family	Heat Central Boiler	Insulation - Duct	Insulation Duct (R-8)	No Duct Insulation	Per Duct Insulation Installation	Existing	31	20	$596	0%	0
Single Family	Heat Central Boiler	Insulation - Floor	Insulation Floor (R-30)	Average Existing Insulation (R-1.8)	Per Insulated SqFt	Existing	0.05	20	$0.90	57%	0
Single Family	Heat Central Boiler	Insulation - Rim/Band Joist	Insulation Rim and Band Joist (R-10)	No Rim And Band Joist Insulation	Per Insulated SqFt	Existing	0.10	20	$1	16%	27
Single Family	Heat Central Boiler	Insulation - Siding	Vinyl Siding with Foam Backing (R-3)	No Siding Insulation	Per Insulated SqFt	Existing	0.09	20	$0.51	9%	175
Single Family	Heat Central Boiler	Insulation - Slab	Insulation Slab (R-15, 4ft)	Code Insulation (R-10, 4ft)	Per Insulated SqFt	New	0.03	20	$0.44	13%	0
Single Family	Heat Central Boiler	Insulation - Wall	Insulation Wall (R-13)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.18	20	$1	3%	44
Single Family	Heat Central Boiler	Insulation - Wall	Insulation Wall (R-20 or R-13 w/ R-5 sheathing) (To Code)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.21	20	$1	2%	78
Single Family	Heat Central Boiler	Insulation - Wall	Insulation Wall (R-21 + R-5 sheathing)	Code Insulation (R-20 or R-13 w/ R-5 sheathing)	Per Insulated SqFt	New	0.01	20	$0.16	90%	15
Single Family	Heat Central Boiler	Integrated Space Heating and Water Heating	84% CAE or Above	Standard Boiler AFUE 82% and Water Heater EF = 0.59	Per Integrated Equipment	Existing	67	20	$746	0%	0
Single Family	Heat Central Boiler	Integrated Space Heating and Water Heating	84% CAE or Above	Standard Boiler AFUE 82% and Water Heater EF = 0.59	Per Integrated Equipment	New	61	20	$746	0%	0
Single Family	Heat Central Boiler	Quality Install Boiler	Quality Installation (QI)	Standard Installation	Per QI Install	Existing	37	5	$300	38%	0
Single Family	Heat Central Boiler	Quality Install Boiler	Quality Installation (QI)	Standard Installation	Per QI Install	New	34	5	$300	38%	0
Single Family	Heat Central Boiler	Thermostat - Multi-Zone	Individual Room Temperature Control for Major Occupied Rooms	Programmable Thermostat - Central Control Only	Per Programmable Control System	New	46	11	$895	86%	0
Single Family	Heat Central Boiler	Thermostat - Programmable	Setback Thermostat 5-1-1, 5-2 or 7-Day	Manual Thermostat	Per Programmable Control	Existing	26	15	$33	48%	0
Single Family	Heat Central Boiler	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	Existing	26	15	$167	51%	72

Table A.3.2. MidAm Residential Gas Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (Therm)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (Thousand Therms)
Single Family	Heat Central Boiler	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	New	24	15	$167	90%	19
Single Family	Heat Central Boiler	Tune-up - Boiler Maintenance	Boiler Maintenance (Tune-up)	Unmaintained Boiler	Per Tune-up	Existing	37	5	$200	66%	0
Single Family	Heat Central Boiler	Window - Upgrade	Code Window U-Factor = 0.35 (2009 IECC)	Existing Windows U-Factor	Per Window SqFt	Existing	0.34	20	$24	24%	0
Single Family	Heat Central Boiler	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	0.09	20	$8	73%	0
Single Family	Heat Central Boiler	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	0.09	20	$8	82%	0
Single Family	Heat Central Boiler	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	0.25	20	$33	61%	0
Single Family	Heat Central Boiler	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	0.24	20	$33	68%	0
Single Family	Heat Central Furnace	Construction - ICF	Insulated Concrete Forms - Concrete Construction	Standard Wood Framing	Per Building SqFt	New	0.03	40	$2	67%	0
Single Family	Heat Central Furnace	Construction - SIP	Structural Insulated Panels - Specialty Framing	Standard Wood Framing	Per Building SqFt	New	0.03	40	$0.76	67%	718
Single Family	Heat Central Furnace	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	0.26	20	$0.92	61%	104
Single Family	Heat Central Furnace	Doors	ENERGY STAR Door (R-4.8)	Standard Code Door (R-2.9)	Per Door SqFt	New	0.23	20	$0.92	61%	6
Single Family	Heat Central Furnace	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	Existing	0.47	20	$3	76%	3,807
Single Family	Heat Central Furnace	Doors	Thermal Door (R-10)	Standard Code Door (R-2.9)	Per Door SqFt	New	0.42	20	$3	76%	238
Single Family	Heat Central Furnace	Duct Sealing	4 CFM/100sqft of CFA	8 CFM/100sqft of CFA	Per Duct Sealing Installation	New	26	18	$333	65%	301
Single Family	Heat Central Furnace	Duct Sealing	4 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	90	18	$960	33%	8,441
Single Family	Heat Central Furnace	Duct Sealing	8 CFM/100sqft of CFA	Existing CFM/100sqft of CFA	Per Duct Sealing Installation	Existing	60	18	$587	65%	8,310
Single Family	Heat Central Furnace	Furnace - 92% AFUE	92% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	Existing	13	20	$124	100%	1,359
Single Family	Heat Central Furnace	Furnace - 92% AFUE	92% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	New	11	20	$124	100%	172
Single Family	Heat Central Furnace	Furnace - 93% AFUE	93% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	Existing	19	20	$330	100%	0
Single Family	Heat Central Furnace	Furnace - 93% AFUE	93% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	New	17	20	$330	100%	0

Table A.3.2. MidAm Residential Gas Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (Therm)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (Thousand Therms)
Single Family	Heat Central Furnace	Furnace - 94% AFUE	94% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	Existing	26	20	$747	100%	0
Single Family	Heat Central Furnace	Furnace - 94% AFUE	94% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	New	22	20	$747	100%	0
Single Family	Heat Central Furnace	Furnace - 96% AFUE	96% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	Existing	38	20	$979	100%	0
Single Family	Heat Central Furnace	Furnace - 96% AFUE	96% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	New	33	20	$979	100%	0
Single Family	Heat Central Furnace	Furnace - Below Standard 78% AFUE	Below Standard 78% AFUE	Below Standard 78% AFUE	Per Household	Existing	0.00	10	$0.00	100%	0
Single Family	Heat Central Furnace	Furnace - Below Standard 78% AFUE	Below Standard 78% AFUE	Below Standard 78% AFUE	Per Household	New	0.00	10	$0.00	100%	0
Single Family	Heat Central Furnace	Furnace - Standard 90% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	Existing	0.00	20	$0.00	100%	0
Single Family	Heat Central Furnace	Furnace - Standard 90% AFUE	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Federal Standard 90% AFUE Non-Weatherized (EISA 2007)	Per Household	New	0.00	20	$0.00	100%	0
Single Family	Heat Central Furnace	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof sqft	New	0.01	30	$15	88%	0
Single Family	Heat Central Furnace	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	Existing	60	11	$611	35%	4,786
Single Family	Heat Central Furnace	Home Energy Management System	Home Energy Management System	Manual Control	Per Management System	New	34	11	$611	64%	0
Single Family	Heat Central Furnace	Infiltration Reduction	4.0 ACH50	7.0 ACH50	Per Building SqFt	New	0.02	11	$0.25	42%	255
Single Family	Heat Central Furnace	Infiltration Reduction	4.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.05	11	$0.44	19%	4,261
Single Family	Heat Central Furnace	Infiltration Reduction	7.0 ACH50	Existing Infiltration (10 ACH50)	Per Building SqFt	Existing	0.02	11	$0.19	63%	7,037
Single Family	Heat Central Furnace	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-38 (To Code Zone 5)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.06	20	$0.99	23%	2,955
Single Family	Heat Central Furnace	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (To Code Zone 6)	Average Existing Insulation (R-15.7)	Per Insulated SqFt	Existing	0.07	20	$1	23%	3,275
Single Family	Heat Central Furnace	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	Existing	0.01	20	$0.25	45%	0
Single Family	Heat Central Furnace	Insulation - Attic/Ceiling	Insulation Attic/Ceiling R-49 (Zone 5)	Code Insulation R-38 (Zone 5)	Per Insulated SqFt	New	0.00	20	$0.25	45%	0
Single Family	Heat Central Furnace	Insulation - Basement Wall	Insulation Basement Wall (R-10 Zone 5)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.18	20	$1	12%	2,705
Single Family	Heat Central Furnace	Insulation - Basement Wall	Insulation Basement Wall (R-15 Zone 6)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.21	20	$1	24%	6,651

Table A.3.2. MidAm Residential Gas Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (Therm)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (Thousand Therms)
Single Family	Heat Central Furnace	Insulation - Duct	Insulation Duct (R-8)	No Duct Insulation	Per Duct Insulation Installation	Existing	25	20	$596	71%	3,878
Single Family	Heat Central Furnace	Insulation - Floor	Insulation Floor (R-30)	Average Existing Insulation (R-1.8)	Per Insulated SqFt	Existing	0.05	20	$0.90	57%	0
Single Family	Heat Central Furnace	Insulation - Rim/Band Joist	Insulation Rim and Band Joist (R-10)	No Rim And Band Joist Insulation	Per Insulated SqFt	Existing	0.10	20	$1	16%	505
Single Family	Heat Central Furnace	Insulation - Siding	Vinyl Siding with Foam Backing (R-3)	No Siding Insulation	Per Insulated SqFt	Existing	0.09	20	$0.51	9%	3,653
Single Family	Heat Central Furnace	Insulation - Slab	Insulation Slab (R-15, 4ft)	Code Insulation (R-10, 4ft)	Per Insulated SqFt	New	0.03	20	$0.44	13%	0
Single Family	Heat Central Furnace	Insulation - Wall	Insulation Wall (R-13)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.18	20	$1	3%	911
Single Family	Heat Central Furnace	Insulation - Wall	Insulation Wall (R-20 or R-13 w/ R-5 sheathing) (To Code)	Average Existing Insulation (R-2.1)	Per Insulated SqFt	Existing	0.21	20	$1	2%	1,626
Single Family	Heat Central Furnace	Insulation - Wall	Insulation Wall (R-21 + R-5 sheathing)	Code Insulation (R-20 or R-13 w/ R-5 sheathing)	Per Insulated SqFt	New	0.01	20	$0.16	90%	282
Single Family	Heat Central Furnace	Quality Install Furnace	Quality Installation (QI)	Standard Installation	Per QI Install	Existing	12	5	$300	38%	0
Single Family	Heat Central Furnace	Quality Install Furnace	Quality Installation (QI)	Standard Installation	Per QI Install	New	10	5	$300	38%	0
Single Family	Heat Central Furnace	Thermostat - Multi-Zone	Individual Room Temperature Control for Major Occupied Rooms	Programmable Thermostat - Central Control Only	Per Programmable Control System	New	35	11	$895	86%	0
Single Family	Heat Central Furnace	Thermostat - Programmable	Setback Thermostat 5-1-1, 5-2 or 7-Day	Manual Thermostat	Per Programmable Control	Existing	21	15	$33	48%	0
Single Family	Heat Central Furnace	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	Existing	21	15	$167	51%	1,192
Single Family	Heat Central Furnace	Thermostat - WiFi Programmable	WiFi Programmable Thermostat	Programmable Thermostat - Central Control Only	Per Programmable Control	New	18	15	$167	90%	304
Single Family	Heat Central Furnace	Tune-up - Furnace Maintenance	Furnace Maintenance (Tune-up)	Unmaintained Furnace	Per Tune-up	Existing	30	5	$200	66%	0
Single Family	Heat Central Furnace	Window - Upgrade	Code Window U-Factor = 0.35 (2009 IECC)	Existing Windows U-Factor	Per Window SqFt	Existing	0.35	20	$24	24%	0
Single Family	Heat Central Furnace	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	0.09	20	$8	73%	0
Single Family	Heat Central Furnace	Window - Upgrade	ENERGY STAR U-Factor = 0.30	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	0.08	20	$8	82%	0
Single Family	Heat Central Furnace	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	Existing	0.25	20	$33	61%	0
Single Family	Heat Central Furnace	Window - Upgrade	Smart Window U-Factor = 0.22	Code Window U-Factor = 0.35 (2009 IECC)	Per Window SqFt	New	0.22	20	$33	68%	0
Single Family	Other	Other	Other	Other	Per Unit	Existing	0.00	10	$0.00	100%	0

Table A.3.2. MidAm Residential Gas Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (Therm)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (Thousand Therms)
Single Family	Other	Other	Other	Other	Per Unit	New	0.00	10	$0.00	100%	0
Single Family	Pool Heat	Pool Covers	Pool Covers	No Pool Cover	Per Pool Cover	Existing	128	5	$68	45%	196
Single Family	Pool Heat	Pool Covers	Pool Covers	No Pool Cover	Per Pool Cover	New	128	5	$68	45%	12
Single Family	Pool Heat	Pool Heaters - High Efficiency	Pool Heaters - 88% Efficiency	Pool Heaters, Standard Heaters - 83% Efficiency	Per Unit	Existing	14	8	$563	100%	0
Single Family	Pool Heat	Pool Heaters - High Efficiency	Pool Heaters - 88% Efficiency	Pool Heaters, Standard Heaters - 83% Efficiency	Per Unit	New	14	8	$563	100%	0
Single Family	Pool Heat	Pool Heaters - Standard	Pool Heaters, Standard Heaters - 83% Efficiency	Pool Heaters, Standard Heaters - 83% Efficiency	Per Unit	Existing	0.00	8	$0.00	100%	0
Single Family	Pool Heat	Pool Heaters - Standard	Pool Heaters, Standard Heaters - 83% Efficiency	Pool Heaters, Standard Heaters - 83% Efficiency	Per Unit	New	0.00	8	$0.00	100%	0
Single Family	Water Heat	Clothes Washer	Clothes Washer Enhanced Efficiency MEF = 3.10 and WF = 3.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	23	11	$789	83%	0
Single Family	Water Heat	Clothes Washer	Clothes Washer Enhanced Efficiency MEF = 3.10 and WF = 3.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	23	11	$789	83%	0
Single Family	Water Heat	Clothes Washer	Clothes Washer CEE Tier 2 MEF = 2.2 and WF = 4.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	17	11	$391	80%	0
Single Family	Water Heat	Clothes Washer	Clothes Washer CEE Tier 2 MEF = 2.2 and WF = 4.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	17	11	$391	80%	0
Single Family	Water Heat	Clothes Washer	Clothes Washer CEE Tier 3 MEF = 2.4 and WF = 4.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	18	11	$565	80%	0
Single Family	Water Heat	Clothes Washer	Clothes Washer CEE Tier 3 MEF = 2.4 and WF = 4.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	18	11	$565	80%	0
Single Family	Water Heat	Clothes Washer	Clothes Washer ENERGY STAR MEF = 2.0 and WF = 6.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	14	11	$134	73%	2,652
Single Family	Water Heat	Clothes Washer	Clothes Washer ENERGY STAR MEF = 2.0 and WF = 6.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	14	11	$134	73%	165
Single Family	Water Heat	Clothes Washer	Steam Clothes Washer	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	23	11	$789	83%	0
Single Family	Water Heat	Clothes Washer	Steam Clothes Washer	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	23	11	$789	83%	0
Single Family	Water Heat	Dishwasher	Dishwasher Enhanced Efficiency (EF 1.00) 200 kWh/yr and 4.00 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle	Per Dishwasher	Existing	4.26	11	$1,067	54%	0
Single Family	Water Heat	Dishwasher	Dishwasher Enhanced Efficiency (EF 1.00) 200 kWh/yr and 4.00 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle	Per Dishwasher	New	4.26	11	$1,067	54%	0
Single Family	Water Heat	Dishwasher	ENERGY STAR 295 kWh/yr and 4.25 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle	Per Dishwasher	Existing	1.88	11	$272	18%	0
Single Family	Water Heat	Dishwasher	ENERGY STAR 295 kWh/yr and 4.25 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle	Per Dishwasher	New	1.88	11	$272	18%	0
Single Family	Water Heat	Drain-Water Heat Recovery	Drain-Water Heat Recovery	No Drain Water Heat Recovery	Per Drain-Water Heat Recovery System	Existing	43	40	$935	27%	0
Single Family	Water Heat	Drain-Water Heat Recovery	Drain-Water Heat Recovery	No Drain Water Heat Recovery	Per Drain-Water Heat Recovery System	New	40	40	$935	68%	0
Single Family	Water Heat	Faucet Aerators	0.5 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	Existing	5.24	10	$1	85%	1,100
Single Family	Water Heat	Faucet Aerators	0.5 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	New	4.99	10	$1	90%	69
Single Family	Water Heat	Faucet Aerators	1.5 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	Existing	2.16	10	$1	26%	7
Single Family	Water Heat	Faucet Aerators	1.5 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	New	2.05	10	$1	28%	0

Table A.3.2. MidAm Residential Gas Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (Therm)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (Thousand Therms)
Single Family	Water Heat	Faucet Aerators	2.0 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	Existing	0.61	10	$0.53	14%	0
Single Family	Water Heat	Faucet Aerators	2.0 GPM	2.2 GPM (Federal Code)	Per Faucet Aerator	New	0.58	10	$0.53	15%	0
Single Family	Water Heat	Faucet Aerators	2.2 GPM (Federal Code)	Existing Faucet Aerator GPM	Per Faucet Aerator	Existing	2.46	10	$3	9%	55
Single Family	Water Heat	Hot Tub Covers	Hot Tub Covers R-21	Existing Cover R-10	Per Hot Tub Cover	Existing	7.83	6	$524	1%	0
Single Family	Water Heat	Integrated Space Heating and Water Heating	84% CAE or Above	Standard Boiler AFUE 82% and Water Heater EF = 0.59	Per Integrated Equipment	Existing	57	20	$746	0%	0
Single Family	Water Heat	Integrated Space Heating and Water Heating	84% CAE or Above	Standard Boiler AFUE 82% and Water Heater EF = 0.59	Per Integrated Equipment	New	55	20	$746	0%	0
Single Family	Water Heat	Low-Flow Showerheads	1.5 GPM - Showerhead	2.5 GPM (Federal Code)	Per Showerhead	Existing	10	10	$8	80%	2,037
Single Family	Water Heat	Low-Flow Showerheads	1.5 GPM - Showerhead	2.5 GPM (Federal Code)	Per Showerhead	New	9	10	$8	80%	121
Single Family	Water Heat	Low-Flow Showerheads	2.0 GPM - Showerhead	2.5 GPM (Federal Code)	Per Showerhead	Existing	5.14	10	$13	38%	25
Single Family	Water Heat	Low-Flow Showerheads	2.0 GPM - Showerhead	2.5 GPM (Federal Code)	Per Showerhead	New	4.90	10	$13	38%	1
Single Family	Water Heat	Low-Flow Showerheads	2.5 GPM (Federal Code)	Existing Showerhead GPM	Per Showerhead	Existing	5.14	10	$24	23%	296
Single Family	Water Heat	Solar Hot Water (SHW)	Solar Thermal Collector	Standard Storage Hot Water Heater	Per Solar Water System	Existing	91	15	$6,238	15%	0
Single Family	Water Heat	Solar Hot Water (SHW)	Solar Thermal Collector	Standard Storage Hot Water Heater	Per Solar Water System	New	87	15	$4,878	15%	0
Single Family	Water Heat	Water Heater - Condensing	Condensing ENERGY STAR EF = 0.80 EF or = 90% TE and = 40 Gallon	EF = 0.59 Federal Standard 2001	Per Unit	Existing	48	11	$1,281	90%	0
Single Family	Water Heat	Water Heater - Condensing	Condensing ENERGY STAR EF = 0.80 EF or = 90% TE and = 40 Gallon	EF = 0.59 Federal Standard 2001	Per Unit	New	45	11	$1,281	90%	0
Single Family	Water Heat	Water Heater - Pipe Insulation	Hot Water Pipe Insulation (R-4)	No Pipe Insulation	Per Pipe Insulation	Existing	3.09	13	$6	36%	245
Single Family	Water Heat	Water Heater - Pipe Insulation	Hot Water Pipe Insulation (R-4)	No Pipe Insulation	Per Pipe Insulation	New	3.09	13	$6	43%	18
Single Family	Water Heat	Water Heater - Storage	Below Standard EF = 0.55	Below Standard EF = 0.55	Per Unit	Existing	0.00	6	$0.00	100%	0
Single Family	Water Heat	Water Heater - Storage	Below Standard EF = 0.55	Below Standard EF = 0.55	Per Unit	New	0.00	6	$0.00	100%	0
Single Family	Water Heat	Water Heater - Storage	EF = 0.59 Federal Standard 2001	Below Standard EF = 0.55	Per Unit	Existing	14	11	$561	100%	-80
Single Family	Water Heat	Water Heater - Storage	EF = 0.59 Federal Standard 2001	Below Standard EF = 0.55	Per Unit	New	14	11	$561	100%	0
Single Family	Water Heat	Water Heater - Storage	EF = 0.62 Federal Standard 2015	EF = 0.59 Federal Standard 2001	Per Unit	Existing	6.38	11	$43	100%	0
Single Family	Water Heat	Water Heater - Storage	EF = 0.62 Federal Standard 2015	EF = 0.59 Federal Standard 2001	Per Unit	New	6.07	11	$43	100%	0
Single Family	Water Heat	Water Heater - Storage	Storage ENERGY STAR EF = 0.67 = 40 Gallon and = 75,000 Btuh	EF = 0.59 Federal Standard 2001	Per Unit	Existing	21	11	$260	100%	0
Single Family	Water Heat	Water Heater - Storage	Storage ENERGY STAR EF = 0.67 = 40 Gallon and = 75,000 Btuh	EF = 0.59 Federal Standard 2001	Per Unit	New	20	11	$260	100%	0
Single Family	Water Heat	Water Heater - Tank Blanket/Insulation	Install Insulation (R-11)	No Tank Insulation	Per Tank Wrap	Existing	11	13	$17	14%	384
Single Family	Water Heat	Water Heater - Tankless	Tankless ENERGY STAR EF = 0.82	EF = 0.59 Federal Standard 2001	Per Unit	Existing	51	20	$832	90%	0
Single Family	Water Heat	Water Heater - Tankless	Tankless ENERGY STAR EF = 0.82	EF = 0.59 Federal Standard 2001	Per Unit	New	49	20	$693	90%	0
Single Family	Water Heat	Water Heater - Thermostat Setback	120 Degrees	135 Degrees	Per Set-Back	Existing	35	4	$10	13%	1,097
Single Family	Water Heat	Water Heater - Thermostat Setback	120 Degrees	135 Degrees	Per Set-Back	New	33	4	$10	13%	65

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Convenience	Computers	Computer - ENERGY STAR	ENERGY STAR Computer	Standard Computer	Per Building SqFt	Existing	0.03	4	$0.00	100%	152
Convenience	Computers	Computer - ENERGY STAR	ENERGY STAR Computer	Standard Computer	Per Building SqFt	New	0.03	4	$0.00	100%	9
Convenience	Computers	Computer - Standard	Standard Computer	Standard Computer	Per Building SqFt	Existing	0.00	4	$0.00	100%	0
Convenience	Computers	Computer - Standard	Standard Computer	Standard Computer	Per Building SqFt	New	0.00	4	$0.00	100%	0
Convenience	Cooking	Convection Oven	ENERGY STAR Convection Oven	Standard Oven	Per Convection Oven	Existing	7.51	15	$1,650	75%	0
Convenience	Cooking	Convection Oven	ENERGY STAR Convection Oven	Standard Oven	Per Convection Oven	New	7.73	15	$1,650	75%	0
Convenience	Cooking	Cooking - Standard Equipment	Standard Cooking Equipment	Standard Cooking Equipment	Per Building SqFt	Existing	0.00	12	$0.00	100%	0
Convenience	Cooking	Cooking - Standard Equipment	Standard Cooking Equipment	Standard Cooking Equipment	Per Building SqFt	New	0.00	12	$0.00	100%	0
Convenience	Cooking	Fryer	ENERGY STAR Fryer	Standard	Per Fryer	Existing	3.29	12	$1,271	25%	0
Convenience	Cooking	Fryer	ENERGY STAR Fryer	Standard	Per Fryer	New	3.39	12	$1,271	25%	0
Convenience	Cooking	Hot Food Holding Cabinets	ENERGY STAR Qualified (< 40 watts/cubic foot)	Standard Equipment	Per Hot Food Holding Cabinet	Existing	22	12	$1,500	30%	0
Convenience	Cooking	Hot Food Holding Cabinets	ENERGY STAR Qualified (< 40 watts/cubic foot)	Standard Equipment	Per Hot Food Holding Cabinet	New	23	12	$1,500	30%	0
Convenience	Cooking	Steam Cooker	ENERGY STAR Steam Cooker	Standard	Per Steam Cooker	Existing	54	12	$1,500	11%	0
Convenience	Cooking	Steam Cooker	ENERGY STAR Steam Cooker	Standard	Per Steam Cooker	New	56	12	$1,500	11%	0
Convenience	Cooling DX	Advanced Control Technology	Advanced Control Technologies for Packaged Air-Conditioning Units (Retrofit)	Standard Controls	Per 5 Tons of Cooling	Existing	788	15	$4,920	15%	0
Convenience	Cooling DX	Commissioning	Commissioning/QI - New Installation	No Commissioning	Per SqFt	New	0.41	7	$1	90%	0
Convenience	Cooling DX	Cool Roofs	ENERGY STAR Cool Roof - Reflect Material (Reflectivity = 0.55)	Standard Roof	Per Roof Area SqFt	Existing	0.40	15	$0.68	34%	417
Convenience	Cooling DX	Cool Roofs	ENERGY STAR Cool Roof - Reflect Material (Reflectivity = 0.55)	Standard Roof	Per Roof Area SqFt	New	0.31	15	$0.68	34%	0
Convenience	Cooling DX	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	Existing	1,503	5	$3,122	9%	0
Convenience	Cooling DX	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	New	1,161	5	$2,001	9%	0
Convenience	Cooling DX	Direct Digital Control System-Installation	DDC Retrofit - EMS Upgrade	Pneumatic	Per Building	Existing	2,255	5	$2,986	2%	0
Convenience	Cooling DX	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	Existing	24	20	$477	76%	0
Convenience	Cooling DX	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	New	24	20	$477	76%	0
Convenience	Cooling DX	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	Existing	11	20	$60	62%	7
Convenience	Cooling DX	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	New	11	20	$60	62%	0
Convenience	Cooling DX	Duct Repair And Sealing	Reduction In Duct Losses to 5%	No Repair or Sealing, 15% duct losses	Per Building SqFt	Existing	0.12	18	$0.23	38%	141
Convenience	Cooling DX	Exhaust Hood Makeup Air	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	Hood Pulls Conditioned Air (No Make-up Air)	Per Building	Existing	676	10	$5,450	4%	0
Convenience	Cooling DX	Exhaust Hood Makeup Air	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	Hood Pulls Conditioned Air (No Make-up Air)	Per Building	New	522	10	$5,450	4%	0
Convenience	Cooling DX	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	Existing	0.40	30	$10	75%	0
Convenience	Cooling DX	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	New	0.31	30	$10	75%	0
Convenience	Cooling DX	Infiltration Control	Weather-Stripping	Standard Practice	Per Window SqFt	Existing	1.69	13	$0.38	51%	230
Convenience	Cooling DX	Insulation - Duct	New Duct Insulation (R-8) (Unconditioned Spaces)	No Insulation	Per Surface Area of Duct	Existing	2.18	20	$2	15%	91
Convenience	Cooling DX	Insulation - Floor	R-30	Average Existing Insulation (R-10)	Per Floor Area SqFt	Existing	0.02	25	$1	29%	0
Convenience	Cooling DX	Insulation - Roof	R-20ci	Average Existing Insulation (R-10)	Per Roof Area SqFt	Existing	0.01	25	$1	13%	0
Convenience	Cooling DX	Insulation - Wall	R-13+R-7.5ci	Average Existing Insulation (R-10)	Per Wall Area SqFt	Existing	0.04	25	$1	33%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Convenience	Cooling DX	Package Terminal - Air Conditioner	High Efficiency Package Terminal Air Conditioner	Federal Standard Equipment	Per Package Terminal AC	Existing	106	9	$88	7%	1
Convenience	Cooling DX	Package Terminal - Air Conditioner	High Efficiency Package Terminal Air Conditioner	Federal Standard Equipment	Per Package Terminal AC	New	106	9	$88	7%	0
Convenience	Cooling DX	Retro-Commissioning	Retro-Commissioning	No Retro-Commissioning	Per SqFt	Existing	0.65	7	$0.30	90%	2,079
Convenience	Cooling DX	Rooftop DX Unit - Below Standard	Below Standard 9.5 EER, Air-Cooled = 135 and < 240 kBtuh	Below Standard 9.5 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.00	15	$0.00	100%	0
Convenience	Cooling DX	Rooftop DX Unit - Below Standard	Below Standard 9.5 EER, Air-Cooled = 135 and < 240 kBtuh	Below Standard 9.5 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	New	0.00	15	$0.00	100%	0
Convenience	Cooling DX	Rooftop DX Unit - CEE Tier 1	CEE Tier 1 11.5 EER, Air-Cooled = 135 and < 240 kBtuh	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.17	15	$0.10	100%	0
Convenience	Cooling DX	Rooftop DX Unit - CEE Tier 1	CEE Tier 1 11.5 EER, Air-Cooled = 135 and < 240 kBtuh	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	New	0.13	15	$0.10	100%	0
Convenience	Cooling DX	Rooftop DX Unit - CEE Tier 2	CEE Tier 2 12.0 EER, Air-Cooled = 135 and < 240 kBtuh	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.34	15	$0.17	100%	519
Convenience	Cooling DX	Rooftop DX Unit - CEE Tier 2	CEE Tier 2 12.0 EER, Air-Cooled = 135 and < 240 kBtuh	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	New	0.26	15	$0.17	100%	59
Convenience	Cooling DX	Rooftop DX Unit - Standard	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.00	15	$0.00	100%	0
Convenience	Cooling DX	Rooftop DX Unit - Standard	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	New	0.00	15	$0.00	100%	0
Convenience	Cooling DX	Thermostat Programmable	Setback Thermostat 5-1-1, 5-2 or 7-day	Manual Thermostat	Per Thermostat	Existing	451	15	$138	77%	343
Convenience	Cooling DX	Tune-up - Air Conditioner	Air Conditioner Maintenance (Tune-up)	Unmaintained Air Conditioner	Per Ton	Existing	92	3	$48	48%	0
Convenience	Cooling DX	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	Existing	0.10	25	$3	47%	0
Convenience	Cooling DX	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	New	0.10	25	$3	53%	0
Convenience	Cooling DX	Window - Metal Framing	U-Value = 0.55 (Code Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	0.10	25	$27	9%	0
Convenience	Cooling DX	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	Existing	0.06	25	$2	21%	0
Convenience	Cooling DX	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	New	0.06	25	$2	23%	0
Convenience	Cooling DX	Window - Non-Metal Framing	U-Value = 0.35 (Code Non-Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	0.32	25	$42	20%	0
Convenience	Cooling DX	Window Air Conditioner	CEE TIER 1 = 11.3 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Window AC	Existing	169	9	$406	32%	0
Convenience	Cooling DX	Window Air Conditioner	CEE TIER 1 = 11.3 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Window AC	New	169	9	$406	32%	0
Convenience	Cooling DX	Window Air Conditioner	CEE TIER 2 = 11.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Window AC	Existing	216	9	$771	33%	0
Convenience	Cooling DX	Window Air Conditioner	CEE TIER 2 = 11.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Window AC	New	216	9	$771	33%	0
Convenience	Cooling DX	Window Air Conditioner	ENERGY STAR = 10.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Window AC	Existing	118	9	$41	26%	19
Convenience	Cooling DX	Window Air Conditioner	ENERGY STAR = 10.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Window AC	New	118	9	$41	26%	1
Convenience	Ext Lighting	Exterior Lighting - Standard	Standard Exterior Lighting	Standard Exterior Lighting	Per Building SqFt	Existing	0.00	14	$0.00	100%	0
Convenience	Ext Lighting	Exterior Lighting - Standard	Standard Exterior Lighting	Standard Exterior Lighting	Per Building SqFt	New	0.00	14	$0.00	100%	0
Convenience	Ext Lighting	Lighting - LED Lighting Package	Exterior LED Lighting Package	Standard Lighting	Per Lighting Package	Existing	27	13	$25	66%	0
Convenience	Ext Lighting	Lighting - High Intensity Discharge Package	High Efficiency Metal Halide Lighting Packages	Standard HID Lighting	Per Lighting Package	Existing	11	5	$0.64	62%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Convenience	Ext Lighting	Lighting - Induction Lighting Package	Induction Lighting Package	Standard HID Lighting	Per Lighting Package	Existing	33	13	$5	67%	0
Convenience	Fax	Fax - ENERGY STAR	ENERGY STAR Fax	Standard Fax	Per Building SqFt	Existing	0.02	6	$0.00	100%	100
Convenience	Fax	Fax - ENERGY STAR	ENERGY STAR Fax	Standard Fax	Per Building SqFt	New	0.02	6	$0.00	100%	7
Convenience	Fax	Fax - Standard	Standard Fax	Standard Fax	Per Building SqFt	Existing	0.00	6	$0.00	100%	0
Convenience	Fax	Fax - Standard	Standard Fax	Standard Fax	Per Building SqFt	New	0.00	6	$0.00	100%	0
Convenience	Flat Screen Monitors	Monitor - ENERGY STAR Flat Screen	ENERGY STAR Flat Screen Monitor	Standard Flat Screen Monitor	Per Building SqFt	Existing	0.00	4	$0.00	100%	0
Convenience	Flat Screen Monitors	Monitor - ENERGY STAR Flat Screen	ENERGY STAR Flat Screen Monitor	Standard Flat Screen Monitor	Per Building SqFt	New	0.00	4	$0.00	100%	0
Convenience	Flat Screen Monitors	Monitor - Standard Flat Screen	Standard Flat Screen Monitor	Standard Flat Screen Monitor	Per Building SqFt	Existing	0.00	4	$0.00	100%	0
Convenience	Flat Screen Monitors	Monitor - Standard Flat Screen	Standard Flat Screen Monitor	Standard Flat Screen Monitor	Per Building SqFt	New	0.00	4	$0.00	100%	0
Convenience	Freezers	Freezer - 2014 Federal Standard	2014 Standard Freezer	Standard Freezer	Per Building SqFt	Existing	0.00	12	$0.00	100%	0
Convenience	Freezers	Freezer - 2014 Federal Standard	2014 Standard Freezer	Standard Freezer	Per Building SqFt	New	0.00	12	$0.00	100%	0
Convenience	Freezers	Freezer - Below Standard	Below Standard Freezer	Below Standard Freezer	Per Building SqFt	Existing	0.00	12	$0.00	100%	0
Convenience	Freezers	Freezer - Below Standard	Below Standard Freezer	Below Standard Freezer	Per Building SqFt	New	0.00	12	$0.00	100%	0
Convenience	Freezers	Freezer - ENERGY STAR	ENERGY STAR Freezer	Standard Freezer	Per Building SqFt	Existing	0.00	12	$0.00	100%	0
Convenience	Freezers	Freezer - ENERGY STAR	ENERGY STAR Freezer	Standard Freezer	Per Building SqFt	New	0.00	12	$0.00	100%	0
Convenience	Freezers	Freezer - Standard	Standard Freezer	Standard Freezer	Per Building SqFt	Existing	0.00	12	$0.00	100%	0
Convenience	Freezers	Freezer - Standard	Standard Freezer	Standard Freezer	Per Building SqFt	New	0.00	12	$0.00	100%	0
Convenience	HVAC Aux	Demand Controlled Ventilation - Range Hood	For Range Hoods – VFD Controlled	No DCV	Per Range Hood	Existing	495	10	$12,500	71%	0
Convenience	HVAC Aux	Demand Controlled Ventilation - Range Hood	For Range Hoods – VFD Controlled	No DCV	Per Range Hood	New	315	10	$6,500	71%	0
Convenience	HVAC Aux	ECM Motor	Central Air Conditioner ECM Fan	Standard Motor	Per ECM	Existing	867	15	$200	62%	554
Convenience	HVAC Aux	ECM Motor	Central Air Conditioner ECM Fan	Standard Motor	Per ECM	New	552	15	$200	90%	30
Convenience	HVAC Aux	ECM Motor	Electric Furnace ECM Fan	Standard Motor	Per ECM	Existing	867	15	$200	21%	185
Convenience	HVAC Aux	ECM Motor	Electric Furnace ECM Fan	Standard Motor	Per ECM	New	552	15	$200	30%	10
Convenience	HVAC Aux	ECM Motor	Gas Furnace ECM Fan (CEE Air Handling Ratio < 0.02)	Standard Motor	Per ECM	Existing	867	15	$200	21%	185
Convenience	HVAC Aux	ECM Motor	Gas Furnace ECM Fan (CEE Air Handling Ratio < 0.02)	Standard Motor	Per ECM	New	552	15	$200	30%	10
Convenience	HVAC Aux	HVAC Auxillary - Standard Equipment	Standard HVAC Auxillary	Standard HVAC Auxillary	Per Building SqFt	Existing	0.00	15	$0.00	100%	0
Convenience	HVAC Aux	HVAC Auxillary - Standard Equipment	Standard HVAC Auxillary	Standard HVAC Auxillary	Per Building SqFt	New	0.00	15	$0.00	100%	0
Convenience	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	Existing	75	15	$274	67%	0
Convenience	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	New	75	15	$274	67%	0
Convenience	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	Existing	2,066	15	$2,036	0%	0
Convenience	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	New	518	15	$2,036	9%	0
Convenience	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	Existing	518	15	$678	9%	0
Convenience	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	New	1,143	15	$678	1%	0
Convenience	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	Existing	5,959	15	$4,197	0%	0
Convenience	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	New	2,066	15	$4,197	0%	0
Convenience	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	Existing	1,143	15	$1,375	1%	0
Convenience	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	New	5,959	15	$1,375	0%	0
Convenience	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 1-15 HP	Constant Speed Motor	Per Building	Existing	1,321	15	$292	67%	917

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Convenience	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 1-15 HP	Constant Speed Motor	Per Building	New	842	15	$292	67%	34
Convenience	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 125-200 HP	Constant Speed Motor	Per Building	Existing	1,321	15	$137	1%	8
Convenience	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 125-200 HP	Constant Speed Motor	Per Building	New	842	15	$137	1%	0
Convenience	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 20-40 HP	Constant Speed Motor	Per Building	Existing	1,321	15	$169	4%	59
Convenience	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 20-40 HP	Constant Speed Motor	Per Building	New	842	15	$169	4%	2
Convenience	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 250-500 HP	Constant Speed Motor	Per Building	Existing	1,321	15	$104	0%	3
Convenience	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 250-500 HP	Constant Speed Motor	Per Building	New	842	15	$104	0%	0
Convenience	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 50-100 HP	Constant Speed Motor	Per Building	Existing	1,321	15	$208	1%	19
Convenience	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 50-100 HP	Constant Speed Motor	Per Building	New	842	15	$208	1%	1
Convenience	Heat Pump	Commissioning	Commissioning/QI - New Installation	No Commissioning	Per SqFt	New	1.15	7	$1	90%	0
Convenience	Heat Pump	Cool Roofs	ENERGY STAR Cool Roof - Reflect Material (Reflectivity = 0.55)	Standard Roof	Per Roof Area SqFt	Existing	0.46	15	$0.68	34%	0
Convenience	Heat Pump	Cool Roofs	ENERGY STAR Cool Roof - Reflect Material (Reflectivity = 0.55)	Standard Roof	Per Roof Area SqFt	New	0.24	15	$0.68	34%	0
Convenience	Heat Pump	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	Existing	4,794	5	$6,244	9%	0
Convenience	Heat Pump	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	New	3,262	5	$6,244	9%	0
Convenience	Heat Pump	Direct Digital Control System-Installation	DDC Retrofit - EMS Upgrade	Pneumatic	Per Building	Existing	7,191	5	$5,972	2%	0
Convenience	Heat Pump	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	Existing	296	20	$477	76%	0
Convenience	Heat Pump	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	New	296	20	$477	76%	0
Convenience	Heat Pump	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	Existing	131	20	$60	62%	20
Convenience	Heat Pump	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	New	131	20	$60	62%	1
Convenience	Heat Pump	Duct Repair And Sealing	Reduction In Duct Losses to 5%	No Repair or Sealing, 15% duct losses	Per Building SqFt	Existing	0.39	18	$0.23	38%	98
Convenience	Heat Pump	Exhaust Hood Makeup Air	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	Hood Pulls Conditioned Air (No Make-up Air)	Per Building	Existing	2,157	10	$5,450	4%	0
Convenience	Heat Pump	Exhaust Hood Makeup Air	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	Hood Pulls Conditioned Air (No Make-up Air)	Per Building	New	1,468	10	$5,450	4%	0
Convenience	Heat Pump	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	Existing	0.46	30	$10	75%	0
Convenience	Heat Pump	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	New	0.24	30	$10	75%	0
Convenience	Heat Pump	Heat Pump - Below Standard	Below Standard Air Source Heat Pump 9.0 EER and 2.8 COP, = 135 and < 240 kBtuh	Below Standard Air Source Heat Pump 9.0 EER and 2.8 COP, = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.00	15	$0.00	100%	0
Convenience	Heat Pump	Heat Pump - Below Standard	Below Standard Air Source Heat Pump 9.0 EER and 2.8 COP, = 135 and < 240 kBtuh	Below Standard Air Source Heat Pump 9.0 EER and 2.8 COP, = 135 and < 240 kBtuh	Per Building SqFt	New	0.00	15	$0.00	100%	0
Convenience	Heat Pump	Heat Pump - ENERGY STAR	ENERGY STAR Ground Source Heat Pump 16.2 EER and 3.6 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	Existing	2.40	15	$26	5%	0
Convenience	Heat Pump	Heat Pump - ENERGY STAR	ENERGY STAR Ground Source Heat Pump 16.2 EER and 3.6 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	New	1.74	15	$17	5%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Convenience	Heat Pump	Heat Pump - High Efficiency	High Efficiency Air Source Heat Pump 11.1 EER and 3.3 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.45	15	$0.23	100%	149
Convenience	Heat Pump	Heat Pump - High Efficiency	High Efficiency Air Source Heat Pump 11.1 EER and 3.3 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	New	0.31	15	$0.23	100%	12
Convenience	Heat Pump	Heat Pump - Premium Efficiency	Premium Efficiency Water Source Heat Pump 12.0 EER and 4.2 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	Existing	2.60	15	$1	5%	45
Convenience	Heat Pump	Heat Pump - Premium Efficiency	Premium Efficiency Water Source Heat Pump 12.0 EER and 4.2 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	New	1.71	15	$1	5%	3
Convenience	Heat Pump	Heat Pump - Standard	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.00	15	$0.00	100%	0
Convenience	Heat Pump	Heat Pump - Standard	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	New	0.00	15	$0.00	100%	0
Convenience	Heat Pump	Heat Pump - Variable Refrigerant Flow System	Variable Refrigerant Flow System (VRF) - Heat Pump	Packaged VAV With Electric Reheat	Per Ton	Existing	1,123	15	$540	33%	1,235
Convenience	Heat Pump	Heat Pump - Variable Refrigerant Flow System	Variable Refrigerant Flow System (VRF) - Heat Pump	Packaged VAV With Electric Reheat	Per Ton	New	764	15	$540	81%	144
Convenience	Heat Pump	Infiltration Control	Weather-Stripping	Standard Practice	Per Window SqFt	Existing	10	13	$0.38	51%	344
Convenience	Heat Pump	Insulation - Duct	New Duct Insulation (R-8) (Unconditioned Spaces)	No Insulation	Per Surface Area of Duct	Existing	6.97	20	$2	15%	73
Convenience	Heat Pump	Insulation - Floor	R-30	Average Existing Insulation (R-10)	Per Floor Area SqFt	Existing	0.29	25	$1	29%	0
Convenience	Heat Pump	Insulation - Roof	R-20ci	Average Existing Insulation (R-10)	Per Roof Area SqFt	Existing	0.19	25	$1	13%	0
Convenience	Heat Pump	Insulation - Wall	R-13+R-7.5ci	Average Existing Insulation (R-10)	Per Wall Area SqFt	Existing	0.58	25	$1	33%	0
Convenience	Heat Pump	Package Terminal - Heat Pump	High Efficiency Package Terminal Air Conditioner	Federal Standard Equipment	Per Ton	Existing	106	15	$150	10%	0
Convenience	Heat Pump	Package Terminal - Heat Pump	High Efficiency Package Terminal Air Conditioner	Federal Standard Equipment	Per Ton	New	106	15	$150	10%	0
Convenience	Heat Pump	Retro-Commissioning	Retro-Commissioning	No Retro-Commissioning	Per SqFt	Existing	2.08	7	$0.30	90%	1,653
Convenience	Heat Pump	Thermostat Programmable	Setback Thermostat 5-1-1, 5-2 or 7-day	Manual Thermostat	Per Thermostat	Existing	1,438	15	$138	77%	273
Convenience	Heat Pump	Tune-up - Air Source Heat Pump	Air Source Heat Pump Maintenance (Tune-up)	Unmaintained Air Source Heat Pump	Per Ton	Existing	295	3	$48	48%	21
Convenience	Heat Pump	Tune-up - Ground Source Heat Pump	Ground Source Heat Pump Maintenance (Tune-up)	Unmaintained Ground Source Heat Pump	Per Ton	Existing	295	3	$48	48%	21
Convenience	Heat Pump	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	Existing	1.22	25	$3	47%	0
Convenience	Heat Pump	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	New	1.22	25	$3	53%	0
Convenience	Heat Pump	Window - Metal Framing	U-Value = 0.55 (Code Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	1.27	25	$27	9%	0
Convenience	Heat Pump	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	Existing	0.78	25	$2	21%	0
Convenience	Heat Pump	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	New	0.78	25	$2	23%	0
Convenience	Heat Pump	Window - Non-Metal Framing	U-Value = 0.35 (Code Non-Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	3.89	25	$42	20%	0
Convenience	Lighting	Ceiling Fans	ENERGY STAR Ceiling Fans with Light Kit	Standard Ceiling Fan	Per Ceiling Fan	Existing	98	10	$119	85%	0
Convenience	Lighting	Ceiling Fans	ENERGY STAR Ceiling Fans with Light Kit	Standard Ceiling Fan	Per Ceiling Fan	New	98	10	$119	85%	0
Convenience	Lighting	Daylighting Controls	Continuous Dimming, Fluorescent Fixtures (Day-Lighting)	No Dimming Controls	Per Applicable SQFT of Dimmable Perimeter Area of Building	Existing	7.70	9	$1	59%	5,329

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Convenience	Lighting	Daylighting Controls	Continuous Dimming, Fluorescent Fixtures (Day-Lighting)	No Dimming Controls	Per Applicable SQFT of Dimmable Perimeter Area of Building	New	5.38	13	$1	0%	0
Convenience	Lighting	Daylighting Controls	Dual Level Switches, Fluorescent Fixtures	No Dimming Controls	Per Applicable SQFT of Dimmable Perimeter Area of Building	Existing	3.16	9	$0.83	59%	1,538
Convenience	Lighting	Daylighting Controls	Dual Level Switches, Fluorescent Fixtures	No Dimming Controls	Per Applicable SQFT of Dimmable Perimeter Area of Building	New	2.21	13	$0.83	0%	0
Convenience	Lighting	Exit Sign - LED	LED Exit Signs	CFL Exit Sign	Per Exit Sign	Existing	175	11	$68	61%	292
Convenience	Lighting	Exit Sign - Photoluminescent	Photoluminescent Exit Sign	LED Exit Sign	Per Exit Sign	Existing	35	13	$30	93%	90
Convenience	Lighting	Exit Sign - Photoluminescent	Photoluminescent Exit Sign	LED Exit Sign	Per Exit Sign	New	35	13	$30	93%	5
Convenience	Lighting	LED Refrigerated Case Lighting	LED Refrigerated Case Lighting	Fluorescent	Per Refrigerated Glass Case	Existing	320	13	$600	57%	0
Convenience	Lighting	LED Refrigerated Case Lighting	LED Refrigerated Case Lighting	Fluorescent	Per Refrigerated Glass Case	New	320	13	$600	57%	0
Convenience	Lighting	LED Strip Lighting	LED Strip Lighting (Non-Refrigerated)	Fluorescent	Per Linear Foot of Lighting	Existing	0.85	11	$2	78%	0
Convenience	Lighting	LED Strip Lighting	LED Strip Lighting (Non-Refrigerated)	Fluorescent	Per Linear Foot of Lighting	New	0.85	11	$2	78%	0
Convenience	Lighting	LightLouver Daylighting System	LightLouver Daylighting System	No Daylight System	Per Linear Feet of Window	Existing	49	9	$65	40%	0
Convenience	Lighting	Lighting - CFL Lamp Package	ENERGY STAR CFL	EISA Incandescent	Per Building	Existing	2,435	2	$9	68%	562
Convenience	Lighting	Lighting - Clock/Timer	Lighting Clock/Timer Commercial grade	No Time Clock	Per Lighting Control	Existing	2,468	9	$205	42%	1,356
Convenience	Lighting	Lighting - Fluorescent High Performance Package	Fluorescent HP Lamps and Ballasts Packages	Standard Lighting	Per Lighting Package	Existing	3,836	13	$4,730	90%	0
Convenience	Lighting	Lighting - Fluorescent Reduced Wattage Package	Fluorescent RW Lamps and Ballasts Packages	Standard Lighting	Per Lighting Package	Existing	7,673	13	$3,920	76%	7,547
Convenience	Lighting	Lighting - Induction Lighting Package	Induction Lighting Package	Standard HID Lighting	Per Lighting Package	Existing	3,215	20	$766	38%	1,581
Convenience	Lighting	Lighting - LED Lamp Package	ENERGY STAR LED	EISA Incandescent	Per Lighting Package	Existing	2,934	7	$458	73%	2,791
Convenience	Lighting	Lighting - LPD Package	LPD Reduction Package 15%	LPD Code	Per Lighting Package	New	5,307	15	$127	68%	75
Convenience	Lighting	Lighting - LPD Package	LPD Reduction Package 25%	LPD Code	Per Lighting Package	New	8,845	15	$849	71%	475
Convenience	Lighting	Lighting - Specialty Lamp Package	CFL and LED Specialty Lamp Package	Standard Incandescent	Per Lighting Package	Existing	641	2	$28	81%	670
Convenience	Lighting	Lighting - Standard	Standard Lighting	Standard Lighting	Per Building SqFt	Existing	0.00	14	$0.00	100%	0
Convenience	Lighting	Lighting - Standard	Standard Lighting	Standard Lighting	Per Building SqFt	New	0.00	14	$0.00	100%	0
Convenience	Lighting	Occupancy Sensor - High-Bay	Fixture-Mounted (Control > 150 Watts)	No Sensor	Per Lighting Control	Existing	2,168	14	$225	12%	55
Convenience	Lighting	Occupancy Sensor - High-Bay	Fixture-Mounted (Control > 150 Watts)	No Sensor	Per Lighting Control	New	1,515	14	$225	12%	2
Convenience	Lighting	Occupancy Sensor - Wall or Ceiling	Wall or Ceiling-Mounted (Control > 400 Watts)	No Sensor	Per Lighting Control	Existing	169	14	$225	69%	0
Convenience	Lighting	Occupancy Sensor - Wall or Ceiling	Wall or Ceiling-Mounted (Control > 400 Watts)	No Sensor	Per Lighting Control	New	118	14	$225	69%	0
Convenience	Other	Compressed Air Optimization	Compressed Air - Leak Audit, New Compressors, Improved Controls	No Leak Audit And No New Compressor And No New Controls	Per Compressor HP	Existing	281	10	$50	19%	149
Convenience	Other	Other - Standard	Standard Other Equipment	Standard Other Equipment	Per Building SqFt	Existing	0.00	10	$0.00	100%	0
Convenience	Other	Other - Standard	Standard Other Equipment	Standard Other Equipment	Per Building SqFt	New	0.00	10	$0.00	100%	0
Convenience	Other	Transformers	Transformers, Three-Phase Low-Voltage Dry-Type CEE Tier 1	Standard Efficiency Transformer NEMA TP-1-2002	Per Transformer	Existing	174	30	$448	50%	0
Convenience	Other	Transformers	Transformers, Three-Phase Low-Voltage Dry-Type CEE Tier 1	Standard Efficiency Transformer NEMA TP-1-2002	Per Transformer	New	174	30	$448	50%	0
Convenience	Other Plug Load	All-In-One Office Equipment	All-In-One ENERGY STAR Office Equipment	Non-ENERGY STAR Features	Per All-in-One Device	Existing	200	6	$218	68%	0
Convenience	Other Plug Load	All-In-One Office Equipment	All-In-One ENERGY STAR Office Equipment	Non-ENERGY STAR Features	Per All-in-One Device	New	200	6	$218	68%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Convenience	Other Plug Load	Ceiling Fans	ENERGY STAR Ceiling Fans with Light Kit	Standard Ceiling Fan	Per Ceiling Fan	Existing	4.33	10	$119	85%	0
Convenience	Other Plug Load	Ceiling Fans	ENERGY STAR Ceiling Fans with Light Kit	Standard Ceiling Fan	Per Ceiling Fan	New	4.33	10	$119	85%	0
Convenience	Other Plug Load	Ceiling Fans	ENERGY STAR Ceiling Fans without Light Kit	Standard Ceiling Fan	Per Ceiling Fan	Existing	4.33	10	$1	85%	10
Convenience	Other Plug Load	Ceiling Fans	ENERGY STAR Ceiling Fans without Light Kit	Standard Ceiling Fan	Per Ceiling Fan	New	4.33	10	$1	85%	1
Convenience	Other Plug Load	Plug Load - Standard Equipment	Standard Plug Load	Standard Plug Load	Per Building SqFt	Existing	0.00	10	$0.00	100%	0
Convenience	Other Plug Load	Plug Load - Standard Equipment	Standard Plug Load	Standard Plug Load	Per Building SqFt	New	0.00	10	$0.00	100%	0
Convenience	Other Plug Load	Snow Melt System Control	Snow Melt System Control	Manual Control	Per Snow Melt Control	Existing	212	25	$2,782	5%	0
Convenience	Other Plug Load	Snow Melt System Control	Snow Melt System Control	Manual Control	Per Snow Melt Control	New	223	25	$2,782	0%	0
Convenience	Other Plug Load	Water Coolers	ENERGY STAR Water Cooler	Non-ENERGY STAR Water Cooler	Per Water Cooler	Existing	28	10	$5	4%	1
Convenience	Other Plug Load	Water Coolers	ENERGY STAR Water Cooler	Non-ENERGY STAR Water Cooler	Per Water Cooler	New	29	10	$5	4%	0
Convenience	Photo Copiers	Photo Copier - ENERGY STAR	ENERGY STAR Photo Copier	Standard Photo Copier	Per Building SqFt	Existing	0.03	6	$0.09	100%	0
Convenience	Photo Copiers	Photo Copier - ENERGY STAR	ENERGY STAR Photo Copier	Standard Photo Copier	Per Building SqFt	New	0.03	6	$0.09	100%	0
Convenience	Photo Copiers	Photo Copiers - Standard	Standard Photo Copier	Standard Photo Copier	Per Building SqFt	Existing	0.00	6	$0.00	100%	0
Convenience	Photo Copiers	Photo Copiers - Standard	Standard Photo Copier	Standard Photo Copier	Per Building SqFt	New	0.00	6	$0.00	100%	0
Convenience	Printers	Printers - ENERGY STAR	ENERGY STAR Printers	Standard Printers	Per Building SqFt	Existing	0.01	6	$0.00	100%	41
Convenience	Printers	Printers - ENERGY STAR	ENERGY STAR Printers	Standard Printers	Per Building SqFt	New	0.01	6	$0.00	100%	3
Convenience	Printers	Printers - Standard	Standard Printers	Standard Printers	Per Building SqFt	Existing	0.00	6	$0.00	100%	0
Convenience	Printers	Printers - Standard	Standard Printers	Standard Printers	Per Building SqFt	New	0.00	6	$0.00	100%	0
Convenience	Refrigeration	Anti-Sweat Heater Controls	Variable Temperature Controls (Humidistat)	Constant Controls	Per Control (Weighted by Grocery Refrigeration)	Existing	767	12	$78	72%	802
Convenience	Refrigeration	Anti-Sweat Heater Controls	Variable Temperature Controls (Humidistat)	Constant Controls	Per Control (Weighted by Grocery Refrigeration)	New	767	12	$78	18%	12
Convenience	Refrigeration	Case Fans with ECM motors	ECM Motors on Evaporator Fan for Display Cases	Standard Case Fan Motor	Per ECM (Weighted by Grocery Refrigeration)	Existing	1,018	12	$243	37%	541
Convenience	Refrigeration	Case Fans with ECM motors	ECM Motors on Evaporator Fan for Display Cases	Standard Case Fan Motor	Per ECM (Weighted by Grocery Refrigeration)	New	1,018	12	$243	37%	32
Convenience	Refrigeration	Demand Control Defrost - Electric	Refrigerant Defrost	No Demand Control Defrost	Per Building SqFt	Existing	0.08	10	$0.09	41%	0
Convenience	Refrigeration	Demand Control Defrost - Hot Gas	Refrigerant Defrost	No Demand Control Defrost	Per Building SqFt	Existing	0.19	10	$0.11	41%	371
Convenience	Refrigeration	Evaporator Fans - Walk-ins	High-Efficiency Evaporator Fans, Walk-in Refrigerators	Standard Evaporator Fans	Per Walk-in Fan	Existing	435	15	$132	69%	1,448
Convenience	Refrigeration	Evaporator Fans - Walk-ins	High-Efficiency Evaporator Fans, Walk-in Refrigerators	Standard Evaporator Fans	Per Walk-in Fan	New	435	15	$132	69%	85
Convenience	Refrigeration	Ice Makers, Air Cooled	ENERGY STAR Qualified, Ice-Making Head	Standard Equipment	Per Ice Maker	Existing	1,197	10	$140	47%	735
Convenience	Refrigeration	Ice Makers, Air Cooled	ENERGY STAR Qualified, Ice-Making Head	Standard Equipment	Per Ice Maker	New	1,197	10	$140	47%	43
Convenience	Refrigeration	Ice Makers, Air Cooled	ENERGY STAR Qualified, Remote Condensing	Standard Equipment	Per Ice Maker	Existing	1,293	10	$5	47%	794
Convenience	Refrigeration	Ice Makers, Air Cooled	ENERGY STAR Qualified, Remote Condensing	Standard Equipment	Per Ice Maker	New	1,293	10	$5	47%	46
Convenience	Refrigeration	Ice Makers, Air Cooled	ENERGY STAR Qualified, Self-Contained	Standard Equipment	Per Ice Maker	Existing	317	10	$5	47%	21

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Convenience	Refrigeration	Ice Makers, Air Cooled	ENERGY STAR Qualified, Self-Contained	Standard Equipment	Per Ice Maker	New	317	10	$5	47%	1
Convenience	Refrigeration	Ice Makers, Water-Cooled	Ice-Making Head - Water Cooled	Standard Equipment	Per Ice Maker	Existing	894	10	$1,000	47%	0
Convenience	Refrigeration	Ice Makers, Water-Cooled	Ice-Making Head - Water Cooled	Standard Equipment	Per Ice Maker	New	894	10	$1,000	47%	0
Convenience	Refrigeration	Ice Makers, Water-Cooled	Self-Contained - Water Cooled	Standard Equipment	Per Ice Maker	Existing	187	10	$850	47%	0
Convenience	Refrigeration	Ice Makers, Water-Cooled	Self-Contained - Water Cooled	Standard Equipment	Per Ice Maker	New	187	10	$850	47%	0
Convenience	Refrigeration	Night Covers for Display Cases	Night Covers for Display Cases	No Night Covers	Per Building	Existing	290	10	$331	57%	0
Convenience	Refrigeration	Night Covers for Display Cases	Night Covers for Display Cases	No Night Covers	Per Building	New	299	10	$331	57%	0
Convenience	Refrigeration	Novelty Cooler Shutoff	Cooler Shutoff with Controls System or Shutoff Switch	No Cooler Shutoff	Per Cooler Case	Existing	471	10	$70	63%	192
Convenience	Refrigeration	Novelty Cooler Shutoff	Cooler Shutoff with Controls System or Shutoff Switch	No Cooler Shutoff	Per Cooler Case	New	471	10	$70	63%	11
Convenience	Refrigeration	Occupancy Sensor - Refrigerated Cases	Occupancy Sensor - Refrigerated Cases	No Sensor	Per Linear Foot of Refrigerated Display Case	Existing	20	8	$3	14%	15
Convenience	Refrigeration	Occupancy Sensor - Refrigerated Cases	Occupancy Sensor - Refrigerated Cases	No Sensor	Per Linear Foot of Refrigerated Display Case	New	20	8	$3	14%	1
Convenience	Refrigeration	Refrigeration - Retro-Commissioning	Refrigeration Retro Commissioning (Refrigeration System Diagnostics / Operations And Maintenance)	No Retro-Commissioning	Per Refrigeration Ton	Existing	76	10	$191	78%	0
Convenience	Refrigeration	Refrigeration - Commissioning	Commissioning (Refrigeration System Diagnostics / Operations and Maintenance for a New Unit)	No Commissioning	Per Refrigeration Ton	New	78	3	$49	87%	0
Convenience	Refrigeration	Refrigeration - Standard	Standard Refrigeration	Standard Refrigeration	Per Building SqFt	Existing	0.00	14	$0.00	100%	0
Convenience	Refrigeration	Refrigeration - Standard	Standard Refrigeration	Standard Refrigeration	Per Building SqFt	New	0.00	14	$0.00	100%	0
Convenience	Refrigeration	Strip Curtains for Walk-Ins	Strip Curtains for Walk-Ins	No Strip Curtains for Walk-Ins	Per Walk-in	Existing	456	4	$300	12%	0
Convenience	Refrigeration	Strip Curtains for Walk-Ins	Strip Curtains for Walk-Ins	No Strip Curtains for Walk-Ins	Per Walk-in	New	469	4	$300	12%	0
Convenience	Space Heat	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	Existing	5,658	5	$2,929	9%	0
Convenience	Space Heat	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	New	4,690	5	$3,122	9%	0
Convenience	Space Heat	Direct Digital Control System-Installation	DDC Retrofit - EMS Upgrade	Pneumatic	Per Building	Existing	8,487	5	$5,067	2%	0
Convenience	Space Heat	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	Existing	488	20	$477	76%	0
Convenience	Space Heat	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	New	488	20	$477	76%	0
Convenience	Space Heat	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	Existing	217	20	$60	62%	59
Convenience	Space Heat	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	New	217	20	$60	62%	4
Convenience	Space Heat	Duct Repair And Sealing	Reduction In Duct Losses to 5%	No Repair or Sealing, 15% duct losses	Per Building SqFt	Existing	0.46	18	$0.23	38%	232
Convenience	Space Heat	Exhaust Hood Makeup Air	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	Hood Pulls Conditioned Air (No Make-up Air)	Per Building	Existing	2,546	10	$5,450	4%	0
Convenience	Space Heat	Exhaust Hood Makeup Air	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	Hood Pulls Conditioned Air (No Make-up Air)	Per Building	New	2,110	10	$5,450	4%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Convenience	Space Heat	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	Existing	1.53	30	$10	75%	0
Convenience	Space Heat	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	New	1.27	30	$10	75%	0
Convenience	Space Heat	Infiltration Control	Weather-Stripping	Standard Practice	Per Window SqFt	Existing	14	13	$0.38	51%	771
Convenience	Space Heat	Insulation - Duct	New Duct Insulation (R-8) (Unconditioned Spaces)	No Insulation	Per Surface Area of Duct	Existing	8.23	20	$2	15%	128
Convenience	Space Heat	Insulation - Floor	R-30	Average Existing Insulation (R-10)	Per Floor Area SqFt	Existing	0.47	25	$1	29%	0
Convenience	Space Heat	Insulation - Roof	R-20ci	Average Existing Insulation (R-10)	Per Roof Area SqFt	Existing	0.31	25	$1	13%	0
Convenience	Space Heat	Insulation - Wall	R-13+R-7.5ci	Average Existing Insulation (R-10)	Per Wall Area SqFt	Existing	0.97	25	$1	33%	0
Convenience	Space Heat	Space Heat - Standard	Standard Space Heat	Standard Space Heat	Per Building SqFt	Existing	0.00	20	$0.00	100%	0
Convenience	Space Heat	Space Heat - Standard	Standard Space Heat	Standard Space Heat	Per Building SqFt	New	0.00	20	$0.00	100%	0
Convenience	Space Heat	Thermostat Programmable	Setback Thermostat 5-1-1, 5-2 or 7-day	Manual Thermostat	Per Thermostat	Existing	1,697	15	$138	77%	484
Convenience	Space Heat	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	Existing	2.01	25	$3	47%	0
Convenience	Space Heat	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	New	2.01	25	$3	53%	0
Convenience	Space Heat	Window - Metal Framing	U-Value = 0.55 (Code Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	2.09	25	$27	9%	0
Convenience	Space Heat	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	Existing	1.28	25	$2	21%	0
Convenience	Space Heat	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	New	1.28	25	$2	23%	0
Convenience	Space Heat	Window - Non-Metal Framing	U-Value = 0.35 (Code Non-Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	6.42	25	$42	20%	0
Convenience	Vending Machines	Vending Machine - Controller	Refrigerated Vending Machine Controller	No Controls	Per Vending Machine	Existing	1,394	3	$238	25%	307
Convenience	Vending Machines	Vending Machine - Controller	Refrigerated Vending Machine Controller	No Controls	Per Vending Machine	New	1,394	3	$238	25%	15
Convenience	Vending Machines	Vending Machine - ENERGY STAR	ENERGY STAR Vending Machine	Standard Vending Machine	Per Building SqFt	Existing	0.27	10	$0.03	100%	765
Convenience	Vending Machines	Vending Machine - ENERGY STAR	ENERGY STAR Vending Machine	Standard Vending Machine	Per Building SqFt	New	0.27	10	$0.03	100%	67
Convenience	Vending Machines	Vending Machine - Standard	Standard Vending Machine	Standard Vending Machine	Per Building SqFt	Existing	0.00	10	$0.00	100%	0
Convenience	Vending Machines	Vending Machine - Standard	Standard Vending Machine	Standard Vending Machine	Per Building SqFt	New	0.00	10	$0.00	100%	0
Convenience	Water Heat	Desuperheaters - Air Conditioner	Add-on Desuperheaters to Air Conditioner	No Desuperheater	Per Desuperheater	Existing	74	10	$600	72%	0
Convenience	Water Heat	Desuperheaters - Air Source Heat Pump	Add-on Desuperheaters to Air Source Heat Pump	No Desuperheater	Per Desuperheater	Existing	468	10	$600	0%	0
Convenience	Water Heat	Desuperheaters - Ground Source Heat Pump	Add-on Desuperheaters to Ground Source Heat Pump	No Desuperheater	Per Desuperheater	Existing	468	10	$600	0%	0
Convenience	Water Heat	Dishwasher	Dishwasher Enhanced Efficiency (EF 1.00) 200 kWh/yr and 4.00 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle = 307 kWh/yr and = 5.0 Gallons/Cycle for July 1, 2011 - Dec 31, 2011	Per Dishwasher	Existing	155	11	$1,067	5%	0
Convenience	Water Heat	Dishwasher	Dishwasher Enhanced Efficiency (EF 1.00) 200 kWh/yr and 4.00 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle = 307 kWh/yr and = 5.0 Gallons/Cycle for July 1, 2011 - Dec 31, 2011	Per Dishwasher	New	155	11	$1,067	5%	0
Convenience	Water Heat	Dishwasher	ENERGY STAR 295 kWh/yr and 4.25 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle = 307 kWh/yr and = 5.0 Gallons/Cycle for July 1, 2011 - Dec 31, 2011	Per Dishwasher	Existing	60	11	$272	4%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Convenience	Water Heat	Dishwasher	ENERGY STAR 295 kWh/yr and 4.25 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle = 307 kWh/yr and = 5.0 Gallons/Cycle for July 1, 2011 - Dec 31, 2011	Per Dishwasher	New	60	11	$272	4%	0
Convenience	Water Heat	Dishwasher	High Temp Commercial High Efficiency Dishwasher (ENERGY STAR)	Standard High Temp Commercial Dishwasher	Per Dishwasher	Existing	1,285	14	$442	0%	1
Convenience	Water Heat	Dishwasher	High Temp Commercial High Efficiency Dishwasher (ENERGY STAR)	Standard High Temp Commercial Dishwasher	Per Dishwasher	New	1,285	14	$442	0%	0
Convenience	Water Heat	Dishwasher	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)	Standard High Temp Commercial Dishwasher	Per Dishwasher	Existing	2,012	14	$307	0%	3
Convenience	Water Heat	Dishwasher	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)	Standard High Temp Commercial Dishwasher	Per Dishwasher	New	2,012	14	$307	0%	0
Convenience	Water Heat	Drainwater Heat Recovery	Install Power-Pipe or GFX System	No GFX or Power-Pipe System	Per 40 Gal Water Heater	Existing	468	40	$833	60%	149
Convenience	Water Heat	Drainwater Heat Recovery	Install Power-Pipe or GFX System	No GFX or Power-Pipe System	Per 40 Gal Water Heater	New	468	40	$666	83%	10
Convenience	Water Heat	Faucet Aerator	0.5 GPM	Existing Aerator (3.0 GPM)	Per Aerator	Existing	73	10	$4	67%	56
Convenience	Water Heat	Low-Flow Spray Heads	1.0 GPM	1.6 GPM (Code)	Per Spray Head	Existing	485	5	$39	8%	11
Convenience	Water Heat	Low-Flow Spray Heads	1.0 GPM	1.6 GPM (Code)	Per Spray Head	New	485	5	$39	8%	1
Convenience	Water Heat	Low-Flow Spray Heads	1.6 GPM (Code)	Existing Spray Head (2.5 GPM)	Per Spray Head	Existing	728	5	$30	5%	11
Convenience	Water Heat	Ultrasonic Faucet Control	Install Ultrasonic Faucet Control	No Faucet Control	Per Faucet	Existing	29	10	$196	90%	0
Convenience	Water Heat	Ultrasonic Faucet Control	Install Ultrasonic Faucet Control	No Faucet Control	Per Faucet	New	29	10	$196	90%	0
Convenience	Water Heat	Water Heater - Pipe Insulation	Hot Water Pipe Insulation (R-4)	No Pipe Insulation	Per Linear Foot	Existing	2.93	13	$2	56%	7
Convenience	Water Heat	Water Heater - Tank Blanket/Insulation	Install Insulation (R-11)	No Tank Insulation	Per Water Heater	Existing	93	7	$62	5%	0
Convenience	Water Heat	Water Heater - Thermostat Setback	Install Programmable Thermostat (120 Degrees)	No Thermostat Setback (130 Degrees)	Per Water Heater	Existing	318	4	$102	35%	52
Convenience	Water Heat	Water Heating - ENERGY STAR	ENERGY STAR Heat Pump Water Heater EF = 2.0	Standard Water Heater EF = 0.92	Per Building SqFt	New	0.34	13	$0.32	75%	34
Convenience	Water Heat	Water Heating - Heat Pump ENERGY STAR	ENERGY STAR Heat Pump Water Heater EF = 2.0	Standard Water Heater EF = 0.92	Per Building SqFt	Existing	0.34	13	$0.32	75%	317
Convenience	Water Heat	Water Heating - Storage 2015 Standard	2015 Standard Water Heater EF = 0.95	Standard Water Heater EF = 0.92	Per Building SqFt	Existing	0.01	13	$0.00	100%	5
Convenience	Water Heat	Water Heating - Storage 2015 Standard	2015 Standard Water Heater EF = 0.95	Standard Water Heater EF = 0.92	Per Building SqFt	New	0.01	13	$0.00	100%	1
Convenience	Water Heat	Water Heating - Storage Below Standard	Below Standard Water Heater EF = 0.86	Below Standard Water Heater EF = 0.86	Per Building SqFt	Existing	0.00	13	$0.00	100%	0
Convenience	Water Heat	Water Heating - Storage Below Standard	Below Standard Water Heater EF = 0.86	Below Standard Water Heater EF = 0.86	Per Building SqFt	New	0.00	13	$0.00	100%	0
Convenience	Water Heat	Water Heating - Storage Standard	Standard Water Heater EF = 0.92	Standard Water Heater EF = 0.92	Per Building SqFt	Existing	0.00	13	$0.00	100%	0
Convenience	Water Heat	Water Heating - Storage Standard	Standard Water Heater EF = 0.92	Standard Water Heater EF = 0.92	Per Building SqFt	New	0.00	13	$0.00	100%	0
Convenience	Water Heat	Water Heating - Tankless	Tankless Water Heater EF = 0.95	Standard Water Heater EF = 0.92	Per Building SqFt	Existing	0.03	13	$0.06	0%	0
Convenience	Water Heat	Water Heating - Tankless	Tankless Water Heater EF = 0.95	Standard Water Heater EF = 0.92	Per Building SqFt	New	0.03	13	$0.06	0%	0
Education	Computers	Computer - ENERGY STAR	ENERGY STAR Computer	Standard Computer	Per Building SqFt	Existing	0.20	4	$0.03	100%	2,658
Education	Computers	Computer - ENERGY STAR	ENERGY STAR Computer	Standard Computer	Per Building SqFt	New	0.20	4	$0.03	100%	160
Education	Computers	Computer - Standard	Standard Computer	Standard Computer	Per Building SqFt	Existing	0.00	4	$0.00	100%	0
Education	Computers	Computer - Standard	Standard Computer	Standard Computer	Per Building SqFt	New	0.00	4	$0.00	100%	0
Education	Computers	Office Computer Network Energy Management	Office Computer Network Energy Management	No Network Management	Per Computer	Existing	88	5	$12	62%	1,108
Education	Computers	Office Computer Network Energy Management	Office Computer Network Energy Management	No Network Management	Per Computer	New	88	5	$12	62%	64
Education	Cooking	Convection Oven	ENERGY STAR Convection Oven	Standard Oven	Per Convection Oven	Existing	55	15	$1,650	35%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Education	Cooking	Convection Oven	ENERGY STAR Convection Oven	Standard Oven	Per Convection Oven	New	57	15	$1,650	35%	0
Education	Cooking	Cooking - Standard Equipment	Standard Cooking Equipment	Standard Cooking Equipment	Per Building SqFt	Existing	0.00	12	$0.00	100%	0
Education	Cooking	Cooking - Standard Equipment	Standard Cooking Equipment	Standard Cooking Equipment	Per Building SqFt	New	0.00	12	$0.00	100%	0
Education	Cooking	Fryer	ENERGY STAR Fryer	Standard	Per Fryer	Existing	24	12	$1,271	25%	0
Education	Cooking	Fryer	ENERGY STAR Fryer	Standard	Per Fryer	New	25	12	$1,271	25%	0
Education	Cooking	Hot Food Holding Cabinets	ENERGY STAR Qualified (< 40 watts/cubic foot)	Standard Equipment	Per Hot Food Holding Cabinet	Existing	166	12	$1,500	64%	0
Education	Cooking	Hot Food Holding Cabinets	ENERGY STAR Qualified (< 40 watts/cubic foot)	Standard Equipment	Per Hot Food Holding Cabinet	New	171	12	$1,500	64%	0
Education	Cooking	Steam Cooker	ENERGY STAR Steam Cooker	Standard	Per Steam Cooker	Existing	401	12	$1,500	26%	0
Education	Cooking	Steam Cooker	ENERGY STAR Steam Cooker	Standard	Per Steam Cooker	New	413	12	$1,500	26%	0
Education	Cooling Chillers	Chiller - Below Code	Below Standard Chiller - 0.74 kW/ton	Below Standard Chiller - 0.74 kW/ton	Per Building SqFt	Existing	0.00	20	$0.00	100%	0
Education	Cooling Chillers	Chiller - Below Code	Below Standard Chiller - 0.74 kW/ton	Below Standard Chiller - 0.74 kW/ton	Per Building SqFt	New	0.00	20	$0.00	100%	0
Education	Cooling Chillers	Chiller - High Efficiency	High Efficiency Chiller - 0.63 kW/ton	Standard Chiller - 0.68 kW/ton	Per Building SqFt	Existing	0.12	20	$0.03	100%	0
Education	Cooling Chillers	Chiller - High Efficiency	High Efficiency Chiller - 0.63 kW/ton	Standard Chiller - 0.68 kW/ton	Per Building SqFt	New	0.08	20	$0.03	100%	0
Education	Cooling Chillers	Chiller - Pipe Insulation	Above Code (3" of Insulation, Approximately R-11)	Code (1.5" of Insulation, Approximately R-6)	Per Linear Foot of Insulation	Existing	5.33	15	$4	58%	86
Education	Cooling Chillers	Chiller - Pipe Insulation	Above Code (3" of Insulation, Approximately R-11)	Code (1.5" of Insulation, Approximately R-6)	Per Linear Foot of Insulation	New	3.49	15	$4	85%	4
Education	Cooling Chillers	Chiller - Pipe Insulation	Code (1.5" of Insulation, Approximately R-6)	No Insulation	Per Linear Foot of Insulation	Existing	5.33	15	$4	58%	85
Education	Cooling Chillers	Chiller - Premium Efficiency	Premium Efficiency Chiller - 0.58 kW/ton	Standard Chiller - 0.68 kW/ton	Per Building SqFt	Existing	0.25	20	$0.13	100%	535
Education	Cooling Chillers	Chiller - Premium Efficiency	Premium Efficiency Chiller - 0.58 kW/ton	Standard Chiller - 0.68 kW/ton	Per Building SqFt	New	0.16	20	$0.13	100%	58
Education	Cooling Chillers	Chiller - Standard	Standard Chiller - 0.68 kW/ton	Standard Chiller - 0.68 kW/ton	Per Building SqFt	Existing	0.00	20	$0.00	100%	0
Education	Cooling Chillers	Chiller - Standard	Standard Chiller - 0.68 kW/ton	Standard Chiller - 0.68 kW/ton	Per Building SqFt	New	0.00	20	$0.00	100%	0
Education	Cooling Chillers	Chiller - VSD Retrofit	Centrifugal Chiller - VSD Remodel for Existing	Constant Speed Motor	Per Ton	Existing	19	10	$70	38%	0
Education	Cooling Chillers	Chiller - Water Piping Loop with VSD Control	VSD for Secondary Chilled Water Loop	Primary Loop Only w/ Constant Speed Pump	Per Ton	Existing	50	10	$212	55%	0
Education	Cooling Chillers	Chiller - Water Reset	Install Chilled Water Reset	No Chilled Water Reset	Per Control Point	Existing	88	10	$681	81%	0
Education	Cooling Chillers	Chiller Air-Cooled	Chiller Air Cooled with Condenser 10.0 EER	Standard 9.562 EER	Per Ton	Existing	28	20	$112	7%	0
Education	Cooling Chillers	Chiller Air-Cooled	Chiller Air Cooled with Condenser 10.0 EER	Standard 9.562 EER	Per Ton	New	19	20	$112	7%	0
Education	Cooling Chillers	Commissioning	Commissioning/QI - New Installation	No Commissioning	Per SqFt	New	0.15	7	$1	85%	0
Education	Cooling Chillers	Cool Roofs	ENERGY STAR Cool Roof - Reflect Material (Reflectivity = 0.55)	Standard Roof	Per Roof Area SqFt	Existing	0.17	15	$0.68	64%	0
Education	Cooling Chillers	Cool Roofs	ENERGY STAR Cool Roof - Reflect Material (Reflectivity = 0.55)	Standard Roof	Per Roof Area SqFt	New	0.11	15	$0.68	64%	0
Education	Cooling Chillers	Demand Controlled Ventilation	Demand Controlled Ventilation - DCV (Occupancy Sensors / CO2 Sensors)	Constant Ventilation	Per Sensor	Existing	44	15	$450	36%	153
Education	Cooling Chillers	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	Existing	6,990	5	$8,259	33%	0
Education	Cooling Chillers	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	New	4,582	5	$8,259	33%	0
Education	Cooling Chillers	Direct Digital Control System-Installation	DDC Retrofit - EMS Upgrade	Pneumatic	Per Building	Existing	10,485	5	$14,606	6%	0
Education	Cooling Chillers	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	Existing	17	20	$477	76%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Education	Cooling Chillers	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	New	17	20	$477	76%	0
Education	Cooling Chillers	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	Existing	7.87	20	$60	62%	2
Education	Cooling Chillers	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	New	7.87	20	$60	62%	0
Education	Cooling Chillers	Duct Repair And Sealing	Reduction In Duct Losses to 5%	No Repair or Sealing, 15% duct losses	Per Building SqFt	Existing	0.05	18	$0.23	1%	0
Education	Cooling Chillers	Exhaust Hood Makeup Air	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	Hood Pulls Conditioned Air (No Make-up Air)	Per Building	Existing	3,145	10	$5,450	62%	0
Education	Cooling Chillers	Exhaust Hood Makeup Air	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	Hood Pulls Conditioned Air (No Make-up Air)	Per Building	New	2,062	10	$5,450	62%	0
Education	Cooling Chillers	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	Existing	0.17	30	$10	75%	0
Education	Cooling Chillers	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	New	0.11	30	$10	75%	0
Education	Cooling Chillers	Infiltration Control	Weather-Stripping	Standard Practice	Per Window SqFt	Existing	0.57	13	$0.38	9%	26
Education	Cooling Chillers	Insulation - Duct	New Duct Insulation (R-8) (Unconditioned Spaces)	No Insulation	Per Surface Area of Duct	Existing	0.95	20	$2	0%	1
Education	Cooling Chillers	Insulation - Roof	R-20ci	Average Existing Insulation (R-10)	Per Roof Area SqFt	Existing	0.01	25	$1	13%	0
Education	Cooling Chillers	Insulation - Wall	R-13+R-7.5ci	Average Existing Insulation (R-10)	Per Wall Area SqFt	Existing	0.03	25	$1	33%	0
Education	Cooling Chillers	Retro-Commissioning	Retro-Commissioning	No Retro-Commissioning	Per SqFt	Existing	0.28	7	$0.30	68%	1,046
Education	Cooling Chillers	Tune-up - Chiller	Chiller Maintenance (Tune-up)	Unmaintained Chiller	Per SqFt	Existing	0.17	3	$0.15	16%	0
Education	Cooling Chillers	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	Existing	0.07	25	$3	53%	0
Education	Cooling Chillers	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	New	0.07	25	$3	60%	0
Education	Cooling Chillers	Window - Metal Framing	U-Value = 0.55 (Code Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	0.07	25	$27	10%	0
Education	Cooling Chillers	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	Existing	0.04	25	$2	12%	0
Education	Cooling Chillers	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	New	0.04	25	$2	14%	0
Education	Cooling Chillers	Window - Non-Metal Framing	U-Value = 0.35 (Code Non-Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	0.23	25	$42	12%	0
Education	Cooling DX	Advanced Control Technology	Advanced Control Technologies for Packaged Air-Conditioning Units (Retrofit)	Standard Controls	Per 5 Tons of Cooling	Existing	526	15	$4,920	15%	0
Education	Cooling DX	Commissioning	Commissioning/QI - New Installation	No Commissioning	Per SqFt	New	0.15	7	$1	90%	0
Education	Cooling DX	Cool Roofs	ENERGY STAR Cool Roof - Reflect Material (Reflectivity = 0.55)	Standard Roof	Per Roof Area SqFt	Existing	0.16	15	$0.68	64%	0
Education	Cooling DX	Cool Roofs	ENERGY STAR Cool Roof - Reflect Material (Reflectivity = 0.55)	Standard Roof	Per Roof Area SqFt	New	0.11	15	$0.68	64%	0
Education	Cooling DX	Demand Controlled Ventilation	Demand Controlled Ventilation - DCV (Occupancy Sensors / CO2 Sensors)	Constant Ventilation	Per Sensor	Existing	41	15	$450	36%	172
Education	Cooling DX	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	Existing	6,543	5	$2,001	33%	388
Education	Cooling DX	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	New	4,701	5	$8,259	33%	0
Education	Cooling DX	Direct Digital Control System-Installation	DDC Retrofit - EMS Upgrade	Pneumatic	Per Building	Existing	9,815	5	$14,606	6%	0
Education	Cooling DX	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	Existing	24	20	$477	76%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Education	Cooling DX	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	New	24	20	$477	76%	0
Education	Cooling DX	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	Existing	11	20	$60	62%	4
Education	Cooling DX	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	New	11	20	$60	62%	0
Education	Cooling DX	Duct Repair And Sealing	Reduction In Duct Losses to 5%	No Repair or Sealing, 15% duct losses	Per Building SqFt	Existing	0.04	18	$0.23	38%	105
Education	Cooling DX	Exhaust Hood Makeup Air	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	Hood Pulls Conditioned Air (No Make-up Air)	Per Building	Existing	2,944	10	$5,450	62%	0
Education	Cooling DX	Exhaust Hood Makeup Air	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	Hood Pulls Conditioned Air (No Make-up Air)	Per Building	New	2,115	10	$5,450	62%	0
Education	Cooling DX	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	Existing	0.16	30	$10	75%	0
Education	Cooling DX	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	New	0.11	30	$10	75%	0
Education	Cooling DX	Infiltration Control	Weather-Stripping	Standard Practice	Per Window SqFt	Existing	0.54	13	$0.38	9%	32
Education	Cooling DX	Insulation - Duct	New Duct Insulation (R-8) (Unconditioned Spaces)	No Insulation	Per Surface Area of Duct	Existing	0.89	20	$2	15%	74
Education	Cooling DX	Insulation - Floor	R-30	Average Existing Insulation (R-10)	Per Floor Area SqFt	Existing	0.02	25	$1	29%	0
Education	Cooling DX	Insulation - Roof	R-20ci	Average Existing Insulation (R-10)	Per Roof Area SqFt	Existing	0.01	25	$1	13%	0
Education	Cooling DX	Insulation - Wall	R-13+R-7.5ci	Average Existing Insulation (R-10)	Per Wall Area SqFt	Existing	0.04	25	$1	33%	0
Education	Cooling DX	Package Terminal - Air Conditioner	High Efficiency Package Terminal Air Conditioner	Federal Standard Equipment	Per Package Terminal AC	Existing	35	9	$88	7%	0
Education	Cooling DX	Package Terminal - Air Conditioner	High Efficiency Package Terminal Air Conditioner	Federal Standard Equipment	Per Package Terminal AC	New	35	9	$88	7%	0
Education	Cooling DX	Retro-Commissioning	Retro-Commissioning	No Retro-Commissioning	Per SqFt	Existing	0.26	7	$0.30	90%	1,627
Education	Cooling DX	Rooftop DX Unit - Below Standard	Below Standard 9.5 EER, Air-Cooled = 135 and < 240 kBtuh	Below Standard 9.5 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.00	15	$0.00	100%	0
Education	Cooling DX	Rooftop DX Unit - Below Standard	Below Standard 9.5 EER, Air-Cooled = 135 and < 240 kBtuh	Below Standard 9.5 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	New	0.00	15	$0.00	100%	0
Education	Cooling DX	Rooftop DX Unit - CEE Tier 1	CEE Tier 1 11.5 EER, Air-Cooled = 135 and < 240 kBtuh	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.07	15	$0.05	100%	0
Education	Cooling DX	Rooftop DX Unit - CEE Tier 1	CEE Tier 1 11.5 EER, Air-Cooled = 135 and < 240 kBtuh	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	New	0.05	15	$0.05	100%	0
Education	Cooling DX	Rooftop DX Unit - CEE Tier 2	CEE Tier 2 12.0 EER, Air-Cooled = 135 and < 240 kBtuh	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.14	15	$0.10	100%	400
Education	Cooling DX	Rooftop DX Unit - CEE Tier 2	CEE Tier 2 12.0 EER, Air-Cooled = 135 and < 240 kBtuh	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	New	0.10	15	$0.10	100%	43
Education	Cooling DX	Rooftop DX Unit - Standard	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.00	15	$0.00	100%	0
Education	Cooling DX	Rooftop DX Unit - Standard	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	New	0.00	15	$0.00	100%	0
Education	Cooling DX	Thermostat Programmable	Setback Thermostat 5-1-1, 5-2 or 7-day	Manual Thermostat	Per Thermostat	Existing	490	15	$138	36%	128
Education	Cooling DX	Tune-up - Air Conditioner	Air Conditioner Maintenance (Tune-up)	Unmaintained Air Conditioner	Per Ton	Existing	61	3	$48	48%	0
Education	Cooling DX	Variable Air-Volume Systems	Install Variable Air-Volume System	Constant Volume System	Per Building SqFt	Existing	0.49	15	$1	10%	348
Education	Cooling DX	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	Existing	0.10	25	$3	53%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Education	Cooling DX	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	New	0.10	25	$3	60%	0
Education	Cooling DX	Window - Metal Framing	U-Value = 0.55 (Code Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	0.10	25	$27	10%	0
Education	Cooling DX	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	Existing	0.06	25	$2	12%	0
Education	Cooling DX	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	New	0.06	25	$2	14%	0
Education	Cooling DX	Window - Non-Metal Framing	U-Value = 0.35 (Code Non-Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	0.32	25	$42	12%	0
Education	Cooling DX	Window Air Conditioner	CEE TIER 1 = 11.3 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Window AC	Existing	55	9	$406	32%	0
Education	Cooling DX	Window Air Conditioner	CEE TIER 1 = 11.3 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Window AC	New	55	9	$406	32%	0
Education	Cooling DX	Window Air Conditioner	CEE TIER 2 = 11.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Window AC	Existing	71	9	$771	33%	0
Education	Cooling DX	Window Air Conditioner	CEE TIER 2 = 11.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Window AC	New	71	9	$771	33%	0
Education	Cooling DX	Window Air Conditioner	ENERGY STAR = 10.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Window AC	Existing	38	9	$41	26%	2
Education	Cooling DX	Window Air Conditioner	ENERGY STAR = 10.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Window AC	New	38	9	$41	26%	0
Education	Dryer	Dryer - High Efficiency	High Efficiency Dryer	Standard Dryer	Per Building SqFt	Existing	0.08	12	$0.03	10%	0
Education	Dryer	Dryer - High Efficiency	High Efficiency Dryer	Standard Dryer	Per Building SqFt	New	0.08	12	$0.03	10%	2
Education	Dryer	Dryer - Standard	Standard Dryer	Standard Dryer	Per Building SqFt	Existing	0.00	12	$0.03	100%	0
Education	Dryer	Dryer - Standard	Standard Dryer	Standard Dryer	Per Building SqFt	New	0.00	12	$0.03	100%	0
Education	Ext Lighting	Exterior Lighting - Standard	Standard Exterior Lighting	Standard Exterior Lighting	Per Building SqFt	Existing	0.00	14	$0.00	100%	0
Education	Ext Lighting	Exterior Lighting - Standard	Standard Exterior Lighting	Standard Exterior Lighting	Per Building SqFt	New	0.00	14	$0.00	100%	0
Education	Ext Lighting	Lighting - LED Lighting Package	Exterior LED Lighting Package	Standard Lighting	Per Lighting Package	Existing	237	13	$305	66%	0
Education	Ext Lighting	Lighting - High Intensity Discharge Package	High Efficiency Metal Halide Lighting Packages	Standard HID Lighting	Per Lighting Package	Existing	102	5	-2.0432	62%	11
Education	Ext Lighting	Lighting - Induction Lighting Package	Induction Lighting Package	Standard HID Lighting	Per Lighting Package	Existing	290	13	$62	67%	80
Education	Fax	Fax - ENERGY STAR	ENERGY STAR Fax	Standard Fax	Per Building SqFt	Existing	0.00	6	$0.00	100%	21
Education	Fax	Fax - ENERGY STAR	ENERGY STAR Fax	Standard Fax	Per Building SqFt	New	0.00	6	$0.00	100%	1
Education	Fax	Fax - Standard	Standard Fax	Standard Fax	Per Building SqFt	Existing	0.00	6	$0.00	100%	0
Education	Fax	Fax - Standard	Standard Fax	Standard Fax	Per Building SqFt	New	0.00	6	$0.00	100%	0
Education	Flat Screen Monitors	Monitor - ENERGY STAR Flat Screen	ENERGY STAR Flat Screen Monitor	Standard Flat Screen Monitor	Per Building SqFt	Existing	0.00	4	$0.00	100%	0
Education	Flat Screen Monitors	Monitor - ENERGY STAR Flat Screen	ENERGY STAR Flat Screen Monitor	Standard Flat Screen Monitor	Per Building SqFt	New	0.00	4	$0.00	100%	0
Education	Flat Screen Monitors	Monitor - Standard Flat Screen	Standard Flat Screen Monitor	Standard Flat Screen Monitor	Per Building SqFt	Existing	0.00	4	$0.00	100%	0
Education	Flat Screen Monitors	Monitor - Standard Flat Screen	Standard Flat Screen Monitor	Standard Flat Screen Monitor	Per Building SqFt	New	0.00	4	$0.00	100%	0
Education	Freezers	Freezer - 2014 Federal Standard	2014 Standard Freezer	Standard Freezer	Per Building SqFt	Existing	0.00	12	$0.00	100%	0
Education	Freezers	Freezer - 2014 Federal Standard	2014 Standard Freezer	Standard Freezer	Per Building SqFt	New	0.00	12	$0.00	100%	0
Education	Freezers	Freezer - Below Standard	Below Standard Freezer	Below Standard Freezer	Per Building SqFt	Existing	0.00	12	$0.00	100%	0
Education	Freezers	Freezer - Below Standard	Below Standard Freezer	Below Standard Freezer	Per Building SqFt	New	0.00	12	$0.00	100%	0
Education	Freezers	Freezer - ENERGY STAR	ENERGY STAR Freezer	Standard Freezer	Per Building SqFt	Existing	0.00	12	$0.00	100%	0
Education	Freezers	Freezer - ENERGY STAR	ENERGY STAR Freezer	Standard Freezer	Per Building SqFt	New	0.00	12	$0.00	100%	0
Education	Freezers	Freezer - Standard	Standard Freezer	Standard Freezer	Per Building SqFt	Existing	0.00	12	$0.00	100%	0
Education	Freezers	Freezer - Standard	Standard Freezer	Standard Freezer	Per Building SqFt	New	0.00	12	$0.00	100%	0
Education	HVAC Aux	Cooling Tower-Two-Speed Fan Motor	Cooling Tower-Two-Speed Fan Motor	Cooling Tower-One-Speed Fan Motor	Per Chiller Ton	Existing	118	15	$2	33%	1,713
Education	HVAC Aux	Cooling Tower-VSD Fan Control	Variable-Speed Tower Fans Replace Two-Speed	Cooling Tower-One-Speed Fan Motor	Per Chiller Ton	Existing	33	13	$19	71%	42

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Education	HVAC Aux	Cooling Tower-VSD Fan Control	Variable-Speed Tower Fans Replace Two-Speed	Cooling Tower-One-Speed Fan Motor	Per Chiller Ton	New	22	13	$19	11%	5
Education	HVAC Aux	Demand Controlled Ventilation - Range Hood	For Range Hoods – VFD Controlled	No DCV	Per Range Hood	Existing	1,669	10	$12,500	64%	0
Education	HVAC Aux	Demand Controlled Ventilation - Range Hood	For Range Hoods – VFD Controlled	No DCV	Per Range Hood	New	1,101	10	$6,500	64%	0
Education	HVAC Aux	ECM Motor	Central Air Conditioner ECM Fan	Standard Motor	Per ECM	Existing	1,093	15	$200	30%	549
Education	HVAC Aux	ECM Motor	Central Air Conditioner ECM Fan	Standard Motor	Per ECM	New	721	15	$200	44%	31
Education	HVAC Aux	ECM Motor	Electric Furnace ECM Fan	Standard Motor	Per ECM	Existing	1,093	15	$200	3%	59
Education	HVAC Aux	ECM Motor	Electric Furnace ECM Fan	Standard Motor	Per ECM	New	721	15	$200	5%	3
Education	HVAC Aux	ECM Motor	Gas Furnace ECM Fan (CEE Air Handling Ratio < 0.02)	Standard Motor	Per ECM	Existing	1,093	15	$200	49%	880
Education	HVAC Aux	ECM Motor	Gas Furnace ECM Fan (CEE Air Handling Ratio < 0.02)	Standard Motor	Per ECM	New	721	15	$200	71%	49
Education	HVAC Aux	HVAC Auxillary - Standard Equipment	Standard HVAC Auxillary	Standard HVAC Auxillary	Per Building SqFt	Existing	0.00	15	$0.00	100%	0
Education	HVAC Aux	HVAC Auxillary - Standard Equipment	Standard HVAC Auxillary	Standard HVAC Auxillary	Per Building SqFt	New	0.00	15	$0.00	100%	0
Education	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	Existing	75	15	$274	67%	0
Education	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	New	75	15	$274	67%	0
Education	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	Existing	2,066	15	$2,036	0%	1
Education	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	New	518	15	$2,036	9%	0
Education	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	Existing	518	15	$678	9%	0
Education	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	New	1,143	15	$678	1%	0
Education	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	Existing	5,959	15	$4,197	0%	0
Education	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	New	2,066	15	$4,197	0%	0
Education	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	Existing	1,143	15	$1,375	1%	2
Education	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	New	5,959	15	$1,375	0%	0
Education	HVAC Aux	Optimized Variable Volume Lab Hood Design	Optimized Variable Volume Lab Hood Design	Constant Volume Lab Hood Design	Per Lab Hood	Existing	712	10	$1,705	64%	0
Education	HVAC Aux	Optimized Variable Volume Lab Hood Design	Optimized Variable Volume Lab Hood Design	Constant Volume Lab Hood Design	Per Lab Hood	New	470	10	$1,705	64%	0
Education	HVAC Aux	Variable Air-Volume Systems	Install Variable Air-Volume System	Constant Volume System	Per Building SqFt	Existing	0.27	15	$1	10%	0
Education	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 1-15 HP	Constant Speed Motor	Per Building	Existing	17,810	15	$3,942	67%	4,931
Education	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 1-15 HP	Constant Speed Motor	Per Building	New	11,753	15	$3,942	67%	190
Education	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 125-200 HP	Constant Speed Motor	Per Building	Existing	17,810	15	$1,851	1%	45
Education	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 125-200 HP	Constant Speed Motor	Per Building	New	11,753	15	$1,851	1%	2
Education	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 20-40 HP	Constant Speed Motor	Per Building	Existing	17,810	15	$2,284	4%	317
Education	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 20-40 HP	Constant Speed Motor	Per Building	New	11,753	15	$2,284	4%	12
Education	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 250-500 HP	Constant Speed Motor	Per Building	Existing	17,810	15	$1,405	0%	17
Education	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 250-500 HP	Constant Speed Motor	Per Building	New	11,753	15	$1,405	0%	1
Education	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 50-100 HP	Constant Speed Motor	Per Building	Existing	17,810	15	$2,814	1%	101

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Education	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 50-100 HP	Constant Speed Motor	Per Building	New	11,753	15	$2,814	1%	4
Education	Heat Pump	Commissioning	Commissioning/QI - New Installation	No Commissioning	Per SqFt	New	0.81	7	$1	90%	0
Education	Heat Pump	Cool Roofs	ENERGY STAR Cool Roof - Reflect Material (Reflectivity = 0.55)	Standard Roof	Per Roof Area SqFt	Existing	0.18	15	$0.68	64%	0
Education	Heat Pump	Cool Roofs	ENERGY STAR Cool Roof - Reflect Material (Reflectivity = 0.55)	Standard Roof	Per Roof Area SqFt	New	0.09	15	$0.68	64%	0
Education	Heat Pump	Demand Controlled Ventilation	Demand Controlled Ventilation - DCV (Occupancy Sensors / CO2 Sensors)	Constant Ventilation	Per Sensor	Existing	1,459	15	$450	60%	4,937
Education	Heat Pump	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	Existing	32,782	5	$4,003	33%	623
Education	Heat Pump	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	New	24,714	5	$4,003	33%	34
Education	Heat Pump	Direct Digital Control System-Installation	DDC Retrofit - EMS Upgrade	Pneumatic	Per Building	Existing	49,173	5	$29,213	6%	0
Education	Heat Pump	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	Existing	296	20	$477	76%	0
Education	Heat Pump	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	New	296	20	$477	76%	0
Education	Heat Pump	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	Existing	131	20	$60	62%	16
Education	Heat Pump	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	New	131	20	$60	62%	1
Education	Heat Pump	Duct Repair And Sealing	Reduction In Duct Losses to 5%	No Repair or Sealing, 15% duct losses	Per Building SqFt	Existing	0.25	18	$0.23	38%	150
Education	Heat Pump	Exhaust Hood Makeup Air	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	Hood Pulls Conditioned Air (No Make-up Air)	Per Building	Existing	14,752	10	$5,450	62%	374
Education	Heat Pump	Exhaust Hood Makeup Air	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	Hood Pulls Conditioned Air (No Make-up Air)	Per Building	New	11,121	10	$5,450	62%	19
Education	Heat Pump	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	Existing	0.18	30	$10	75%	0
Education	Heat Pump	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	New	0.09	30	$10	75%	0
Education	Heat Pump	Heat Pump - Below Standard	Below Standard Air Source Heat Pump 9.0 EER and 2.8 COP, = 135 and < 240 kBtuh	Below Standard Air Source Heat Pump 9.0 EER and 2.8 COP, = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.00	15	$0.00	100%	0
Education	Heat Pump	Heat Pump - Below Standard	Below Standard Air Source Heat Pump 9.0 EER and 2.8 COP, = 135 and < 240 kBtuh	Below Standard Air Source Heat Pump 9.0 EER and 2.8 COP, = 135 and < 240 kBtuh	Per Building SqFt	New	0.00	15	$0.00	100%	0
Education	Heat Pump	Heat Pump - ENERGY STAR	ENERGY STAR Ground Source Heat Pump 16.2 EER and 3.6 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	Existing	1.35	15	$16	5%	0
Education	Heat Pump	Heat Pump - ENERGY STAR	ENERGY STAR Ground Source Heat Pump 16.2 EER and 3.6 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	New	0.98	15	$10	5%	0
Education	Heat Pump	Heat Pump - High Efficiency	High Efficiency Air Source Heat Pump 11.1 EER and 3.3 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.27	15	$0.14	100%	222
Education	Heat Pump	Heat Pump - High Efficiency	High Efficiency Air Source Heat Pump 11.1 EER and 3.3 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	New	0.20	15	$0.14	100%	22
Education	Heat Pump	Heat Pump - Premium Efficiency	Premium Efficiency Water Source Heat Pump 12.0 EER and 4.2 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	Existing	1.76	15	$0.76	5%	74
Education	Heat Pump	Heat Pump - Premium Efficiency	Premium Efficiency Water Source Heat Pump 12.0 EER and 4.2 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	New	1.34	15	$0.87	5%	8
Education	Heat Pump	Heat Pump - Standard	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.00	15	$0.00	100%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Education	Heat Pump	Heat Pump - Standard	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	New	0.00	15	$0.00	100%	0
Education	Heat Pump	Heat Pump - Variable Refrigerant Flow System	Variable Refrigerant Flow System (VRF) - Heat Pump	Packaged VAV With Electric Reheat	Per Ton	Existing	1,179	15	$540	33%	2,275
Education	Heat Pump	Heat Pump - Variable Refrigerant Flow System	Variable Refrigerant Flow System (VRF) - Heat Pump	Packaged VAV With Electric Reheat	Per Ton	New	889	15	$540	81%	307
Education	Heat Pump	Infiltration Control	Weather-Stripping	Standard Practice	Per Window SqFt	Existing	5.49	13	$0.38	9%	130
Education	Heat Pump	Insulation - Duct	New Duct Insulation (R-8) (Unconditioned Spaces)	No Insulation	Per Surface Area of Duct	Existing	4.46	20	$2	15%	114
Education	Heat Pump	Insulation - Floor	R-30	Average Existing Insulation (R-10)	Per Floor Area SqFt	Existing	0.29	25	$1	29%	0
Education	Heat Pump	Insulation - Roof	R-20ci	Average Existing Insulation (R-10)	Per Roof Area SqFt	Existing	0.19	25	$1	13%	0
Education	Heat Pump	Insulation - Wall	R-13+R-7.5ci	Average Existing Insulation (R-10)	Per Wall Area SqFt	Existing	0.58	25	$1	33%	0
Education	Heat Pump	Package Terminal - Heat Pump	High Efficiency Package Terminal Air Conditioner	Federal Standard Equipment	Per Ton	Existing	35	15	$150	10%	0
Education	Heat Pump	Package Terminal - Heat Pump	High Efficiency Package Terminal Air Conditioner	Federal Standard Equipment	Per Ton	New	35	15	$150	10%	0
Education	Heat Pump	Retro-Commissioning	Retro-Commissioning	No Retro-Commissioning	Per SqFt	Existing	1.33	7	$0.30	90%	2,272
Education	Heat Pump	Thermostat Programmable	Setback Thermostat 5-1-1, 5-2 or 7-day	Manual Thermostat	Per Thermostat	Existing	2,458	15	$138	36%	259
Education	Heat Pump	Tune-up - Air Source Heat Pump	Air Source Heat Pump Maintenance (Tune-up)	Unmaintained Air Source Heat Pump	Per Ton	Existing	310	3	$48	48%	31
Education	Heat Pump	Tune-up - Ground Source Heat Pump	Ground Source Heat Pump Maintenance (Tune-up)	Unmaintained Ground Source Heat Pump	Per Ton	Existing	310	3	$48	48%	31
Education	Heat Pump	Variable Air-Volume Systems	Install Variable Air-Volume System	Constant Volume System	Per Building SqFt	Existing	1.40	15	$1	10%	396
Education	Heat Pump	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	Existing	1.22	25	$3	53%	0
Education	Heat Pump	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	New	1.22	25	$3	60%	0
Education	Heat Pump	Window - Metal Framing	U-Value = 0.55 (Code Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	1.27	25	$27	10%	0
Education	Heat Pump	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	Existing	0.78	25	$2	12%	0
Education	Heat Pump	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	New	0.78	25	$2	14%	0
Education	Heat Pump	Window - Non-Metal Framing	U-Value = 0.35 (Code Non-Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	3.89	25	$42	12%	0
Education	Lighting	Bi-Level Control, Stairwell Lighting	Bi-Level Stairwell Occupancy Sensor Control, 50% Lighting Power During Unoccupied Time	Continuous Full Power Lighting in Stairways	Per Stairwell Lighting Control	Existing	399	9	$107	68%	2,191
Education	Lighting	Bi-Level Control, Stairwell Lighting	Bi-Level Stairwell Occupancy Sensor Control, 50% Lighting Power During Unoccupied Time	Continuous Full Power Lighting in Stairways	Per Stairwell Lighting Control	New	258	9	$107	68%	83
Education	Lighting	Ceiling Fans	ENERGY STAR Ceiling Fans with Light Kit	Standard Ceiling Fan	Per Ceiling Fan	Existing	98	10	$119	85%	0
Education	Lighting	Ceiling Fans	ENERGY STAR Ceiling Fans with Light Kit	Standard Ceiling Fan	Per Ceiling Fan	New	98	10	$119	85%	0
Education	Lighting	Daylighting Controls	Continuous Dimming, Fluorescent Fixtures (Day-Lighting)	No Dimming Controls	Per Applicable SQFT of Dimmable Perimeter Area of Building	Existing	2.79	9	$1	60%	8,811
Education	Lighting	Daylighting Controls	Continuous Dimming, Fluorescent Fixtures (Day-Lighting)	No Dimming Controls	Per Applicable SQFT of Dimmable Perimeter Area of Building	New	1.80	13	$1	0%	0
Education	Lighting	Daylighting Controls	Dual Level Switches, Fluorescent Fixtures	No Dimming Controls	Per Applicable SQFT of Dimmable Perimeter Area of Building	Existing	1.14	9	$0.83	60%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Education	Lighting	Daylighting Controls	Dual Level Switches, Fluorescent Fixtures	No Dimming Controls	Per Applicable SQFT of Dimmable Perimeter Area of Building	New	0.74	13	$0.83	0%	0
Education	Lighting	Exit Sign - LED	LED Exit Signs	CFL Exit Sign	Per Exit Sign	Existing	175	11	$68	37%	483
Education	Lighting	Exit Sign - Photoluminescent	Photoluminescent Exit Sign	LED Exit Sign	Per Exit Sign	Existing	35	13	$30	93%	245
Education	Lighting	Exit Sign - Photoluminescent	Photoluminescent Exit Sign	LED Exit Sign	Per Exit Sign	New	35	13	$30	93%	14
Education	Lighting	LED Refrigerated Case Lighting	LED Refrigerated Case Lighting	Fluorescent	Per Refrigerated Glass Case	Existing	105	13	$600	49%	0
Education	Lighting	LED Refrigerated Case Lighting	LED Refrigerated Case Lighting	Fluorescent	Per Refrigerated Glass Case	New	105	13	$600	49%	0
Education	Lighting	LED Strip Lighting	LED Strip Lighting (Non-Refrigerated)	Fluorescent	Per Linear Foot of Lighting	Existing	0.28	11	$2	78%	0
Education	Lighting	LED Strip Lighting	LED Strip Lighting (Non-Refrigerated)	Fluorescent	Per Linear Foot of Lighting	New	0.28	11	$2	78%	0
Education	Lighting	LightLouver Daylighting System	LightLouver Daylighting System	No Daylight System	Per Linear Feet of Window	Existing	49	9	$65	40%	0
Education	Lighting	Lighting - CFL Lamp Package	ENERGY STAR CFL	EISA Incandescent	Per Building	Existing	3,624	4	$44	68%	267
Education	Lighting	Lighting - Clock/Timer	Lighting Clock/Timer Commercial grade	No Time Clock	Per Lighting Control	Existing	1,367	9	$205	38%	1,511
Education	Lighting	Lighting - Fluorescent High Performance Package	Fluorescent HP Lamps and Ballasts Packages	Standard Lighting	Per Lighting Package	Existing	16,460	13	$57,538	90%	0
Education	Lighting	Lighting - Fluorescent Reduced Wattage Package	Fluorescent RW Lamps and Ballasts Packages	Standard Lighting	Per Lighting Package	Existing	32,921	13	$48,310	76%	0
Education	Lighting	Lighting - High Bay Fluorescent High Output Package	High Bay Fluorescent HO Packages	Standard HID Lighting	Per Lighting Package	Existing	8,936	15	$2,377	73%	1,704
Education	Lighting	Lighting - High Bay LED Package	High Bay LED Package	Standard HID Lighting	Per Lighting Package	Existing	5,871	20	$44,706	94%	0
Education	Lighting	Lighting - High Intensity Discharge Package	High Efficiency Metal Halide Lighting Packages	Standard HID Lighting	Per Lighting Package	Existing	3,625	15	$2,351	67%	0
Education	Lighting	Lighting - Induction Lighting Package	Induction Lighting Package	Standard HID Lighting	Per Lighting Package	Existing	10,017	20	$3,062	38%	1,573
Education	Lighting	Lighting - LED Lamp Package	ENERGY STAR LED	EISA Incandescent	Per Lighting Package	Existing	4,366	12	$2,067	73%	1,326
Education	Lighting	Lighting - LPD Package	LPD Reduction Package 15%	LPD Code	Per Lighting Package	New	19,057	15	$598	68%	86
Education	Lighting	Lighting - LPD Package	LPD Reduction Package 25%	LPD Code	Per Lighting Package	New	31,762	15	$4,981	71%	545
Education	Lighting	Lighting - Specialty Lamp Package	CFL and LED Specialty Lamp Package	Standard Incandescent	Per Lighting Package	Existing	585	6	$78	81%	195
Education	Lighting	Lighting - Standard	Standard Lighting	Standard Lighting	Per Building SqFt	Existing	0.00	14	$0.00	100%	0
Education	Lighting	Lighting - Standard	Standard Lighting	Standard Lighting	Per Building SqFt	New	0.00	14	$0.00	100%	0
Education	Lighting	Occupancy Sensor - High-Bay	Fixture-Mounted (Control > 150 Watts)	No Sensor	Per Lighting Control	Existing	786	14	$225	9%	254
Education	Lighting	Occupancy Sensor - High-Bay	Fixture-Mounted (Control > 150 Watts)	No Sensor	Per Lighting Control	New	509	14	$225	9%	10
Education	Lighting	Occupancy Sensor - Wall or Ceiling	Wall or Ceiling-Mounted (Control > 400 Watts)	No Sensor	Per Lighting Control	Existing	63	14	$225	62%	0
Education	Lighting	Occupancy Sensor - Wall or Ceiling	Wall or Ceiling-Mounted (Control > 400 Watts)	No Sensor	Per Lighting Control	New	41	14	$225	62%	0
Education	Other	Compressed Air Optimization	Compressed Air - Leak Audit, New Compressors, Improved Controls	No Leak Audit And No New Compressor And No New Controls	Per Compressor HP	Existing	281	10	$50	37%	38
Education	Other	Other - Standard	Standard Other Equipment	Standard Other Equipment	Per Building SqFt	Existing	0.00	10	$0.00	100%	0
Education	Other	Other - Standard	Standard Other Equipment	Standard Other Equipment	Per Building SqFt	New	0.00	10	$0.00	100%	0
Education	Other	Transformers	Transformers, Three-Phase Low-Voltage Dry-Type CEE Tier 1	Standard Efficiency Transformer NEMA TP-1-2002	Per Transformer	Existing	578	30	$1,115	50%	119
Education	Other	Transformers	Transformers, Three-Phase Low-Voltage Dry-Type CEE Tier 1	Standard Efficiency Transformer NEMA TP-1-2002	Per Transformer	New	578	30	$1,115	50%	7
Education	Other Plug Load	All-In-One Office Equipment	All-In-One ENERGY STAR Office Equipment	Non-ENERGY STAR Features	Per All-in-One Device	Existing	200	6	$218	68%	0
Education	Other Plug Load	All-In-One Office Equipment	All-In-One ENERGY STAR Office Equipment	Non-ENERGY STAR Features	Per All-in-One Device	New	200	6	$218	68%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Education	Other Plug Load	Ceiling Fans	ENERGY STAR Ceiling Fans with Light Kit	Standard Ceiling Fan	Per Ceiling Fan	Existing	4.33	10	$119	85%	0
Education	Other Plug Load	Ceiling Fans	ENERGY STAR Ceiling Fans with Light Kit	Standard Ceiling Fan	Per Ceiling Fan	New	4.33	10	$119	85%	0
Education	Other Plug Load	Ceiling Fans	ENERGY STAR Ceiling Fans without Light Kit	Standard Ceiling Fan	Per Ceiling Fan	Existing	4.33	10	$1	85%	6
Education	Other Plug Load	Ceiling Fans	ENERGY STAR Ceiling Fans without Light Kit	Standard Ceiling Fan	Per Ceiling Fan	New	4.33	10	$1	85%	0
Education	Other Plug Load	Plug Load - Standard Equipment	Standard Plug Load	Standard Plug Load	Per Building SqFt	Existing	0.00	10	$0.00	100%	0
Education	Other Plug Load	Plug Load - Standard Equipment	Standard Plug Load	Standard Plug Load	Per Building SqFt	New	0.00	10	$0.00	100%	0
Education	Other Plug Load	Snow Melt System Control	Snow Melt System Control	Manual Control	Per Snow Melt Control	Existing	955	25	$2,782	5%	0
Education	Other Plug Load	Snow Melt System Control	Snow Melt System Control	Manual Control	Per Snow Melt Control	New	995	25	$2,782	0%	0
Education	Other Plug Load	Water Coolers	ENERGY STAR Water Cooler	Non-ENERGY STAR Water Cooler	Per Water Cooler	Existing	204	10	$5	8%	13
Education	Other Plug Load	Water Coolers	ENERGY STAR Water Cooler	Non-ENERGY STAR Water Cooler	Per Water Cooler	New	213	10	$5	8%	1
Education	Photo Copiers	Photo Copier - ENERGY STAR	ENERGY STAR Photo Copier	Standard Photo Copier	Per Building SqFt	Existing	0.00	6	$0.00	100%	0
Education	Photo Copiers	Photo Copier - ENERGY STAR	ENERGY STAR Photo Copier	Standard Photo Copier	Per Building SqFt	New	0.00	6	$0.00	100%	0
Education	Photo Copiers	Photo Copiers - Standard	Standard Photo Copier	Standard Photo Copier	Per Building SqFt	Existing	0.00	6	$0.00	100%	0
Education	Photo Copiers	Photo Copiers - Standard	Standard Photo Copier	Standard Photo Copier	Per Building SqFt	New	0.00	6	$0.00	100%	0
Education	Printers	Printers - ENERGY STAR	ENERGY STAR Printers	Standard Printers	Per Building SqFt	Existing	0.02	6	$0.00	100%	381
Education	Printers	Printers - ENERGY STAR	ENERGY STAR Printers	Standard Printers	Per Building SqFt	New	0.02	6	$0.00	100%	27
Education	Printers	Printers - Standard	Standard Printers	Standard Printers	Per Building SqFt	Existing	0.00	6	$0.00	100%	0
Education	Printers	Printers - Standard	Standard Printers	Standard Printers	Per Building SqFt	New	0.00	6	$0.00	100%	0
Education	Refrigeration	Anti-Sweat Heater Controls	Variable Temperature Controls (Humidistat)	Constant Controls	Per Control (Weighted by Grocery Refrigeration)	Existing	767	12	$78	79%	242
Education	Refrigeration	Anti-Sweat Heater Controls	Variable Temperature Controls (Humidistat)	Constant Controls	Per Control (Weighted by Grocery Refrigeration)	New	767	12	$78	20%	4
Education	Refrigeration	Case Fans with ECM motors	ECM Motors on Evaporator Fan for Display Cases	Standard Case Fan Motor	Per ECM (Weighted by Grocery Refrigeration)	Existing	1,018	12	$243	37%	149
Education	Refrigeration	Case Fans with ECM motors	ECM Motors on Evaporator Fan for Display Cases	Standard Case Fan Motor	Per ECM (Weighted by Grocery Refrigeration)	New	1,018	12	$243	37%	9
Education	Refrigeration	Demand Control Defrost - Electric	Refrigerant Defrost	No Demand Control Defrost	Per Building SqFt	Existing	0.00	10	$0.09	41%	0
Education	Refrigeration	Demand Control Defrost - Hot Gas	Refrigerant Defrost	No Demand Control Defrost	Per Building SqFt	Existing	0.01	10	$0.11	41%	0
Education	Refrigeration	Evaporator Fans - Walk-ins	High-Efficiency Evaporator Fans, Walk-in Refrigerators	Standard Evaporator Fans	Per Walk-in Fan	Existing	435	15	$132	69%	398
Education	Refrigeration	Evaporator Fans - Walk-ins	High-Efficiency Evaporator Fans, Walk-in Refrigerators	Standard Evaporator Fans	Per Walk-in Fan	New	435	15	$132	69%	23
Education	Refrigeration	Glass Door Refrigerators	ENERGY STAR Qualified (Volume 0 to 50+ Cubic Feet)	Standard Equipment	Per Glass Door Refrigerator	Existing	1,086	12	$704	95%	53
Education	Refrigeration	Glass Door Refrigerators	ENERGY STAR Qualified (Volume 0 to 50+ Cubic Feet)	Standard Equipment	Per Glass Door Refrigerator	New	1,086	12	$704	90%	3
Education	Refrigeration	Ice Makers, Air Cooled	ENERGY STAR Qualified, Ice-Making Head	Standard Equipment	Per Ice Maker	Existing	1,197	10	$140	33%	163
Education	Refrigeration	Ice Makers, Air Cooled	ENERGY STAR Qualified, Ice-Making Head	Standard Equipment	Per Ice Maker	New	1,197	10	$140	33%	10
Education	Refrigeration	Ice Makers, Air Cooled	ENERGY STAR Qualified, Remote Condensing	Standard Equipment	Per Ice Maker	Existing	1,293	10	$5	33%	176

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Education	Refrigeration	Ice Makers, Air Cooled	ENERGY STAR Qualified, Remote Condensing	Standard Equipment	Per Ice Maker	New	1,293	10	$5	33%	10
Education	Refrigeration	Ice Makers, Air Cooled	ENERGY STAR Qualified, Self-Contained	Standard Equipment	Per Ice Maker	Existing	317	10	$5	33%	37
Education	Refrigeration	Ice Makers, Air Cooled	ENERGY STAR Qualified, Self-Contained	Standard Equipment	Per Ice Maker	New	317	10	$5	33%	2
Education	Refrigeration	Ice Makers, Water-Cooled	Ice-Making Head - Water Cooled	Standard Equipment	Per Ice Maker	Existing	894	10	$1,000	33%	0
Education	Refrigeration	Ice Makers, Water-Cooled	Ice-Making Head - Water Cooled	Standard Equipment	Per Ice Maker	New	894	10	$1,000	33%	0
Education	Refrigeration	Ice Makers, Water-Cooled	Self-Contained - Water Cooled	Standard Equipment	Per Ice Maker	Existing	187	10	$850	33%	0
Education	Refrigeration	Ice Makers, Water-Cooled	Self-Contained - Water Cooled	Standard Equipment	Per Ice Maker	New	187	10	$850	33%	0
Education	Refrigeration	Night Covers for Display Cases	Night Covers for Display Cases	No Night Covers	Per Building	Existing	250	10	$589	5%	0
Education	Refrigeration	Night Covers for Display Cases	Night Covers for Display Cases	No Night Covers	Per Building	New	258	10	$589	5%	0
Education	Refrigeration	Novelty Cooler Shutoff	Cooler Shutoff with Controls System or Shutoff Switch	No Cooler Shutoff	Per Cooler Case	Existing	937	10	$140	63%	122
Education	Refrigeration	Novelty Cooler Shutoff	Cooler Shutoff with Controls System or Shutoff Switch	No Cooler Shutoff	Per Cooler Case	New	937	10	$140	63%	7
Education	Refrigeration	Occupancy Sensor - Refrigerated Cases	Occupancy Sensor - Refrigerated Cases	No Sensor	Per Linear Foot of Refrigerated Display Case	Existing	20	8	$3	14%	5
Education	Refrigeration	Occupancy Sensor - Refrigerated Cases	Occupancy Sensor - Refrigerated Cases	No Sensor	Per Linear Foot of Refrigerated Display Case	New	20	8	$3	14%	0
Education	Refrigeration	Refrigeration - Retro-Commissioning	Refrigeration Retro Commissioning (Refrigeration System Diagnostics / Operations And Maintenance)	No Retro-Commissioning	Per Refrigeration Ton	Existing	49	10	$191	78%	0
Education	Refrigeration	Refrigeration - Commissioning	Commissioning (Refrigeration System Diagnostics / Operations and Maintenance for a New Unit)	No Commissioning	Per Refrigeration Ton	New	50	3	$49	87%	0
Education	Refrigeration	Refrigeration - Standard	Standard Refrigeration	Standard Refrigeration	Per Building SqFt	Existing	0.00	14	$0.00	100%	0
Education	Refrigeration	Refrigeration - Standard	Standard Refrigeration	Standard Refrigeration	Per Building SqFt	New	0.00	14	$0.00	100%	0
Education	Refrigeration	Solid Door Freezers	ENERGY STAR Qualified (Volume 0 to 50+ Cubic Feet)	Standard Equipment	Per Commercial Freezer	Existing	1,463	12	$247	76%	11
Education	Refrigeration	Solid Door Freezers	ENERGY STAR Qualified (Volume 0 to 50+ Cubic Feet)	Standard Equipment	Per Commercial Freezer	New	1,463	12	$247	76%	1
Education	Refrigeration	Solid Door Refrigerators	ENERGY STAR Qualified (Volume 0 to 50+ Cubic Feet)	Standard Equipment	Per Commercial Refrigerator	Existing	849	12	$124	75%	6
Education	Refrigeration	Solid Door Refrigerators	ENERGY STAR Qualified (Volume 0 to 50+ Cubic Feet)	Standard Equipment	Per Commercial Refrigerator	New	849	12	$124	75%	0
Education	Refrigeration	Strip Curtains for Walk-Ins	Strip Curtains for Walk-Ins	No Strip Curtains for Walk-Ins	Per Walk-in	Existing	393	4	$300	20%	0
Education	Refrigeration	Strip Curtains for Walk-Ins	Strip Curtains for Walk-Ins	No Strip Curtains for Walk-Ins	Per Walk-in	New	405	4	$300	20%	0
Education	Refrigerators	Refrigerator - 2014 Federal Standard	2014 Standard Refrigerator	Standard Refrigerator	Per Building SqFt	Existing	0.01	13	$0.05	100%	0
Education	Refrigerators	Refrigerator - 2014 Federal Standard	2014 Standard Refrigerator	Standard Refrigerator	Per Building SqFt	New	0.01	13	$0.05	100%	0
Education	Refrigerators	Refrigerator - Below Standard	Below Standard Refrigerator	Below Standard Refrigerator	Per Building SqFt	Existing	0.00	13	$0.00	100%	0
Education	Refrigerators	Refrigerator - Below Standard	Below Standard Refrigerator	Below Standard Refrigerator	Per Building SqFt	New	0.00	13	$0.00	100%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Education	Refrigerators	Refrigerator - CEE Tier 1	CEE Tier 1 Refrigerator	Standard Refrigerator	Per Building SqFt	Existing	0.02	13	$0.07	100%	0
Education	Refrigerators	Refrigerator - CEE Tier 1	CEE Tier 1 Refrigerator	Standard Refrigerator	Per Building SqFt	New	0.02	13	$0.07	100%	0
Education	Refrigerators	Refrigerator - CEE Tier 2	CEE Tier 2 Refrigerator	Standard Refrigerator	Per Building SqFt	Existing	0.01	13	$0.03	100%	0
Education	Refrigerators	Refrigerator - CEE Tier 2	CEE Tier 2 Refrigerator	Standard Refrigerator	Per Building SqFt	New	0.01	13	$0.03	100%	0
Education	Refrigerators	Refrigerator - ENERGY STAR	ENERGY STAR Refrigerator	Standard Refrigerator	Per Building SqFt	Existing	0.00	13	$0.01	100%	0
Education	Refrigerators	Refrigerator - ENERGY STAR	ENERGY STAR Refrigerator	Standard Refrigerator	Per Building SqFt	New	0.00	13	$0.01	100%	0
Education	Refrigerators	Refrigerator - Federal Standard	Standard Refrigerator	Standard Refrigerator	Per Building SqFt	Existing	0.00	13	$0.00	100%	0
Education	Refrigerators	Refrigerator - Federal Standard	Standard Refrigerator	Standard Refrigerator	Per Building SqFt	New	0.00	13	$0.00	100%	0
Education	Servers	Server - ENERGY STAR	ENERGY STAR Server	Standard Server	Per Building SqFt	Existing	0.00	9	$0.00	100%	51
Education	Servers	Server - ENERGY STAR	ENERGY STAR Server	Standard Server	Per Building SqFt	New	0.00	9	$0.00	100%	4
Education	Servers	Server - Standard	Standard Server	Standard Server	Per Building SqFt	Existing	0.00	9	$0.00	100%	0
Education	Servers	Server - Standard	Standard Server	Standard Server	Per Building SqFt	New	0.00	9	$0.00	100%	0
Education	Space Heat	Demand Controlled Ventilation	Demand Controlled Ventilation - DCV (Occupancy Sensors / CO2 Sensors)	Constant Ventilation	Per Sensor	Existing	1,588	15	$450	60%	2,954
Education	Space Heat	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	Existing	41,630	5	$3,122	33%	569
Education	Space Heat	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	New	52,030	5	$2,001	33%	43
Education	Space Heat	Direct Digital Control System-Installation	DDC Retrofit - EMS Upgrade	Pneumatic	Per Building	Existing	62,445	5	$2,986	6%	161
Education	Space Heat	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	Existing	488	20	$477	76%	0
Education	Space Heat	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	New	488	20	$477	76%	0
Education	Space Heat	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	Existing	217	20	$60	62%	19
Education	Space Heat	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	New	217	20	$60	62%	1
Education	Space Heat	Duct Repair And Sealing	Reduction In Duct Losses to 5%	No Repair or Sealing, 15% duct losses	Per Building SqFt	Existing	0.31	18	$0.23	38%	151
Education	Space Heat	Exhaust Hood Makeup Air	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	Hood Pulls Conditioned Air (No Make-up Air)	Per Building	Existing	18,733	10	$5,450	62%	376
Education	Space Heat	Exhaust Hood Makeup Air	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	Hood Pulls Conditioned Air (No Make-up Air)	Per Building	New	23,413	10	$5,450	62%	34
Education	Space Heat	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	Existing	1.05	30	$10	75%	0
Education	Space Heat	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	New	1.32	30	$10	75%	0
Education	Space Heat	Infiltration Control	Weather-Stripping	Standard Practice	Per Window SqFt	Existing	8.01	13	$0.38	9%	109
Education	Space Heat	Insulation - Duct	New Duct Insulation (R-8) (Unconditioned Spaces)	No Insulation	Per Surface Area of Duct	Existing	5.66	20	$2	15%	86
Education	Space Heat	Insulation - Floor	R-30	Average Existing Insulation (R-10)	Per Floor Area SqFt	Existing	0.47	25	$1	29%	0
Education	Space Heat	Insulation - Roof	R-20ci	Average Existing Insulation (R-10)	Per Roof Area SqFt	Existing	0.31	25	$1	13%	0
Education	Space Heat	Insulation - Wall	R-13+R-7.5ci	Average Existing Insulation (R-10)	Per Wall Area SqFt	Existing	0.97	25	$1	33%	0
Education	Space Heat	Space Heat - Standard	Standard Space Heat	Standard Space Heat	Per Building SqFt	Existing	0.00	20	$0.00	100%	0
Education	Space Heat	Space Heat - Standard	Standard Space Heat	Standard Space Heat	Per Building SqFt	New	0.00	20	$0.00	100%	0
Education	Space Heat	Thermostat Programmable	Setback Thermostat 5-1-1, 5-2 or 7-day	Manual Thermostat	Per Thermostat	Existing	3,122	15	$138	36%	189

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Education	Space Heat	Variable Air-Volume Systems	Install Variable Air-Volume System	Constant Volume System	Per Building SqFt	Existing	1.37	15	$1	10%	0
Education	Space Heat	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	Existing	2.01	25	$3	53%	0
Education	Space Heat	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	New	2.01	25	$3	60%	0
Education	Space Heat	Window - Metal Framing	U-Value = 0.55 (Code Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	2.09	25	$27	10%	0
Education	Space Heat	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	Existing	1.28	25	$2	12%	0
Education	Space Heat	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	New	1.28	25	$2	14%	0
Education	Space Heat	Window - Non-Metal Framing	U-Value = 0.35 (Code Non-Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	6.42	25	$42	12%	0
Education	Vending Machines	Vending Machine - Controller	Refrigerated Vending Machine Controller	No Controls	Per Vending Machine	Existing	1,394	3	$238	25%	182
Education	Vending Machines	Vending Machine - Controller	Refrigerated Vending Machine Controller	No Controls	Per Vending Machine	New	1,394	3	$238	25%	9
Education	Vending Machines	Vending Machine - ENERGY STAR	ENERGY STAR Vending Machine	Standard Vending Machine	Per Building SqFt	Existing	0.04	10	$0.00	100%	453
Education	Vending Machines	Vending Machine - ENERGY STAR	ENERGY STAR Vending Machine	Standard Vending Machine	Per Building SqFt	New	0.04	10	$0.00	100%	40
Education	Vending Machines	Vending Machine - Standard	Standard Vending Machine	Standard Vending Machine	Per Building SqFt	Existing	0.00	10	$0.00	100%	0
Education	Vending Machines	Vending Machine - Standard	Standard Vending Machine	Standard Vending Machine	Per Building SqFt	New	0.00	10	$0.00	100%	0
Education	Water Heat	Clothes Washer	Commercial Ozonating Clothes Washer	Standard Commercial Clothes Washer	Per Clothes Washer	Existing	487	10	$5,944	10%	0
Education	Water Heat	Clothes Washer	Commercial Ozonating Clothes Washer	Standard Commercial Clothes Washer	Per Clothes Washer	New	487	10	$5,944	10%	0
Education	Water Heat	Clothes Washer	Residential Grade, Clothes Washer Enhanced Efficiency MEF = 3.10 and WF = 3.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	2,371	11	$789	33%	176
Education	Water Heat	Clothes Washer	Residential Grade, Clothes Washer Enhanced Efficiency MEF = 3.10 and WF = 3.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	2,371	11	$789	33%	9
Education	Water Heat	Clothes Washer	Residential Grade, Clothes Washer CEE Tier 2 MEF = 2.2 and WF = 4.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	1,707	11	$391	31%	115
Education	Water Heat	Clothes Washer	Residential Grade, Clothes Washer CEE Tier 2 MEF = 2.2 and WF = 4.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	1,707	11	$391	31%	6
Education	Water Heat	Clothes Washer	Residential Grade, Clothes Washer CEE Tier 3 MEF = 2.4 and WF = 4.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	1,898	11	$565	29%	133
Education	Water Heat	Clothes Washer	Residential Grade, Clothes Washer CEE Tier 3 MEF = 2.4 and WF = 4.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	1,898	11	$565	29%	7
Education	Water Heat	Clothes Washer	Residential Grade, Clothes Washer ENERGY STAR MEF = 2.0 and WF = 6.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	1,478	11	$134	28%	0
Education	Water Heat	Clothes Washer	Residential Grade, Clothes Washer ENERGY STAR MEF = 2.0 and WF = 6.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	1,478	11	$134	28%	0
Education	Water Heat	Desuperheaters - Air Conditioner	Add-on Desuperheaters to Air Conditioner	No Desuperheater	Per Desuperheater	Existing	71	10	$600	36%	0
Education	Water Heat	Desuperheaters - Air Source Heat Pump	Add-on Desuperheaters to Air Source Heat Pump	No Desuperheater	Per Desuperheater	Existing	447	10	$600	4%	0
Education	Water Heat	Desuperheaters - Ground Source Heat Pump	Add-on Desuperheaters to Ground Source Heat Pump	No Desuperheater	Per Desuperheater	Existing	447	10	$600	0%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Education	Water Heat	Dishwasher	Dishwasher Enhanced Efficiency (EF 1.00) 200 kWh/yr and 4.00 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle = 307 kWh/yr and = 5.0 Gallons/Cycle for July 1, 2011 - Dec 31, 2011	Per Dishwasher	Existing	155	11	$1,067	62%	0
Education	Water Heat	Dishwasher	Dishwasher Enhanced Efficiency (EF 1.00) 200 kWh/yr and 4.00 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle = 307 kWh/yr and = 5.0 Gallons/Cycle for July 1, 2011 - Dec 31, 2011	Per Dishwasher	New	155	11	$1,067	62%	0
Education	Water Heat	Dishwasher	ENERGY STAR 295 kWh/yr and 4.25 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle = 307 kWh/yr and = 5.0 Gallons/Cycle for July 1, 2011 - Dec 31, 2011	Per Dishwasher	Existing	60	11	$272	52%	0
Education	Water Heat	Dishwasher	ENERGY STAR 295 kWh/yr and 4.25 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle = 307 kWh/yr and = 5.0 Gallons/Cycle for July 1, 2011 - Dec 31, 2011	Per Dishwasher	New	60	11	$272	52%	0
Education	Water Heat	Dishwasher	High Temp Commercial High Efficiency Dishwasher (ENERGY STAR)	Standard High Temp Commercial Dishwasher	Per Dishwasher	Existing	1,032	14	$442	28%	30
Education	Water Heat	Dishwasher	High Temp Commercial High Efficiency Dishwasher (ENERGY STAR)	Standard High Temp Commercial Dishwasher	Per Dishwasher	New	1,032	14	$442	28%	1
Education	Water Heat	Dishwasher	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)	Standard High Temp Commercial Dishwasher	Per Dishwasher	Existing	1,616	14	$307	33%	71
Education	Water Heat	Dishwasher	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)	Standard High Temp Commercial Dishwasher	Per Dishwasher	New	1,616	14	$307	33%	3
Education	Water Heat	Drainwater Heat Recovery	Install Power-Pipe or GFX System	No GFX or Power-Pipe System	Per 40 Gal Water Heater	Existing	447	40	$833	60%	248
Education	Water Heat	Drainwater Heat Recovery	Install Power-Pipe or GFX System	No GFX or Power-Pipe System	Per 40 Gal Water Heater	New	447	40	$666	83%	17
Education	Water Heat	Faucet Aerator	0.5 GPM	Existing Aerator (3.0 GPM)	Per Aerator	Existing	41	10	$4	67%	166
Education	Water Heat	Low-Flow Showerheads	2.0 GPM	2.5 GPM Showerhead (Federal Code)	Per Showerhead	Existing	125	10	$8	38%	53
Education	Water Heat	Low-Flow Showerheads	2.0 GPM	2.5 GPM Showerhead (Federal Code)	Per Showerhead	New	125	10	$8	38%	3
Education	Water Heat	Low-Flow Showerheads	2.5 GPM Showerhead (Federal Code)	Existing Showerhead (4.5 GPM)	Per Showerhead	Existing	279	10	$31	9%	27
Education	Water Heat	Low-Flow Spray Heads	1.0 GPM	1.6 GPM (Code)	Per Spray Head	Existing	485	5	$39	38%	48
Education	Water Heat	Low-Flow Spray Heads	1.0 GPM	1.6 GPM (Code)	Per Spray Head	New	485	5	$39	38%	2
Education	Water Heat	Low-Flow Spray Heads	1.6 GPM (Code)	Existing Spray Head (2.5 GPM)	Per Spray Head	Existing	728	5	$30	25%	48
Education	Water Heat	Ultrasonic Faucet Control	Install Ultrasonic Faucet Control	No Faucet Control	Per Faucet	Existing	12	10	$196	71%	0
Education	Water Heat	Ultrasonic Faucet Control	Install Ultrasonic Faucet Control	No Faucet Control	Per Faucet	New	12	10	$196	71%	0
Education	Water Heat	Water Heater - Pipe Insulation	Hot Water Pipe Insulation (R-4)	No Pipe Insulation	Per Linear Foot	Existing	7.18	13	$2	56%	14
Education	Water Heat	Water Heater - Tank Blanket/Insulation	Install Insulation (R-11)	No Tank Insulation	Per Water Heater	Existing	89	7	$62	5%	0
Education	Water Heat	Water Heater - Thermostat Setback	Install Programmable Thermostat (120 Degrees)	No Thermostat Setback (130 Degrees)	Per Water Heater	Existing	304	4	$102	15%	0
Education	Water Heat	Water Heating - ENERGY STAR	ENERGY STAR Heat Pump Water Heater EF = 2.0	Standard Water Heater EF = 0.92	Per Building SqFt	Existing	0.28	13	$0.12	75%	595
Education	Water Heat	Water Heating - ENERGY STAR	ENERGY STAR Heat Pump Water Heater EF = 2.0	Standard Water Heater EF = 0.92	Per Building SqFt	New	0.28	13	$0.12	75%	59
Education	Water Heat	Water Heating - Storage 2015 Standard	2015 Standard Water Heater EF = 0.95	Standard Water Heater EF = 0.92	Per Building SqFt	Existing	0.01	13	$0.00	100%	10
Education	Water Heat	Water Heating - Storage 2015 Standard	2015 Standard Water Heater EF = 0.95	Standard Water Heater EF = 0.92	Per Building SqFt	New	0.01	13	$0.00	100%	1
Education	Water Heat	Water Heating - Storage Below Standard	Below Standard Water Heater EF = 0.86	Below Standard Water Heater EF = 0.86	Per Building SqFt	Existing	0.00	13	$0.00	100%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Education	Water Heat	Water Heating - Storage Below Standard	Below Standard Water Heater EF = 0.86	Below Standard Water Heater EF = 0.86	Per Building SqFt	New	0.00	13	$0.00	100%	0
Education	Water Heat	Water Heating - Storage Standard	Standard Water Heater EF = 0.92	Standard Water Heater EF = 0.92	Per Building SqFt	Existing	0.00	13	$0.00	100%	0
Education	Water Heat	Water Heating - Storage Standard	Standard Water Heater EF = 0.92	Standard Water Heater EF = 0.92	Per Building SqFt	New	0.00	13	$0.00	100%	0
Education	Water Heat	Water Heating - Tankless	Tankless Water Heater EF = 0.95	Standard Water Heater EF = 0.92	Per Building SqFt	Existing	0.03	13	$0.02	0%	0
Education	Water Heat	Water Heating - Tankless	Tankless Water Heater EF = 0.95	Standard Water Heater EF = 0.92	Per Building SqFt	New	0.03	13	$0.02	0%	0
Grocery	Computers	Computer - ENERGY STAR	ENERGY STAR Computer	Standard Computer	Per Building SqFt	Existing	0.03	4	$0.00	100%	156
Grocery	Computers	Computer - ENERGY STAR	ENERGY STAR Computer	Standard Computer	Per Building SqFt	New	0.03	4	$0.00	100%	10
Grocery	Computers	Computer - Standard	Standard Computer	Standard Computer	Per Building SqFt	Existing	0.00	4	$0.00	100%	0
Grocery	Computers	Computer - Standard	Standard Computer	Standard Computer	Per Building SqFt	New	0.00	4	$0.00	100%	0
Grocery	Cooking	Convection Oven	ENERGY STAR Convection Oven	Standard Oven	Per Convection Oven	Existing	516	15	$1,650	75%	0
Grocery	Cooking	Convection Oven	ENERGY STAR Convection Oven	Standard Oven	Per Convection Oven	New	531	15	$1,650	75%	0
Grocery	Cooking	Cooking - Standard Equipment	Standard Cooking Equipment	Standard Cooking Equipment	Per Building SqFt	Existing	0.00	12	$0.00	100%	0
Grocery	Cooking	Cooking - Standard Equipment	Standard Cooking Equipment	Standard Cooking Equipment	Per Building SqFt	New	0.00	12	$0.00	100%	0
Grocery	Cooking	Fryer	ENERGY STAR Fryer	Standard	Per Fryer	Existing	226	12	$1,271	25%	0
Grocery	Cooking	Fryer	ENERGY STAR Fryer	Standard	Per Fryer	New	233	12	$1,271	25%	0
Grocery	Cooking	Hot Food Holding Cabinets	ENERGY STAR Qualified (< 40 watts/cubic foot)	Standard Equipment	Per Hot Food Holding Cabinet	Existing	1,547	12	$1,500	47%	0
Grocery	Cooking	Hot Food Holding Cabinets	ENERGY STAR Qualified (< 40 watts/cubic foot)	Standard Equipment	Per Hot Food Holding Cabinet	New	1,592	12	$1,500	47%	12
Grocery	Cooking	Steam Cooker	ENERGY STAR Steam Cooker	Standard	Per Steam Cooker	Existing	3,745	12	$1,500	19%	94
Grocery	Cooking	Steam Cooker	ENERGY STAR Steam Cooker	Standard	Per Steam Cooker	New	3,852	12	$1,500	19%	6
Grocery	Cooling DX	Advanced Control Technology	Advanced Control Technologies for Packaged Air-Conditioning Units (Retrofit)	Standard Controls	Per 5 Tons of Cooling	Existing	770	15	$4,920	15%	0
Grocery	Cooling DX	Commissioning	Commissioning/QI - New Installation	No Commissioning	Per SqFt	New	0.41	7	$1	90%	0
Grocery	Cooling DX	Cool Roofs	ENERGY STAR Cool Roof - Reflect Material (Reflectivity = 0.55)	Standard Roof	Per Roof Area SqFt	Existing	0.41	15	$0.68	93%	889
Grocery	Cooling DX	Cool Roofs	ENERGY STAR Cool Roof - Reflect Material (Reflectivity = 0.55)	Standard Roof	Per Roof Area SqFt	New	0.31	15	$0.68	93%	0
Grocery	Cooling DX	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	Existing	10,162	5	$8,259	33%	0
Grocery	Cooling DX	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	New	7,773	5	$5,556	33%	0
Grocery	Cooling DX	Direct Digital Control System-Installation	DDC Retrofit - EMS Upgrade	Pneumatic	Per Building	Existing	15,244	5	$9,587	6%	0
Grocery	Cooling DX	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	Existing	24	20	$477	76%	0
Grocery	Cooling DX	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	New	24	20	$477	76%	0
Grocery	Cooling DX	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	Existing	11	20	$60	62%	3
Grocery	Cooling DX	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	New	11	20	$60	62%	0
Grocery	Cooling DX	Duct Repair And Sealing	Reduction In Duct Losses to 5%	No Repair or Sealing, 15% duct losses	Per Building SqFt	Existing	0.12	18	$0.23	38%	111
Grocery	Cooling DX	Exhaust Hood Makeup Air	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	Hood Pulls Conditioned Air (No Make-up Air)	Per Building	Existing	4,573	10	$5,450	54%	0
Grocery	Cooling DX	Exhaust Hood Makeup Air	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	Hood Pulls Conditioned Air (No Make-up Air)	Per Building	New	3,497	10	$5,450	54%	0
Grocery	Cooling DX	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	Existing	0.41	30	$10	75%	0
Grocery	Cooling DX	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	New	0.31	30	$10	75%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Grocery	Cooling DX	Infiltration Control	Weather-Stripping	Standard Practice	Per Window SqFt	Existing	2.20	13	$0.38	9%	31
Grocery	Cooling DX	Insulation - Duct	New Duct Insulation (R-8) (Unconditioned Spaces)	No Insulation	Per Surface Area of Duct	Existing	2.20	20	$2	15%	72
Grocery	Cooling DX	Insulation - Floor	R-30	Average Existing Insulation (R-10)	Per Floor Area SqFt	Existing	0.02	25	$1	29%	0
Grocery	Cooling DX	Insulation - Roof	R-20ci	Average Existing Insulation (R-10)	Per Roof Area SqFt	Existing	0.01	25	$1	13%	0
Grocery	Cooling DX	Insulation - Wall	R-13+R-7.5ci	Average Existing Insulation (R-10)	Per Wall Area SqFt	Existing	0.04	25	$1	33%	0
Grocery	Cooling DX	Package Terminal - Air Conditioner	High Efficiency Package Terminal Air Conditioner	Federal Standard Equipment	Per Package Terminal AC	Existing	106	9	$88	7%	0
Grocery	Cooling DX	Package Terminal - Air Conditioner	High Efficiency Package Terminal Air Conditioner	Federal Standard Equipment	Per Package Terminal AC	New	106	9	$88	7%	0
Grocery	Cooling DX	Retro-Commissioning	Retro-Commissioning	No Retro-Commissioning	Per SqFt	Existing	0.66	7	$0.30	90%	1,633
Grocery	Cooling DX	Rooftop DX Unit - Below Standard	Below Standard 9.5 EER, Air-Cooled = 135 and < 240 kBtuh	Below Standard 9.5 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.00	15	$0.00	100%	0
Grocery	Cooling DX	Rooftop DX Unit - Below Standard	Below Standard 9.5 EER, Air-Cooled = 135 and < 240 kBtuh	Below Standard 9.5 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	New	0.00	15	$0.00	100%	0
Grocery	Cooling DX	Rooftop DX Unit - CEE Tier 1	CEE Tier 1 11.5 EER, Air-Cooled = 135 and < 240 kBtuh	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.18	15	$0.10	100%	0
Grocery	Cooling DX	Rooftop DX Unit - CEE Tier 1	CEE Tier 1 11.5 EER, Air-Cooled = 135 and < 240 kBtuh	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	New	0.13	15	$0.10	100%	0
Grocery	Cooling DX	Rooftop DX Unit - CEE Tier 2	CEE Tier 2 12.0 EER, Air-Cooled = 135 and < 240 kBtuh	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.34	15	$0.18	100%	386
Grocery	Cooling DX	Rooftop DX Unit - CEE Tier 2	CEE Tier 2 12.0 EER, Air-Cooled = 135 and < 240 kBtuh	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	New	0.26	15	$0.18	100%	45
Grocery	Cooling DX	Rooftop DX Unit - Standard	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.00	15	$0.00	100%	0
Grocery	Cooling DX	Rooftop DX Unit - Standard	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	New	0.00	15	$0.00	100%	0
Grocery	Cooling DX	Thermostat Programmable	Setback Thermostat 5-1-1, 5-2 or 7-day	Manual Thermostat	Per Thermostat	Existing	1,016	15	$138	77%	270
Grocery	Cooling DX	Tune-up - Air Conditioner	Air Conditioner Maintenance (Tune-up)	Unmaintained Air Conditioner	Per Ton	Existing	90	3	$48	48%	0
Grocery	Cooling DX	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	Existing	0.10	25	$3	31%	0
Grocery	Cooling DX	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	New	0.10	25	$3	35%	0
Grocery	Cooling DX	Window - Metal Framing	U-Value = 0.55 (Code Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	0.10	25	$27	6%	0
Grocery	Cooling DX	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	Existing	0.06	25	$2	41%	0
Grocery	Cooling DX	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	New	0.06	25	$2	46%	0
Grocery	Cooling DX	Window - Non-Metal Framing	U-Value = 0.35 (Code Non-Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	0.32	25	$42	40%	0
Grocery	Cooling DX	Window Air Conditioner	CEE TIER 1 = 11.3 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Window AC	Existing	169	9	$406	32%	0
Grocery	Cooling DX	Window Air Conditioner	CEE TIER 1 = 11.3 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Window AC	New	169	9	$406	32%	0
Grocery	Cooling DX	Window Air Conditioner	CEE TIER 2 = 11.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Window AC	Existing	216	9	$771	33%	0
Grocery	Cooling DX	Window Air Conditioner	CEE TIER 2 = 11.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Window AC	New	216	9	$771	33%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Grocery	Cooling DX	Window Air Conditioner	ENERGY STAR = 10.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Window AC	Existing	118	9	$41	26%	3
Grocery	Cooling DX	Window Air Conditioner	ENERGY STAR = 10.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Window AC	New	118	9	$41	26%	0
Grocery	Ext Lighting	Exterior Lighting - Standard	Standard Exterior Lighting	Standard Exterior Lighting	Per Building SqFt	Existing	0.00	14	$0.00	100%	0
Grocery	Ext Lighting	Exterior Lighting - Standard	Standard Exterior Lighting	Standard Exterior Lighting	Per Building SqFt	New	0.00	14	$0.00	100%	0
Grocery	Ext Lighting	Lighting - LED Lighting Package	Exterior LED Lighting Package	Standard Lighting	Per Lighting Package	Existing	184	13	$173	66%	0
Grocery	Ext Lighting	Lighting - High Intensity Discharge Package	High Efficiency Metal Halide Lighting Packages	Standard HID Lighting	Per Lighting Package	Existing	79	5	$4	62%	4
Grocery	Ext Lighting	Lighting - Induction Lighting Package	Induction Lighting Package	Standard HID Lighting	Per Lighting Package	Existing	226	13	$39	67%	26
Grocery	Fax	Fax - ENERGY STAR	ENERGY STAR Fax	Standard Fax	Per Building SqFt	Existing	0.00	6	$0.00	100%	34
Grocery	Fax	Fax - ENERGY STAR	ENERGY STAR Fax	Standard Fax	Per Building SqFt	New	0.00	6	$0.00	100%	2
Grocery	Fax	Fax - Standard	Standard Fax	Standard Fax	Per Building SqFt	Existing	0.00	6	$0.00	100%	0
Grocery	Fax	Fax - Standard	Standard Fax	Standard Fax	Per Building SqFt	New	0.00	6	$0.00	100%	0
Grocery	Flat Screen Monitors	Monitor - ENERGY STAR Flat Screen	ENERGY STAR Flat Screen Monitor	Standard Flat Screen Monitor	Per Building SqFt	Existing	0.00	4	$0.00	100%	0
Grocery	Flat Screen Monitors	Monitor - ENERGY STAR Flat Screen	ENERGY STAR Flat Screen Monitor	Standard Flat Screen Monitor	Per Building SqFt	New	0.00	4	$0.00	100%	0
Grocery	Flat Screen Monitors	Monitor - Standard Flat Screen	Standard Flat Screen Monitor	Standard Flat Screen Monitor	Per Building SqFt	Existing	0.00	4	$0.00	100%	0
Grocery	Flat Screen Monitors	Monitor - Standard Flat Screen	Standard Flat Screen Monitor	Standard Flat Screen Monitor	Per Building SqFt	New	0.00	4	$0.00	100%	0
Grocery	Freezers	Freezer - 2014 Federal Standard	2014 Standard Freezer	Standard Freezer	Per Building SqFt	Existing	0.00	12	$0.00	100%	0
Grocery	Freezers	Freezer - 2014 Federal Standard	2014 Standard Freezer	Standard Freezer	Per Building SqFt	New	0.00	12	$0.00	100%	0
Grocery	Freezers	Freezer - Below Standard	Below Standard Freezer	Below Standard Freezer	Per Building SqFt	Existing	0.00	12	$0.00	100%	0
Grocery	Freezers	Freezer - Below Standard	Below Standard Freezer	Below Standard Freezer	Per Building SqFt	New	0.00	12	$0.00	100%	0
Grocery	Freezers	Freezer - ENERGY STAR	ENERGY STAR Freezer	Standard Freezer	Per Building SqFt	Existing	0.00	12	$0.00	100%	0
Grocery	Freezers	Freezer - ENERGY STAR	ENERGY STAR Freezer	Standard Freezer	Per Building SqFt	New	0.00	12	$0.00	100%	0
Grocery	Freezers	Freezer - Standard	Standard Freezer	Standard Freezer	Per Building SqFt	Existing	0.00	12	$0.00	100%	0
Grocery	Freezers	Freezer - Standard	Standard Freezer	Standard Freezer	Per Building SqFt	New	0.00	12	$0.00	100%	0
Grocery	HVAC Aux	Cooling Tower-Two-Speed Fan Motor	Cooling Tower-Two-Speed Fan Motor	Cooling Tower-One-Speed Fan Motor	Per Chiller Ton	Existing	55	15	$2	33%	355
Grocery	HVAC Aux	Cooling Tower-VSD Fan Control	Variable-Speed Tower Fans Replace Two-Speed	Cooling Tower-One-Speed Fan Motor	Per Chiller Ton	Existing	15	13	$19	71%	0
Grocery	HVAC Aux	Cooling Tower-VSD Fan Control	Variable-Speed Tower Fans Replace Two-Speed	Cooling Tower-One-Speed Fan Motor	Per Chiller Ton	New	6.58	13	$19	11%	0
Grocery	HVAC Aux	Demand Controlled Ventilation - Range Hood	For Range Hoods – VFD Controlled	No DCV	Per Range Hood	Existing	1,105	10	$12,500	49%	0
Grocery	HVAC Aux	Demand Controlled Ventilation - Range Hood	For Range Hoods – VFD Controlled	No DCV	Per Range Hood	New	461	10	$6,500	49%	0
Grocery	HVAC Aux	ECM Motor	Central Air Conditioner ECM Fan	Standard Motor	Per ECM	Existing	867	15	$200	57%	170
Grocery	HVAC Aux	ECM Motor	Central Air Conditioner ECM Fan	Standard Motor	Per ECM	New	362	15	$200	83%	6
Grocery	HVAC Aux	ECM Motor	Electric Furnace ECM Fan	Standard Motor	Per ECM	Existing	867	15	$200	0%	0
Grocery	HVAC Aux	ECM Motor	Electric Furnace ECM Fan	Standard Motor	Per ECM	New	362	15	$200	0%	0
Grocery	HVAC Aux	ECM Motor	Gas Furnace ECM Fan (CEE Air Handling Ratio < 0.02)	Standard Motor	Per ECM	Existing	867	15	$200	58%	174
Grocery	HVAC Aux	ECM Motor	Gas Furnace ECM Fan (CEE Air Handling Ratio < 0.02)	Standard Motor	Per ECM	New	362	15	$200	85%	6
Grocery	HVAC Aux	HVAC Auxillary - Standard Equipment	Standard HVAC Auxillary	Standard HVAC Auxillary	Per Building SqFt	Existing	0.00	15	$0.00	100%	0
Grocery	HVAC Aux	HVAC Auxillary - Standard Equipment	Standard HVAC Auxillary	Standard HVAC Auxillary	Per Building SqFt	New	0.00	15	$0.00	100%	0
Grocery	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	Existing	75	15	$274	67%	0
Grocery	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	New	75	15	$274	67%	0
Grocery	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	Existing	2,066	15	$2,036	0%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Grocery	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	New	518	15	$2,036	9%	0
Grocery	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	Existing	518	15	$678	9%	0
Grocery	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	New	1,143	15	$678	1%	0
Grocery	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	Existing	5,959	15	$4,197	0%	0
Grocery	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	New	2,066	15	$4,197	0%	0
Grocery	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	Existing	1,143	15	$1,375	1%	0
Grocery	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	New	5,959	15	$1,375	0%	0
Grocery	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 1-15 HP	Constant Speed Motor	Per Building	Existing	8,841	15	$1,956	67%	1,021
Grocery	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 1-15 HP	Constant Speed Motor	Per Building	New	3,695	15	$1,956	67%	25
Grocery	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 125-200 HP	Constant Speed Motor	Per Building	Existing	8,841	15	$919	1%	9
Grocery	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 125-200 HP	Constant Speed Motor	Per Building	New	3,695	15	$919	1%	0
Grocery	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 20-40 HP	Constant Speed Motor	Per Building	Existing	8,841	15	$1,134	4%	66
Grocery	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 20-40 HP	Constant Speed Motor	Per Building	New	3,695	15	$1,134	4%	2
Grocery	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 250-500 HP	Constant Speed Motor	Per Building	Existing	8,841	15	$697	0%	3
Grocery	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 250-500 HP	Constant Speed Motor	Per Building	New	3,695	15	$697	0%	0
Grocery	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 50-100 HP	Constant Speed Motor	Per Building	Existing	8,841	15	$1,397	1%	21
Grocery	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 50-100 HP	Constant Speed Motor	Per Building	New	3,695	15	$1,397	1%	1
Grocery	Heat Pump	Commissioning	Commissioning/QI - New Installation	No Commissioning	Per SqFt	New	1.15	7	$1	90%	0
Grocery	Heat Pump	Cool Roofs	ENERGY STAR Cool Roof - Reflect Material (Reflectivity = 0.55)	Standard Roof	Per Roof Area SqFt	Existing	0.63	15	$0.68	93%	201
Grocery	Heat Pump	Cool Roofs	ENERGY STAR Cool Roof - Reflect Material (Reflectivity = 0.55)	Standard Roof	Per Roof Area SqFt	New	0.44	15	$0.68	93%	0
Grocery	Heat Pump	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	Existing	33,160	5	$16,518	33%	0
Grocery	Heat Pump	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	New	21,828	5	$16,518	33%	0
Grocery	Heat Pump	Direct Digital Control System-Installation	DDC Retrofit - EMS Upgrade	Pneumatic	Per Building	Existing	49,740	5	$19,175	6%	0
Grocery	Heat Pump	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	Existing	296	20	$477	76%	0
Grocery	Heat Pump	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	New	296	20	$477	76%	0
Grocery	Heat Pump	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	Existing	131	20	$60	62%	6
Grocery	Heat Pump	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	New	131	20	$60	62%	0
Grocery	Heat Pump	Duct Repair And Sealing	Reduction In Duct Losses to 5%	No Repair or Sealing, 15% duct losses	Per Building SqFt	Existing	0.40	18	$0.23	38%	54
Grocery	Heat Pump	Exhaust Hood Makeup Air	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	Hood Pulls Conditioned Air (No Make-up Air)	Per Building	Existing	14,922	10	$5,450	54%	115
Grocery	Heat Pump	Exhaust Hood Makeup Air	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	Hood Pulls Conditioned Air (No Make-up Air)	Per Building	New	9,822	10	$5,450	54%	4

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Grocery	Heat Pump	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	Existing	0.63	30	$10	75%	0
Grocery	Heat Pump	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	New	0.44	30	$10	75%	0
Grocery	Heat Pump	Heat Pump - Below Standard	Below Standard Air Source Heat Pump 9.0 EER and 2.8 COP, = 135 and < 240 kBtuh	Below Standard Air Source Heat Pump 9.0 EER and 2.8 COP, = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.00	15	$0.00	100%	0
Grocery	Heat Pump	Heat Pump - Below Standard	Below Standard Air Source Heat Pump 9.0 EER and 2.8 COP, = 135 and < 240 kBtuh	Below Standard Air Source Heat Pump 9.0 EER and 2.8 COP, = 135 and < 240 kBtuh	Per Building SqFt	New	0.00	15	$0.00	100%	0
Grocery	Heat Pump	Heat Pump - ENERGY STAR	ENERGY STAR Ground Source Heat Pump 16.2 EER and 3.6 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	Existing	2.48	15	$27	5%	0
Grocery	Heat Pump	Heat Pump - ENERGY STAR	ENERGY STAR Ground Source Heat Pump 16.2 EER and 3.6 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	New	1.74	15	$17	5%	0
Grocery	Heat Pump	Heat Pump - High Efficiency	High Efficiency Air Source Heat Pump 11.1 EER and 3.3 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.47	15	$0.24	100%	77
Grocery	Heat Pump	Heat Pump - High Efficiency	High Efficiency Air Source Heat Pump 11.1 EER and 3.3 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	New	0.31	15	$0.24	100%	6
Grocery	Heat Pump	Heat Pump - Premium Efficiency	Premium Efficiency Water Source Heat Pump 12.0 EER and 4.2 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	Existing	2.68	15	$1	5%	23
Grocery	Heat Pump	Heat Pump - Premium Efficiency	Premium Efficiency Water Source Heat Pump 12.0 EER and 4.2 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	New	1.71	15	$1	5%	2
Grocery	Heat Pump	Heat Pump - Standard	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.00	15	$0.00	100%	0
Grocery	Heat Pump	Heat Pump - Standard	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	New	0.00	15	$0.00	100%	0
Grocery	Heat Pump	Heat Pump - Variable Refrigerant Flow System	Variable Refrigerant Flow System (VRF) - Heat Pump	Packaged VAV With Electric Reheat	Per Ton	Existing	1,123	15	$540	33%	685
Grocery	Heat Pump	Heat Pump - Variable Refrigerant Flow System	Variable Refrigerant Flow System (VRF) - Heat Pump	Packaged VAV With Electric Reheat	Per Ton	New	739	15	$540	81%	75
Grocery	Heat Pump	Infiltration Control	Weather-Stripping	Standard Practice	Per Window SqFt	Existing	12	13	$0.38	9%	30
Grocery	Heat Pump	Insulation - Duct	New Duct Insulation (R-8) (Unconditioned Spaces)	No Insulation	Per Surface Area of Duct	Existing	7.21	20	$2	15%	40
Grocery	Heat Pump	Insulation - Floor	R-30	Average Existing Insulation (R-10)	Per Floor Area SqFt	Existing	0.29	25	$1	29%	0
Grocery	Heat Pump	Insulation - Roof	R-20ci	Average Existing Insulation (R-10)	Per Roof Area SqFt	Existing	0.19	25	$1	13%	0
Grocery	Heat Pump	Insulation - Wall	R-13+R-7.5ci	Average Existing Insulation (R-10)	Per Wall Area SqFt	Existing	0.58	25	$1	33%	0
Grocery	Heat Pump	Package Terminal - Heat Pump	High Efficiency Package Terminal Air Conditioner	Federal Standard Equipment	Per Ton	Existing	106	15	$150	10%	0
Grocery	Heat Pump	Package Terminal - Heat Pump	High Efficiency Package Terminal Air Conditioner	Federal Standard Equipment	Per Ton	New	106	15	$150	10%	0
Grocery	Heat Pump	Retro-Commissioning	Retro-Commissioning	No Retro-Commissioning	Per SqFt	Existing	2.15	7	$0.30	90%	916
Grocery	Heat Pump	Thermostat Programmable	Setback Thermostat 5-1-1, 5-2 or 7-day	Manual Thermostat	Per Thermostat	Existing	3,316	15	$138	77%	151
Grocery	Heat Pump	Tune-up - Air Source Heat Pump	Air Source Heat Pump Maintenance (Tune-up)	Unmaintained Air Source Heat Pump	Per Ton	Existing	295	3	$48	48%	11
Grocery	Heat Pump	Tune-up - Ground Source Heat Pump	Ground Source Heat Pump Maintenance (Tune-up)	Unmaintained Ground Source Heat Pump	Per Ton	Existing	295	3	$48	48%	11
Grocery	Heat Pump	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	Existing	1.22	25	$3	31%	0
Grocery	Heat Pump	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	New	1.22	25	$3	35%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Grocery	Heat Pump	Window - Metal Framing	U-Value = 0.55 (Code Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	1.27	25	$27	6%	0
Grocery	Heat Pump	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	Existing	0.78	25	$2	41%	0
Grocery	Heat Pump	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	New	0.78	25	$2	46%	0
Grocery	Heat Pump	Window - Non-Metal Framing	U-Value = 0.35 (Code Non-Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	3.89	25	$42	40%	0
Grocery	Lighting	Bi-Level Control, Stairwell Lighting	Bi-Level Stairwell Occupancy Sensor Control, 50% Lighting Power During Unoccupied Time	Continuous Full Power Lighting in Stairways	Per Stairwell Lighting Control	Existing	177	9	$107	68%	255
Grocery	Lighting	Bi-Level Control, Stairwell Lighting	Bi-Level Stairwell Occupancy Sensor Control, 50% Lighting Power During Unoccupied Time	Continuous Full Power Lighting in Stairways	Per Stairwell Lighting Control	New	124	9	$107	68%	0
Grocery	Lighting	Ceiling Fans	ENERGY STAR Ceiling Fans with Light Kit	Standard Ceiling Fan	Per Ceiling Fan	Existing	98	10	$119	85%	0
Grocery	Lighting	Ceiling Fans	ENERGY STAR Ceiling Fans with Light Kit	Standard Ceiling Fan	Per Ceiling Fan	New	98	10	$119	85%	0
Grocery	Lighting	Daylighting Controls	Continuous Dimming, Fluorescent Fixtures (Day-Lighting)	No Dimming Controls	Per Applicable SQFT of Dimmable Perimeter Area of Building	Existing	6.22	9	$1	59%	4,448
Grocery	Lighting	Daylighting Controls	Continuous Dimming, Fluorescent Fixtures (Day-Lighting)	No Dimming Controls	Per Applicable SQFT of Dimmable Perimeter Area of Building	New	4.34	13	$1	0%	0
Grocery	Lighting	Daylighting Controls	Dual Level Switches, Fluorescent Fixtures	No Dimming Controls	Per Applicable SQFT of Dimmable Perimeter Area of Building	Existing	2.55	9	$0.83	59%	1,284
Grocery	Lighting	Daylighting Controls	Dual Level Switches, Fluorescent Fixtures	No Dimming Controls	Per Applicable SQFT of Dimmable Perimeter Area of Building	New	1.78	13	$0.83	0%	0
Grocery	Lighting	Exit Sign - LED	LED Exit Signs	CFL Exit Sign	Per Exit Sign	Existing	175	11	$68	61%	261
Grocery	Lighting	Exit Sign - Photoluminescent	Photoluminescent Exit Sign	LED Exit Sign	Per Exit Sign	Existing	35	13	$30	93%	80
Grocery	Lighting	Exit Sign - Photoluminescent	Photoluminescent Exit Sign	LED Exit Sign	Per Exit Sign	New	35	13	$30	93%	5
Grocery	Lighting	LED Refrigerated Case Lighting	LED Refrigerated Case Lighting	Fluorescent	Per Refrigerated Glass Case	Existing	320	13	$600	76%	0
Grocery	Lighting	LED Refrigerated Case Lighting	LED Refrigerated Case Lighting	Fluorescent	Per Refrigerated Glass Case	New	320	13	$600	76%	0
Grocery	Lighting	LED Strip Lighting	LED Strip Lighting (Non-Refrigerated)	Fluorescent	Per Linear Foot of Lighting	Existing	0.85	11	$2	78%	0
Grocery	Lighting	LED Strip Lighting	LED Strip Lighting (Non-Refrigerated)	Fluorescent	Per Linear Foot of Lighting	New	0.85	11	$2	78%	0
Grocery	Lighting	LightLouver Daylighting System	LightLouver Daylighting System	No Daylight System	Per Linear Feet of Window	Existing	49	9	$65	40%	0
Grocery	Lighting	Lighting - CFL Lamp Package	ENERGY STAR CFL	EISA Incandescent	Per Building	Existing	13,158	2	$53	68%	405
Grocery	Lighting	Lighting - Clock/Timer	Lighting Clock/Timer Commercial grade	No Time Clock	Per Lighting Control	Existing	2,666	9	$205	42%	976
Grocery	Lighting	Lighting - Fluorescent High Performance Package	Fluorescent HP Lamps and Ballasts Packages	Standard Lighting	Per Lighting Package	Existing	20,726	13	$25,555	90%	679
Grocery	Lighting	Lighting - Fluorescent Reduced Wattage Package	Fluorescent RW Lamps and Ballasts Packages	Standard Lighting	Per Lighting Package	Existing	41,452	13	$21,176	76%	5,431
Grocery	Lighting	Lighting - High Bay Fluorescent High Output Package	High Bay Fluorescent HO Packages	Standard HID Lighting	Per Lighting Package	Existing	15,494	15	$1,360	73%	1,233
Grocery	Lighting	Lighting - High Bay LED Package	High Bay LED Package	Standard HID Lighting	Per Lighting Package	Existing	10,180	20	$25,580	94%	0
Grocery	Lighting	Lighting - High Intensity Discharge Package	High Efficiency Metal Halide Lighting Packages	Standard HID Lighting	Per Lighting Package	Existing	6,285	15	$1,345	67%	0
Grocery	Lighting	Lighting - Induction Lighting Package	Induction Lighting Package	Standard HID Lighting	Per Lighting Package	Existing	17,369	20	$4,140	38%	1,138
Grocery	Lighting	Lighting - LED Lamp Package	ENERGY STAR LED	EISA Incandescent	Per Lighting Package	Existing	15,852	7	$2,477	73%	2,008
Grocery	Lighting	Lighting - LPD Package	LPD Reduction Package 15%	LPD Code	Per Lighting Package	New	28,668	15	$3,525	68%	54
Grocery	Lighting	Lighting - LPD Package	LPD Reduction Package 25%	LPD Code	Per Lighting Package	New	47,781	15	$7,961	71%	342

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Grocery	Lighting	Lighting - Specialty Lamp Package	CFL and LED Specialty Lamp Package	Standard Incandescent	Per Lighting Package	Existing	3,464	2	$153	81%	482
Grocery	Lighting	Lighting - Standard	Standard Lighting	Standard Lighting	Per Building SqFt	Existing	0.00	14	$0.00	100%	0
Grocery	Lighting	Lighting - Standard	Standard Lighting	Standard Lighting	Per Building SqFt	New	0.00	14	$0.00	100%	0
Grocery	Lighting	Occupancy Sensor - High-Bay	Fixture-Mounted (Control > 150 Watts)	No Sensor	Per Lighting Control	Existing	1,750	14	$225	11%	236
Grocery	Lighting	Occupancy Sensor - High-Bay	Fixture-Mounted (Control > 150 Watts)	No Sensor	Per Lighting Control	New	1,223	14	$225	11%	10
Grocery	Lighting	Occupancy Sensor - Wall or Ceiling	Wall or Ceiling-Mounted (Control > 400 Watts)	No Sensor	Per Lighting Control	Existing	137	14	$225	77%	0
Grocery	Lighting	Occupancy Sensor - Wall or Ceiling	Wall or Ceiling-Mounted (Control > 400 Watts)	No Sensor	Per Lighting Control	New	95	14	$225	77%	0
Grocery	Other	Other - Standard	Standard Other Equipment	Standard Other Equipment	Per Building SqFt	Existing	0.00	10	$0.00	100%	0
Grocery	Other	Other - Standard	Standard Other Equipment	Standard Other Equipment	Per Building SqFt	New	0.00	10	$0.00	100%	0
Grocery	Other	Transformers	Transformers, Three-Phase Low-Voltage Dry-Type CEE Tier 1	Standard Efficiency Transformer NEMA TP-1-2002	Per Transformer	Existing	578	30	$1,115	50%	50
Grocery	Other	Transformers	Transformers, Three-Phase Low-Voltage Dry-Type CEE Tier 1	Standard Efficiency Transformer NEMA TP-1-2002	Per Transformer	New	578	30	$1,115	50%	3
Grocery	Other Plug Load	All-In-One Office Equipment	All-In-One ENERGY STAR Office Equipment	Non-ENERGY STAR Features	Per All-in-One Device	Existing	200	6	$218	68%	0
Grocery	Other Plug Load	All-In-One Office Equipment	All-In-One ENERGY STAR Office Equipment	Non-ENERGY STAR Features	Per All-in-One Device	New	200	6	$218	68%	0
Grocery	Other Plug Load	Ceiling Fans	ENERGY STAR Ceiling Fans with Light Kit	Standard Ceiling Fan	Per Ceiling Fan	Existing	4.33	10	$119	85%	0
Grocery	Other Plug Load	Ceiling Fans	ENERGY STAR Ceiling Fans with Light Kit	Standard Ceiling Fan	Per Ceiling Fan	New	4.33	10	$119	85%	0
Grocery	Other Plug Load	Ceiling Fans	ENERGY STAR Ceiling Fans without Light Kit	Standard Ceiling Fan	Per Ceiling Fan	Existing	4.33	10	$1	85%	1
Grocery	Other Plug Load	Ceiling Fans	ENERGY STAR Ceiling Fans without Light Kit	Standard Ceiling Fan	Per Ceiling Fan	New	4.33	10	$1	85%	0
Grocery	Other Plug Load	Plug Load - Standard Equipment	Standard Plug Load	Standard Plug Load	Per Building SqFt	Existing	0.00	10	$0.00	100%	0
Grocery	Other Plug Load	Plug Load - Standard Equipment	Standard Plug Load	Standard Plug Load	Per Building SqFt	New	0.00	10	$0.00	100%	0
Grocery	Other Plug Load	Snow Melt System Control	Snow Melt System Control	Manual Control	Per Snow Melt Control	Existing	372	25	$2,782	5%	0
Grocery	Other Plug Load	Snow Melt System Control	Snow Melt System Control	Manual Control	Per Snow Melt Control	New	387	25	$2,782	0%	0
Grocery	Other Plug Load	Water Coolers	ENERGY STAR Water Cooler	Non-ENERGY STAR Water Cooler	Per Water Cooler	Existing	200	10	$5	11%	4
Grocery	Other Plug Load	Water Coolers	ENERGY STAR Water Cooler	Non-ENERGY STAR Water Cooler	Per Water Cooler	New	207	10	$5	11%	0
Grocery	Photo Copiers	Photo Copier - ENERGY STAR	ENERGY STAR Photo Copier	Standard Photo Copier	Per Building SqFt	Existing	0.01	6	$0.03	100%	0
Grocery	Photo Copiers	Photo Copier - ENERGY STAR	ENERGY STAR Photo Copier	Standard Photo Copier	Per Building SqFt	New	0.01	6	$0.03	100%	0
Grocery	Photo Copiers	Photo Copiers - Standard	Standard Photo Copier	Standard Photo Copier	Per Building SqFt	Existing	0.00	6	$0.00	100%	0
Grocery	Photo Copiers	Photo Copiers - Standard	Standard Photo Copier	Standard Photo Copier	Per Building SqFt	New	0.00	6	$0.00	100%	0
Grocery	Printers	Printers - ENERGY STAR	ENERGY STAR Printers	Standard Printers	Per Building SqFt	Existing	0.01	6	$0.00	100%	64
Grocery	Printers	Printers - ENERGY STAR	ENERGY STAR Printers	Standard Printers	Per Building SqFt	New	0.01	6	$0.00	100%	4
Grocery	Printers	Printers - Standard	Standard Printers	Standard Printers	Per Building SqFt	Existing	0.00	6	$0.00	100%	0
Grocery	Printers	Printers - Standard	Standard Printers	Standard Printers	Per Building SqFt	New	0.00	6	$0.00	100%	0
Grocery	Refrigeration	Anti-Sweat Heater Controls	Variable Temperature Controls (Humidistat)	Constant Controls	Per Control (Weighted by Grocery Refrigeration)	Existing	767	12	$78	72%	2,350
Grocery	Refrigeration	Anti-Sweat Heater Controls	Variable Temperature Controls (Humidistat)	Constant Controls	Per Control (Weighted by Grocery Refrigeration)	New	767	12	$78	18%	34

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Grocery	Refrigeration	Case Fans with ECM motors	ECM Motors on Evaporator Fan for Display Cases	Standard Case Fan Motor	Per ECM (Weighted by Grocery Refrigeration)	Existing	1,018	12	$243	37%	1,587
Grocery	Refrigeration	Case Fans with ECM motors	ECM Motors on Evaporator Fan for Display Cases	Standard Case Fan Motor	Per ECM (Weighted by Grocery Refrigeration)	New	1,018	12	$243	37%	93
Grocery	Refrigeration	Compressor - Scroll	High Efficiency Scroll Compressor	Standard Reciprocating Compressor	Per Scroll Compressor HP	Existing	679	10	$140	81%	6,319
Grocery	Refrigeration	Compressor - Scroll	High Efficiency Scroll Compressor	Standard Reciprocating Compressor	Per Scroll Compressor HP	New	699	10	$140	81%	379
Grocery	Refrigeration	Compressor - VSD Retrofit	Refrigeration Compressor VSD Retrofit	Standard Compressor	Per Retrofit Compressor HP	Existing	761	13	$266	65%	7,732
Grocery	Refrigeration	Demand Control Defrost - Electric	Refrigerant Defrost	No Demand Control Defrost	Per Building SqFt	Existing	0.26	10	$0.09	41%	455
Grocery	Refrigeration	Demand Control Defrost - Hot Gas	Refrigerant Defrost	No Demand Control Defrost	Per Building SqFt	Existing	0.63	10	$0.11	41%	1,086
Grocery	Refrigeration	Evaporator Fans - Walk-ins	High-Efficiency Evaporator Fans, Walk-in Refrigerators	Standard Evaporator Fans	Per Walk-in Fan	Existing	435	15	$132	69%	621
Grocery	Refrigeration	Evaporator Fans - Walk-ins	High-Efficiency Evaporator Fans, Walk-in Refrigerators	Standard Evaporator Fans	Per Walk-in Fan	New	435	15	$132	69%	36
Grocery	Refrigeration	Floating Head Pressure Control - Condensing Unit	Floating Head Pressure Control - Condensing Unit	No Floating Head Pressure Control	Per Condensing Unit HP	Existing	618	14	$295	46%	1,493
Grocery	Refrigeration	Floating Head Pressure Control - Condensing Unit	Floating Head Pressure Control - Condensing Unit	No Floating Head Pressure Control	Per Condensing Unit HP	New	618	14	$295	46%	87
Grocery	Refrigeration	Floating Head Pressure Control - Remote Condenser	Floating Head Pressure Control - Remote Condenser	No Floating Head Pressure Control	Per Condensing Unit HP	Existing	513	14	$232	46%	1,241
Grocery	Refrigeration	Floating Head Pressure Control - Remote Condenser	Floating Head Pressure Control - Remote Condenser	No Floating Head Pressure Control	Per Condensing Unit HP	New	513	14	$232	46%	72
Grocery	Refrigeration	Glass Door Refrigerators	ENERGY STAR Qualified (Volume 0 to 50+ Cubic Feet)	Standard Equipment	Per Glass Door Refrigerator	Existing	1,086	12	$704	74%	705
Grocery	Refrigeration	Glass Door Refrigerators	ENERGY STAR Qualified (Volume 0 to 50+ Cubic Feet)	Standard Equipment	Per Glass Door Refrigerator	New	1,086	12	$704	88%	51
Grocery	Refrigeration	Ice Makers, Air Cooled	ENERGY STAR Qualified, Ice-Making Head	Standard Equipment	Per Ice Maker	Existing	1,197	10	$140	42%	88
Grocery	Refrigeration	Ice Makers, Air Cooled	ENERGY STAR Qualified, Ice-Making Head	Standard Equipment	Per Ice Maker	New	1,197	10	$140	42%	5
Grocery	Refrigeration	Ice Makers, Air Cooled	ENERGY STAR Qualified, Remote Condensing	Standard Equipment	Per Ice Maker	Existing	1,293	10	$5	42%	95
Grocery	Refrigeration	Ice Makers, Air Cooled	ENERGY STAR Qualified, Remote Condensing	Standard Equipment	Per Ice Maker	New	1,293	10	$5	42%	6
Grocery	Refrigeration	Ice Makers, Air Cooled	ENERGY STAR Qualified, Self-Contained	Standard Equipment	Per Ice Maker	Existing	317	10	$5	42%	0
Grocery	Refrigeration	Ice Makers, Air Cooled	ENERGY STAR Qualified, Self-Contained	Standard Equipment	Per Ice Maker	New	317	10	$5	42%	0
Grocery	Refrigeration	Ice Makers, Water-Cooled	Ice-Making Head - Water Cooled	Standard Equipment	Per Ice Maker	Existing	894	10	$1,000	42%	0
Grocery	Refrigeration	Ice Makers, Water-Cooled	Ice-Making Head - Water Cooled	Standard Equipment	Per Ice Maker	New	894	10	$1,000	42%	0
Grocery	Refrigeration	Ice Makers, Water-Cooled	Self-Contained - Water Cooled	Standard Equipment	Per Ice Maker	Existing	187	10	$850	42%	0
Grocery	Refrigeration	Ice Makers, Water-Cooled	Self-Contained - Water Cooled	Standard Equipment	Per Ice Maker	New	187	10	$850	42%	0
Grocery	Refrigeration	Night Covers for Display Cases	Night Covers for Display Cases	No Night Covers	Per Building	Existing	6,398	10	$2,214	84%	922
Grocery	Refrigeration	Night Covers for Display Cases	Night Covers for Display Cases	No Night Covers	Per Building	New	6,581	10	$2,214	84%	55
Grocery	Refrigeration	Novelty Cooler Shutoff	Cooler Shutoff with Controls System or Shutoff Switch	No Cooler Shutoff	Per Cooler Case	Existing	471	10	$1,415	63%	0
Grocery	Refrigeration	Novelty Cooler Shutoff	Cooler Shutoff with Controls System or Shutoff Switch	No Cooler Shutoff	Per Cooler Case	New	471	10	$1,415	63%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Grocery	Refrigeration	Occupancy Sensor - Refrigerated Cases	Occupancy Sensor - Refrigerated Cases	No Sensor	Per Linear Foot of Refrigerated Display Case	Existing	20	8	$3	14%	40
Grocery	Refrigeration	Occupancy Sensor - Refrigerated Cases	Occupancy Sensor - Refrigerated Cases	No Sensor	Per Linear Foot of Refrigerated Display Case	New	20	8	$3	14%	2
Grocery	Refrigeration	Refrigeration - Retro-Commissioning	Refrigeration Retro Commissioning (Refrigeration System Diagnostics / Operations And Maintenance)	No Retro-Commissioning	Per Refrigeration Ton	Existing	501	10	$191	78%	2,386
Grocery	Refrigeration	Refrigeration - Commissioning	Commissioning (Refrigeration System Diagnostics / Operations and Maintenance for a New Unit)	No Commissioning	Per Refrigeration Ton	New	516	3	$49	87%	189
Grocery	Refrigeration	Refrigeration - Standard	Standard Refrigeration	Standard Refrigeration	Per Building SqFt	Existing	0.00	14	$0.00	100%	0
Grocery	Refrigeration	Refrigeration - Standard	Standard Refrigeration	Standard Refrigeration	Per Building SqFt	New	0.00	14	$0.00	100%	0
Grocery	Refrigeration	Solid Door Freezers	ENERGY STAR Qualified (Volume 0 to 50+ Cubic Feet)	Standard Equipment	Per Commercial Freezer	Existing	1,463	12	$247	76%	193
Grocery	Refrigeration	Solid Door Freezers	ENERGY STAR Qualified (Volume 0 to 50+ Cubic Feet)	Standard Equipment	Per Commercial Freezer	New	1,463	12	$247	76%	11
Grocery	Refrigeration	Solid Door Refrigerators	ENERGY STAR Qualified (Volume 0 to 50+ Cubic Feet)	Standard Equipment	Per Commercial Refrigerator	Existing	849	12	$124	75%	110
Grocery	Refrigeration	Solid Door Refrigerators	ENERGY STAR Qualified (Volume 0 to 50+ Cubic Feet)	Standard Equipment	Per Commercial Refrigerator	New	849	12	$124	75%	6
Grocery	Refrigeration	Strip Curtains for Walk-Ins	Strip Curtains for Walk-Ins	No Strip Curtains for Walk-Ins	Per Walk-in	Existing	2,509	4	$300	66%	1,147
Grocery	Refrigeration	Strip Curtains for Walk-Ins	Strip Curtains for Walk-Ins	No Strip Curtains for Walk-Ins	Per Walk-in	New	2,581	4	$300	66%	69
Grocery	Refrigerators	Refrigerator - 2014 Federal Standard	2014 Standard Refrigerator	Standard Refrigerator	Per Building SqFt	Existing	0.02	13	$0.07	100%	0
Grocery	Refrigerators	Refrigerator - 2014 Federal Standard	2014 Standard Refrigerator	Standard Refrigerator	Per Building SqFt	New	0.02	13	$0.07	100%	0
Grocery	Refrigerators	Refrigerator - Below Standard	Below Standard Refrigerator	Below Standard Refrigerator	Per Building SqFt	Existing	0.00	13	$0.00	100%	0
Grocery	Refrigerators	Refrigerator - Below Standard	Below Standard Refrigerator	Below Standard Refrigerator	Per Building SqFt	New	0.00	13	$0.00	100%	0
Grocery	Refrigerators	Refrigerator - CEE Tier 1	CEE Tier 1 Refrigerator	Standard Refrigerator	Per Building SqFt	Existing	0.03	13	$0.10	100%	0
Grocery	Refrigerators	Refrigerator - CEE Tier 1	CEE Tier 1 Refrigerator	Standard Refrigerator	Per Building SqFt	New	0.03	13	$0.10	100%	0
Grocery	Refrigerators	Refrigerator - CEE Tier 2	CEE Tier 2 Refrigerator	Standard Refrigerator	Per Building SqFt	Existing	0.01	13	$0.04	100%	0
Grocery	Refrigerators	Refrigerator - CEE Tier 2	CEE Tier 2 Refrigerator	Standard Refrigerator	Per Building SqFt	New	0.01	13	$0.04	100%	0
Grocery	Refrigerators	Refrigerator - ENERGY STAR	ENERGY STAR Refrigerator	Standard Refrigerator	Per Building SqFt	Existing	0.00	13	$0.01	100%	0
Grocery	Refrigerators	Refrigerator - ENERGY STAR	ENERGY STAR Refrigerator	Standard Refrigerator	Per Building SqFt	New	0.00	13	$0.01	100%	0
Grocery	Refrigerators	Refrigerator - Federal Standard	Standard Refrigerator	Standard Refrigerator	Per Building SqFt	Existing	0.00	13	$0.00	100%	0
Grocery	Refrigerators	Refrigerator - Federal Standard	Standard Refrigerator	Standard Refrigerator	Per Building SqFt	New	0.00	13	$0.00	100%	0
Grocery	Servers	Server - ENERGY STAR	ENERGY STAR Server	Standard Server	Per Building SqFt	Existing	0.01	9	$0.00	100%	55
Grocery	Servers	Server - ENERGY STAR	ENERGY STAR Server	Standard Server	Per Building SqFt	New	0.01	9	$0.00	100%	5
Grocery	Servers	Server - Standard	Standard Server	Standard Server	Per Building SqFt	Existing	0.00	9	$0.00	100%	0
Grocery	Servers	Server - Standard	Standard Server	Standard Server	Per Building SqFt	New	0.00	9	$0.00	100%	0
Grocery	Space Heat	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	Existing	26,286	5	$2,001	33%	64

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Grocery	Space Heat	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	New	15,006	5	$8,259	33%	0
Grocery	Space Heat	Direct Digital Control System-Installation	DDC Retrofit - EMS Upgrade	Pneumatic	Per Building	Existing	39,429	5	$14,606	6%	0
Grocery	Space Heat	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	Existing	488	20	$477	76%	0
Grocery	Space Heat	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	New	488	20	$477	76%	0
Grocery	Space Heat	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	Existing	217	20	$60	62%	4
Grocery	Space Heat	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	New	217	20	$60	62%	0
Grocery	Space Heat	Duct Repair And Sealing	Reduction In Duct Losses to 5%	No Repair or Sealing, 15% duct losses	Per Building SqFt	Existing	0.32	18	$0.23	38%	21
Grocery	Space Heat	Exhaust Hood Makeup Air	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	Hood Pulls Conditioned Air (No Make-up Air)	Per Building	Existing	11,828	10	$5,450	54%	0
Grocery	Space Heat	Exhaust Hood Makeup Air	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	Hood Pulls Conditioned Air (No Make-up Air)	Per Building	New	6,753	10	$5,450	54%	0
Grocery	Space Heat	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	Existing	1.06	30	$10	75%	0
Grocery	Space Heat	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	New	0.60	30	$10	75%	0
Grocery	Space Heat	Infiltration Control	Weather-Stripping	Standard Practice	Per Window SqFt	Existing	13	13	$0.38	9%	13
Grocery	Space Heat	Insulation - Duct	New Duct Insulation (R-8) (Unconditioned Spaces)	No Insulation	Per Surface Area of Duct	Existing	5.71	20	$2	15%	12
Grocery	Space Heat	Insulation - Floor	R-30	Average Existing Insulation (R-10)	Per Floor Area SqFt	Existing	0.47	25	$1	29%	0
Grocery	Space Heat	Insulation - Roof	R-20ci	Average Existing Insulation (R-10)	Per Roof Area SqFt	Existing	0.31	25	$1	13%	0
Grocery	Space Heat	Insulation - Wall	R-13+R-7.5ci	Average Existing Insulation (R-10)	Per Wall Area SqFt	Existing	0.97	25	$1	33%	0
Grocery	Space Heat	Space Heat - Standard	Standard Space Heat	Standard Space Heat	Per Building SqFt	Existing	0.00	20	$0.00	100%	0
Grocery	Space Heat	Space Heat - Standard	Standard Space Heat	Standard Space Heat	Per Building SqFt	New	0.00	20	$0.00	100%	0
Grocery	Space Heat	Thermostat Programmable	Setback Thermostat 5-1-1, 5-2 or 7-day	Manual Thermostat	Per Thermostat	Existing	2,628	15	$138	77%	46
Grocery	Space Heat	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	Existing	2.01	25	$3	31%	0
Grocery	Space Heat	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	New	2.01	25	$3	35%	0
Grocery	Space Heat	Window - Metal Framing	U-Value = 0.55 (Code Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	2.09	25	$27	6%	0
Grocery	Space Heat	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	Existing	1.28	25	$2	41%	0
Grocery	Space Heat	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	New	1.28	25	$2	46%	0
Grocery	Space Heat	Window - Non-Metal Framing	U-Value = 0.35 (Code Non-Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	6.42	25	$42	40%	0
Grocery	Vending Machines	Vending Machine - Controller	Refrigerated Vending Machine Controller	No Controls	Per Vending Machine	Existing	1,394	3	$238	25%	54
Grocery	Vending Machines	Vending Machine - Controller	Refrigerated Vending Machine Controller	No Controls	Per Vending Machine	New	1,394	3	$238	25%	3
Grocery	Vending Machines	Vending Machine - ENERGY STAR	ENERGY STAR Vending Machine	Standard Vending Machine	Per Building SqFt	Existing	0.05	10	$0.00	100%	134
Grocery	Vending Machines	Vending Machine - ENERGY STAR	ENERGY STAR Vending Machine	Standard Vending Machine	Per Building SqFt	New	0.05	10	$0.00	100%	12
Grocery	Vending Machines	Vending Machine - Standard	Standard Vending Machine	Standard Vending Machine	Per Building SqFt	Existing	0.00	10	$0.00	100%	0
Grocery	Vending Machines	Vending Machine - Standard	Standard Vending Machine	Standard Vending Machine	Per Building SqFt	New	0.00	10	$0.00	100%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Grocery	Water Heat	Desuperheaters - Air Conditioner	Add-on Desuperheaters to Air Conditioner	No Desuperheater	Per Desuperheater	Existing	100	10	$600	66%	0
Grocery	Water Heat	Desuperheaters - Air Source Heat Pump	Add-on Desuperheaters to Air Source Heat Pump	No Desuperheater	Per Desuperheater	Existing	627	10	$600	0%	0
Grocery	Water Heat	Desuperheaters - Ground Source Heat Pump	Add-on Desuperheaters to Ground Source Heat Pump	No Desuperheater	Per Desuperheater	Existing	627	10	$600	0%	0
Grocery	Water Heat	Dishwasher	Dishwasher Enhanced Efficiency (EF 1.00) 200 kWh/yr and 4.00 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle = 307 kWh/yr and = 5.0 Gallons/Cycle for July 1, 2011 - Dec 31, 2011	Per Dishwasher	Existing	155	11	$1,067	43%	0
Grocery	Water Heat	Dishwasher	Dishwasher Enhanced Efficiency (EF 1.00) 200 kWh/yr and 4.00 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle = 307 kWh/yr and = 5.0 Gallons/Cycle for July 1, 2011 - Dec 31, 2011	Per Dishwasher	New	155	11	$1,067	43%	0
Grocery	Water Heat	Dishwasher	ENERGY STAR 295 kWh/yr and 4.25 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle = 307 kWh/yr and = 5.0 Gallons/Cycle for July 1, 2011 - Dec 31, 2011	Per Dishwasher	Existing	60	11	$272	36%	0
Grocery	Water Heat	Dishwasher	ENERGY STAR 295 kWh/yr and 4.25 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle = 307 kWh/yr and = 5.0 Gallons/Cycle for July 1, 2011 - Dec 31, 2011	Per Dishwasher	New	60	11	$272	36%	0
Grocery	Water Heat	Dishwasher	High Temp Commercial High Efficiency Dishwasher (ENERGY STAR)	Standard High Temp Commercial Dishwasher	Per Dishwasher	Existing	1,285	14	$442	12%	10
Grocery	Water Heat	Dishwasher	High Temp Commercial High Efficiency Dishwasher (ENERGY STAR)	Standard High Temp Commercial Dishwasher	Per Dishwasher	New	1,285	14	$442	12%	0
Grocery	Water Heat	Dishwasher	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)	Standard High Temp Commercial Dishwasher	Per Dishwasher	Existing	2,012	14	$307	14%	20
Grocery	Water Heat	Dishwasher	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)	Standard High Temp Commercial Dishwasher	Per Dishwasher	New	2,012	14	$307	14%	1
Grocery	Water Heat	Drainwater Heat Recovery	Install Power-Pipe or GFX System	No GFX or Power-Pipe System	Per 40 Gal Water Heater	Existing	627	40	$833	60%	122
Grocery	Water Heat	Drainwater Heat Recovery	Install Power-Pipe or GFX System	No GFX or Power-Pipe System	Per 40 Gal Water Heater	New	627	40	$666	83%	8
Grocery	Water Heat	Faucet Aerator	0.5 GPM	Existing Aerator (3.0 GPM)	Per Aerator	Existing	81	10	$4	67%	49
Grocery	Water Heat	Low-Flow Spray Heads	1.0 GPM	1.6 GPM (Code)	Per Spray Head	Existing	485	5	$39	51%	33
Grocery	Water Heat	Low-Flow Spray Heads	1.0 GPM	1.6 GPM (Code)	Per Spray Head	New	485	5	$39	51%	2
Grocery	Water Heat	Low-Flow Spray Heads	1.6 GPM (Code)	Existing Spray Head (2.5 GPM)	Per Spray Head	Existing	728	5	$30	33%	34
Grocery	Water Heat	Refrigeration with Heat Recovery	Heat Recovery from Refrigeration System. Applied to Water Heating Electric End Use	No Heat Recovery	Per Building SqFt	Existing	0.17	16	$0.91	50%	0
Grocery	Water Heat	Ultrasonic Faucet Control	Install Ultrasonic Faucet Control	No Faucet Control	Per Faucet	Existing	32	10	$196	90%	0
Grocery	Water Heat	Ultrasonic Faucet Control	Install Ultrasonic Faucet Control	No Faucet Control	Per Faucet	New	32	10	$196	90%	0
Grocery	Water Heat	Water Heater - Pipe Insulation	Hot Water Pipe Insulation (R-4)	No Pipe Insulation	Per Linear Foot	Existing	10	13	$2	56%	6
Grocery	Water Heat	Water Heater - Tank Blanket/Insulation	Install Insulation (R-11)	No Tank Insulation	Per Water Heater	Existing	125	7	$62	5%	2
Grocery	Water Heat	Water Heater - Thermostat Setback	Install Programmable Thermostat (120 Degrees)	No Thermostat Setback (130 Degrees)	Per Water Heater	Existing	426	4	$102	50%	61
Grocery	Water Heat	Water Heating - ENERGY STAR	ENERGY STAR Heat Pump Water Heater EF = 2.0	Standard Water Heater EF = 0.92	Per Building SqFt	Existing	0.34	13	$0.15	75%	258
Grocery	Water Heat	Water Heating - ENERGY STAR	ENERGY STAR Heat Pump Water Heater EF = 2.0	Standard Water Heater EF = 0.92	Per Building SqFt	New	0.34	13	$0.15	75%	28
Grocery	Water Heat	Water Heating - Storage 2015 Standard	2015 Standard Water Heater EF = 0.95	Standard Water Heater EF = 0.92	Per Building SqFt	Existing	0.01	13	$0.00	100%	4

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Grocery	Water Heat	Water Heating - Storage 2015 Standard	2015 Standard Water Heater EF = 0.95	Standard Water Heater EF = 0.92	Per Building SqFt	New	0.01	13	$0.00	100%	0
Grocery	Water Heat	Water Heating - Storage Below Standard	Below Standard Water Heater EF = 0.86	Below Standard Water Heater EF = 0.86	Per Building SqFt	Existing	0.00	13	$0.00	100%	0
Grocery	Water Heat	Water Heating - Storage Below Standard	Below Standard Water Heater EF = 0.86	Below Standard Water Heater EF = 0.86	Per Building SqFt	New	0.00	13	$0.00	100%	0
Grocery	Water Heat	Water Heating - Storage Standard	Standard Water Heater EF = 0.92	Standard Water Heater EF = 0.92	Per Building SqFt	Existing	0.00	13	$0.00	100%	0
Grocery	Water Heat	Water Heating - Storage Standard	Standard Water Heater EF = 0.92	Standard Water Heater EF = 0.92	Per Building SqFt	New	0.00	13	$0.00	100%	0
Grocery	Water Heat	Water Heating - Tankless	Tankless Water Heater EF = 0.95	Standard Water Heater EF = 0.92	Per Building SqFt	Existing	0.03	13	$0.03	0%	0
Grocery	Water Heat	Water Heating - Tankless	Tankless Water Heater EF = 0.95	Standard Water Heater EF = 0.92	Per Building SqFt	New	0.03	13	$0.03	0%	0
Health	Computers	Computer - ENERGY STAR	ENERGY STAR Computer	Standard Computer	Per Building SqFt	Existing	0.12	4	$0.02	100%	1,235
Health	Computers	Computer - ENERGY STAR	ENERGY STAR Computer	Standard Computer	Per Building SqFt	New	0.12	4	$0.02	100%	74
Health	Computers	Computer - Standard	Standard Computer	Standard Computer	Per Building SqFt	Existing	0.00	4	$0.00	100%	0
Health	Computers	Computer - Standard	Standard Computer	Standard Computer	Per Building SqFt	New	0.00	4	$0.00	100%	0
Health	Computers	Office Computer Network Energy Management	Office Computer Network Energy Management	No Network Management	Per Computer	Existing	88	5	$12	62%	515
Health	Computers	Office Computer Network Energy Management	Office Computer Network Energy Management	No Network Management	Per Computer	New	88	5	$12	62%	30
Health	Cooking	Convection Oven	ENERGY STAR Convection Oven	Standard Oven	Per Convection Oven	Existing	177	15	$1,650	50%	0
Health	Cooking	Convection Oven	ENERGY STAR Convection Oven	Standard Oven	Per Convection Oven	New	182	15	$1,650	50%	0
Health	Cooking	Cooking - Standard Equipment	Standard Cooking Equipment	Standard Cooking Equipment	Per Building SqFt	Existing	0.00	12	$0.00	100%	0
Health	Cooking	Cooking - Standard Equipment	Standard Cooking Equipment	Standard Cooking Equipment	Per Building SqFt	New	0.00	12	$0.00	100%	0
Health	Cooking	Fryer	ENERGY STAR Fryer	Standard	Per Fryer	Existing	77	12	$1,271	25%	0
Health	Cooking	Fryer	ENERGY STAR Fryer	Standard	Per Fryer	New	80	12	$1,271	25%	0
Health	Cooking	Hot Food Holding Cabinets	ENERGY STAR Qualified (< 40 watts/cubic foot)	Standard Equipment	Per Hot Food Holding Cabinet	Existing	531	12	$1,500	64%	0
Health	Cooking	Hot Food Holding Cabinets	ENERGY STAR Qualified (< 40 watts/cubic foot)	Standard Equipment	Per Hot Food Holding Cabinet	New	548	12	$1,500	64%	0
Health	Cooking	Steam Cooker	ENERGY STAR Steam Cooker	Standard	Per Steam Cooker	Existing	1,287	12	$1,500	19%	0
Health	Cooking	Steam Cooker	ENERGY STAR Steam Cooker	Standard	Per Steam Cooker	New	1,326	12	$1,500	19%	0
Health	Cooling Chillers	Chiller - Below Code	Below Standard Chiller - 0.74 kW/ton	Below Standard Chiller - 0.74 kW/ton	Per Building SqFt	Existing	0.00	20	$0.00	100%	0
Health	Cooling Chillers	Chiller - Below Code	Below Standard Chiller - 0.74 kW/ton	Below Standard Chiller - 0.74 kW/ton	Per Building SqFt	New	0.00	20	$0.00	100%	0
Health	Cooling Chillers	Chiller - High Efficiency	High Efficiency Chiller - 0.63 kW/ton	Standard Chiller - 0.68 kW/ton	Per Building SqFt	Existing	0.15	20	$0.03	100%	0
Health	Cooling Chillers	Chiller - High Efficiency	High Efficiency Chiller - 0.63 kW/ton	Standard Chiller - 0.68 kW/ton	Per Building SqFt	New	0.12	20	$0.03	100%	0
Health	Cooling Chillers	Chiller - Pipe Insulation	Above Code (3" of Insulation, Approximately R-11)	Code (1.5" of Insulation, Approximately R-6)	Per Linear Foot of Insulation	Existing	6.26	15	$4	58%	67
Health	Cooling Chillers	Chiller - Pipe Insulation	Above Code (3" of Insulation, Approximately R-11)	Code (1.5" of Insulation, Approximately R-6)	Per Linear Foot of Insulation	New	5.19	15	$4	85%	4
Health	Cooling Chillers	Chiller - Pipe Insulation	Code (1.5" of Insulation, Approximately R-6)	No Insulation	Per Linear Foot of Insulation	Existing	6.26	15	$4	58%	67
Health	Cooling Chillers	Chiller - Premium Efficiency	Premium Efficiency Chiller - 0.58 kW/ton	Standard Chiller - 0.68 kW/ton	Per Building SqFt	Existing	0.30	20	$0.12	100%	429
Health	Cooling Chillers	Chiller - Premium Efficiency	Premium Efficiency Chiller - 0.58 kW/ton	Standard Chiller - 0.68 kW/ton	Per Building SqFt	New	0.25	20	$0.12	100%	57
Health	Cooling Chillers	Chiller - Standard	Standard Chiller - 0.68 kW/ton	Standard Chiller - 0.68 kW/ton	Per Building SqFt	Existing	0.00	20	$0.00	100%	0
Health	Cooling Chillers	Chiller - Standard	Standard Chiller - 0.68 kW/ton	Standard Chiller - 0.68 kW/ton	Per Building SqFt	New	0.00	20	$0.00	100%	0
Health	Cooling Chillers	Chiller - VSD Retrofit	Centrifugal Chiller - VSD Remodel for Existing	Constant Speed Motor	Per Ton	Existing	33	10	$70	38%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Health	Cooling Chillers	Chiller - Water Piping Loop with VSD Control	VSD for Secondary Chilled Water Loop	Primary Loop Only w/ Constant Speed Pump	Per Ton	Existing	63	10	$212	49%	0
Health	Cooling Chillers	Chiller - Water Reset	Install Chilled Water Reset	No Chilled Water Reset	Per Control Point	Existing	104	10	$681	72%	0
Health	Cooling Chillers	Chiller Air-Cooled	Chiller Air Cooled with Condenser 10.0 EER	Standard 9.562 EER	Per Ton	Existing	36	20	$112	7%	0
Health	Cooling Chillers	Chiller Air-Cooled	Chiller Air Cooled with Condenser 10.0 EER	Standard 9.562 EER	Per Ton	New	30	20	$112	7%	0
Health	Cooling Chillers	Commissioning	Commissioning/QI - New Installation	No Commissioning	Per SqFt	New	0.22	7	$1	76%	0
Health	Cooling Chillers	Cool Roofs	ENERGY STAR Cool Roof - Reflect Material (Reflectivity = 0.55)	Standard Roof	Per Roof Area SqFt	Existing	0.20	15	$0.68	15%	0
Health	Cooling Chillers	Cool Roofs	ENERGY STAR Cool Roof - Reflect Material (Reflectivity = 0.55)	Standard Roof	Per Roof Area SqFt	New	0.17	15	$0.68	15%	0
Health	Cooling Chillers	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	Existing	7,600	5	$13,562	33%	0
Health	Cooling Chillers	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	New	6,296	5	$13,562	33%	0
Health	Cooling Chillers	Direct Digital Control System-Installation	DDC Retrofit - EMS Upgrade	Pneumatic	Per Building	Existing	11,400	5	$24,455	6%	0
Health	Cooling Chillers	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	Existing	17	20	$477	76%	0
Health	Cooling Chillers	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	New	17	20	$477	76%	0
Health	Cooling Chillers	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	Existing	7.87	20	$60	62%	1
Health	Cooling Chillers	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	New	7.87	20	$60	62%	0
Health	Cooling Chillers	Duct Repair And Sealing	Reduction In Duct Losses to 5%	No Repair or Sealing, 15% duct losses	Per Building SqFt	Existing	0.06	18	$0.23	1%	0
Health	Cooling Chillers	Exhaust Hood Makeup Air	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	Hood Pulls Conditioned Air (No Make-up Air)	Per Building	Existing	3,420	10	$5,450	52%	0
Health	Cooling Chillers	Exhaust Hood Makeup Air	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	Hood Pulls Conditioned Air (No Make-up Air)	Per Building	New	2,833	10	$5,450	52%	0
Health	Cooling Chillers	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	Existing	0.20	30	$10	75%	0
Health	Cooling Chillers	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	New	0.17	30	$10	75%	0
Health	Cooling Chillers	Infiltration Control	Weather-Stripping	Standard Practice	Per Window SqFt	Existing	0.84	13	$0.38	9%	21
Health	Cooling Chillers	Insulation - Duct	New Duct Insulation (R-8) (Unconditioned Spaces)	No Insulation	Per Surface Area of Duct	Existing	1.11	20	$2	0%	1
Health	Cooling Chillers	Insulation - Roof	R-20ci	Average Existing Insulation (R-10)	Per Roof Area SqFt	Existing	0.01	25	$1	13%	0
Health	Cooling Chillers	Insulation - Wall	R-13+R-7.5ci	Average Existing Insulation (R-10)	Per Wall Area SqFt	Existing	0.03	25	$1	33%	0
Health	Cooling Chillers	Retro-Commissioning	Retro-Commissioning	No Retro-Commissioning	Per SqFt	Existing	0.33	7	$0.30	61%	732
Health	Cooling Chillers	Tune-up - Chiller	Chiller Maintenance (Tune-up)	Unmaintained Chiller	Per SqFt	Existing	0.20	3	$0.15	16%	0
Health	Cooling Chillers	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	Existing	0.07	25	$3	53%	0
Health	Cooling Chillers	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	New	0.07	25	$3	60%	0
Health	Cooling Chillers	Window - Metal Framing	U-Value = 0.55 (Code Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	0.07	25	$27	10%	0
Health	Cooling Chillers	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	Existing	0.04	25	$2	12%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Health	Cooling Chillers	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	New	0.04	25	$2	14%	0
Health	Cooling Chillers	Window - Non-Metal Framing	U-Value = 0.35 (Code Non-Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	0.23	25	$42	12%	0
Health	Cooling DX	Advanced Control Technology	Advanced Control Technologies for Packaged Air-Conditioning Units (Retrofit)	Standard Controls	Per 5 Tons of Cooling	Existing	971	15	$4,920	15%	0
Health	Cooling DX	Commissioning	Commissioning/QI - New Installation	No Commissioning	Per SqFt	New	0.27	7	$1	90%	0
Health	Cooling DX	Cool Roofs	ENERGY STAR Cool Roof - Reflect Material (Reflectivity = 0.55)	Standard Roof	Per Roof Area SqFt	Existing	0.28	15	$0.68	15%	0
Health	Cooling DX	Cool Roofs	ENERGY STAR Cool Roof - Reflect Material (Reflectivity = 0.55)	Standard Roof	Per Roof Area SqFt	New	0.20	15	$0.68	15%	0
Health	Cooling DX	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	Existing	10,320	5	$5,556	18%	234
Health	Cooling DX	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	New	7,639	5	$13,562	18%	0
Health	Cooling DX	Direct Digital Control System-Installation	DDC Retrofit - EMS Upgrade	Pneumatic	Per Building	Existing	15,481	5	$24,455	3%	0
Health	Cooling DX	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	Existing	24	20	$477	76%	0
Health	Cooling DX	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	New	24	20	$477	76%	0
Health	Cooling DX	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	Existing	11	20	$60	62%	2
Health	Cooling DX	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	New	11	20	$60	62%	0
Health	Cooling DX	Duct Repair And Sealing	Reduction In Duct Losses to 5%	No Repair or Sealing, 15% duct losses	Per Building SqFt	Existing	0.08	18	$0.23	38%	155
Health	Cooling DX	Exhaust Hood Makeup Air	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	Hood Pulls Conditioned Air (No Make-up Air)	Per Building	Existing	4,644	10	$5,450	52%	309
Health	Cooling DX	Exhaust Hood Makeup Air	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	Hood Pulls Conditioned Air (No Make-up Air)	Per Building	New	3,437	10	$5,450	52%	0
Health	Cooling DX	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	Existing	0.28	30	$10	75%	0
Health	Cooling DX	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	New	0.20	30	$10	75%	0
Health	Cooling DX	Infiltration Control	Weather-Stripping	Standard Practice	Per Window SqFt	Existing	1.14	13	$0.38	9%	44
Health	Cooling DX	Insulation - Duct	New Duct Insulation (R-8) (Unconditioned Spaces)	No Insulation	Per Surface Area of Duct	Existing	1.51	20	$2	15%	104
Health	Cooling DX	Insulation - Floor	R-30	Average Existing Insulation (R-10)	Per Floor Area SqFt	Existing	0.02	25	$1	29%	0
Health	Cooling DX	Insulation - Roof	R-20ci	Average Existing Insulation (R-10)	Per Roof Area SqFt	Existing	0.01	25	$1	13%	0
Health	Cooling DX	Insulation - Wall	R-13+R-7.5ci	Average Existing Insulation (R-10)	Per Wall Area SqFt	Existing	0.04	25	$1	33%	0
Health	Cooling DX	Package Terminal - Air Conditioner	High Efficiency Package Terminal Air Conditioner	Federal Standard Equipment	Per Package Terminal AC	Existing	74	9	$88	7%	0
Health	Cooling DX	Package Terminal - Air Conditioner	High Efficiency Package Terminal Air Conditioner	Federal Standard Equipment	Per Package Terminal AC	New	74	9	$88	7%	0
Health	Cooling DX	Retro-Commissioning	Retro-Commissioning	No Retro-Commissioning	Per SqFt	Existing	0.45	7	$0.30	90%	2,367
Health	Cooling DX	Rooftop DX Unit - Below Standard	Below Standard 9.5 EER, Air-Cooled = 135 and < 240 kBtuh	Below Standard 9.5 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.00	15	$0.00	100%	0
Health	Cooling DX	Rooftop DX Unit - Below Standard	Below Standard 9.5 EER, Air-Cooled = 135 and < 240 kBtuh	Below Standard 9.5 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	New	0.00	15	$0.00	100%	0
Health	Cooling DX	Rooftop DX Unit - CEE Tier 1	CEE Tier 1 11.5 EER, Air-Cooled = 135 and < 240 kBtuh	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.12	15	$0.05	100%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Health	Cooling DX	Rooftop DX Unit - CEE Tier 1	CEE Tier 1 11.5 EER, Air-Cooled = 135 and < 240 kBtuh	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	New	0.09	15	$0.05	100%	0
Health	Cooling DX	Rooftop DX Unit - CEE Tier 2	CEE Tier 2 12.0 EER, Air-Cooled = 135 and < 240 kBtuh	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.23	15	$0.09	100%	569
Health	Cooling DX	Rooftop DX Unit - CEE Tier 2	CEE Tier 2 12.0 EER, Air-Cooled = 135 and < 240 kBtuh	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	New	0.17	15	$0.09	100%	63
Health	Cooling DX	Rooftop DX Unit - Standard	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.00	15	$0.00	100%	0
Health	Cooling DX	Rooftop DX Unit - Standard	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	New	0.00	15	$0.00	100%	0
Health	Cooling DX	Thermostat Programmable	Setback Thermostat 5-1-1, 5-2 or 7-day	Manual Thermostat	Per Thermostat	Existing	774	15	$138	77%	392
Health	Cooling DX	Tune-up - Air Conditioner	Air Conditioner Maintenance (Tune-up)	Unmaintained Air Conditioner	Per Ton	Existing	114	3	$48	48%	0
Health	Cooling DX	Variable Air-Volume Systems	Install Variable Air-Volume System	Constant Volume System	Per Building SqFt	Existing	0.85	15	$1	10%	495
Health	Cooling DX	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	Existing	0.10	25	$3	53%	0
Health	Cooling DX	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	New	0.10	25	$3	60%	0
Health	Cooling DX	Window - Metal Framing	U-Value = 0.55 (Code Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	0.10	25	$27	10%	0
Health	Cooling DX	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	Existing	0.06	25	$2	12%	0
Health	Cooling DX	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	New	0.06	25	$2	14%	0
Health	Cooling DX	Window - Non-Metal Framing	U-Value = 0.35 (Code Non-Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	0.32	25	$42	12%	0
Health	Cooling DX	Window Air Conditioner	CEE TIER 1 = 11.3 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Window AC	Existing	118	9	$406	32%	0
Health	Cooling DX	Window Air Conditioner	CEE TIER 1 = 11.3 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Window AC	New	118	9	$406	32%	0
Health	Cooling DX	Window Air Conditioner	CEE TIER 2 = 11.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Window AC	Existing	151	9	$771	33%	0
Health	Cooling DX	Window Air Conditioner	CEE TIER 2 = 11.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Window AC	New	151	9	$771	33%	0
Health	Cooling DX	Window Air Conditioner	ENERGY STAR = 10.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Window AC	Existing	82	9	$41	26%	4
Health	Cooling DX	Window Air Conditioner	ENERGY STAR = 10.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Window AC	New	82	9	$41	26%	0
Health	Dryer	Dryer - High Efficiency	High Efficiency Dryer	Standard Dryer	Per Building SqFt	Existing	0.13	12	$0.07	10%	0
Health	Dryer	Dryer - High Efficiency	High Efficiency Dryer	Standard Dryer	Per Building SqFt	New	0.14	12	$0.07	10%	2
Health	Dryer	Dryer - Standard	Standard Dryer	Standard Dryer	Per Building SqFt	Existing	0.00	12	$0.07	100%	0
Health	Dryer	Dryer - Standard	Standard Dryer	Standard Dryer	Per Building SqFt	New	0.00	12	$0.07	100%	0
Health	Ext Lighting	Exterior Lighting - Standard	Standard Exterior Lighting	Standard Exterior Lighting	Per Building SqFt	Existing	0.00	14	$0.00	100%	0
Health	Ext Lighting	Exterior Lighting - Standard	Standard Exterior Lighting	Standard Exterior Lighting	Per Building SqFt	New	0.00	14	$0.00	100%	0
Health	Ext Lighting	Lighting - LED Lighting Package	Exterior LED Lighting Package	Standard Lighting	Per Lighting Package	Existing	25	13	$291	66%	0
Health	Ext Lighting	Lighting - High Intensity Discharge Package	High Efficiency Metal Halide Lighting Packages	Standard HID Lighting	Per Lighting Package	Existing	11	5	$14	62%	0
Health	Ext Lighting	Lighting - Induction Lighting Package	Induction Lighting Package	Standard HID Lighting	Per Lighting Package	Existing	31	13	$72	67%	0
Health	Fax	Fax - ENERGY STAR	ENERGY STAR Fax	Standard Fax	Per Building SqFt	Existing	0.00	6	$0.00	100%	15
Health	Fax	Fax - ENERGY STAR	ENERGY STAR Fax	Standard Fax	Per Building SqFt	New	0.00	6	$0.00	100%	1
Health	Fax	Fax - Standard	Standard Fax	Standard Fax	Per Building SqFt	Existing	0.00	6	$0.00	100%	0
Health	Fax	Fax - Standard	Standard Fax	Standard Fax	Per Building SqFt	New	0.00	6	$0.00	100%	0
Health	Flat Screen Monitors	Monitor - ENERGY STAR Flat Screen	ENERGY STAR Flat Screen Monitor	Standard Flat Screen Monitor	Per Building SqFt	Existing	0.00	4	$0.00	100%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Health	Flat Screen Monitors	Monitor - ENERGY STAR Flat Screen	ENERGY STAR Flat Screen Monitor	Standard Flat Screen Monitor	Per Building SqFt	New	0.00	4	$0.00	100%	0
Health	Flat Screen Monitors	Monitor - Standard Flat Screen	Standard Flat Screen Monitor	Standard Flat Screen Monitor	Per Building SqFt	Existing	0.00	4	$0.00	100%	0
Health	Flat Screen Monitors	Monitor - Standard Flat Screen	Standard Flat Screen Monitor	Standard Flat Screen Monitor	Per Building SqFt	New	0.00	4	$0.00	100%	0
Health	Freezers	Freezer - 2014 Federal Standard	2014 Standard Freezer	Standard Freezer	Per Building SqFt	Existing	0.00	12	$0.00	100%	0
Health	Freezers	Freezer - 2014 Federal Standard	2014 Standard Freezer	Standard Freezer	Per Building SqFt	New	0.00	12	$0.00	100%	0
Health	Freezers	Freezer - Below Standard	Below Standard Freezer	Below Standard Freezer	Per Building SqFt	Existing	0.00	12	$0.00	100%	0
Health	Freezers	Freezer - Below Standard	Below Standard Freezer	Below Standard Freezer	Per Building SqFt	New	0.00	12	$0.00	100%	0
Health	Freezers	Freezer - ENERGY STAR	ENERGY STAR Freezer	Standard Freezer	Per Building SqFt	Existing	0.00	12	$0.00	100%	0
Health	Freezers	Freezer - ENERGY STAR	ENERGY STAR Freezer	Standard Freezer	Per Building SqFt	New	0.00	12	$0.00	100%	0
Health	Freezers	Freezer - Standard	Standard Freezer	Standard Freezer	Per Building SqFt	Existing	0.00	12	$0.00	100%	0
Health	Freezers	Freezer - Standard	Standard Freezer	Standard Freezer	Per Building SqFt	New	0.00	12	$0.00	100%	0
Health	HVAC Aux	Cooling Tower-Two-Speed Fan Motor	Cooling Tower-Two-Speed Fan Motor	Cooling Tower-One-Speed Fan Motor	Per Chiller Ton	Existing	120	15	$2	33%	1,169
Health	HVAC Aux	Cooling Tower-VSD Fan Control	Variable-Speed Tower Fans Replace Two-Speed	Cooling Tower-One-Speed Fan Motor	Per Chiller Ton	Existing	34	13	$19	71%	29
Health	HVAC Aux	Cooling Tower-VSD Fan Control	Variable-Speed Tower Fans Replace Two-Speed	Cooling Tower-One-Speed Fan Motor	Per Chiller Ton	New	24	13	$19	11%	4
Health	HVAC Aux	Demand Controlled Ventilation - Range Hood	For Range Hoods – VFD Controlled	No DCV	Per Range Hood	Existing	1,454	10	$12,500	64%	0
Health	HVAC Aux	Demand Controlled Ventilation - Range Hood	For Range Hoods – VFD Controlled	No DCV	Per Range Hood	New	1,045	10	$6,500	64%	0
Health	HVAC Aux	ECM Motor	Central Air Conditioner ECM Fan	Standard Motor	Per ECM	Existing	1,029	15	$200	24%	315
Health	HVAC Aux	ECM Motor	Central Air Conditioner ECM Fan	Standard Motor	Per ECM	New	739	15	$200	34%	19
Health	HVAC Aux	ECM Motor	Electric Furnace ECM Fan	Standard Motor	Per ECM	Existing	1,029	15	$200	16%	216
Health	HVAC Aux	ECM Motor	Electric Furnace ECM Fan	Standard Motor	Per ECM	New	739	15	$200	24%	13
Health	HVAC Aux	ECM Motor	Gas Furnace ECM Fan (CEE Air Handling Ratio < 0.02)	Standard Motor	Per ECM	Existing	1,029	15	$200	42%	562
Health	HVAC Aux	ECM Motor	Gas Furnace ECM Fan (CEE Air Handling Ratio < 0.02)	Standard Motor	Per ECM	New	739	15	$200	62%	34
Health	HVAC Aux	HVAC Auxillary - Standard Equipment	Standard HVAC Auxillary	Standard HVAC Auxillary	Per Building SqFt	Existing	0.00	15	$0.00	100%	0
Health	HVAC Aux	HVAC Auxillary - Standard Equipment	Standard HVAC Auxillary	Standard HVAC Auxillary	Per Building SqFt	New	0.00	15	$0.00	100%	0
Health	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	Existing	75	15	$274	67%	0
Health	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	New	75	15	$274	67%	0
Health	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	Existing	2,066	15	$2,036	0%	0
Health	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	New	518	15	$2,036	9%	0
Health	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	Existing	518	15	$678	9%	0
Health	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	New	1,143	15	$678	1%	0
Health	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	Existing	5,959	15	$4,197	0%	0
Health	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	New	2,066	15	$4,197	0%	0
Health	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	Existing	1,143	15	$1,375	1%	0
Health	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	New	5,959	15	$1,375	0%	0
Health	HVAC Aux	Optimized Variable Volume Lab Hood Design	Optimized Variable Volume Lab Hood Design	Constant Volume Lab Hood Design	Per Lab Hood	Existing	620	10	$1,705	64%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Health	HVAC Aux	Optimized Variable Volume Lab Hood Design	Optimized Variable Volume Lab Hood Design	Constant Volume Lab Hood Design	Per Lab Hood	New	446	10	$1,705	64%	0
Health	HVAC Aux	Variable Air-Volume Systems	Install Variable Air-Volume System	Constant Volume System	Per Building SqFt	Existing	0.25	15	$1	10%	0
Health	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 1-15 HP	Constant Speed Motor	Per Building	Existing	15,518	15	$3,434	67%	3,366
Health	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 1-15 HP	Constant Speed Motor	Per Building	New	11,154	15	$3,434	67%	141
Health	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 125-200 HP	Constant Speed Motor	Per Building	Existing	15,518	15	$1,613	1%	31
Health	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 125-200 HP	Constant Speed Motor	Per Building	New	11,154	15	$1,613	1%	1
Health	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 20-40 HP	Constant Speed Motor	Per Building	Existing	15,518	15	$1,990	4%	217
Health	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 20-40 HP	Constant Speed Motor	Per Building	New	11,154	15	$1,990	4%	9
Health	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 250-500 HP	Constant Speed Motor	Per Building	Existing	15,518	15	$1,224	0%	11
Health	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 250-500 HP	Constant Speed Motor	Per Building	New	11,154	15	$1,224	0%	0
Health	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 50-100 HP	Constant Speed Motor	Per Building	Existing	15,518	15	$2,452	1%	69
Health	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 50-100 HP	Constant Speed Motor	Per Building	New	11,154	15	$2,452	1%	3
Health	Heat Pump	Commissioning	Commissioning/QI - New Installation	No Commissioning	Per SqFt	New	0.59	7	$1	90%	0
Health	Heat Pump	Cool Roofs	ENERGY STAR Cool Roof - Reflect Material (Reflectivity = 0.55)	Standard Roof	Per Roof Area SqFt	Existing	0.30	15	$0.68	15%	0
Health	Heat Pump	Cool Roofs	ENERGY STAR Cool Roof - Reflect Material (Reflectivity = 0.55)	Standard Roof	Per Roof Area SqFt	New	0.18	15	$0.68	15%	0
Health	Heat Pump	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	Existing	22,081	5	$11,112	18%	0
Health	Heat Pump	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	New	16,654	5	$11,112	18%	0
Health	Heat Pump	Direct Digital Control System-Installation	DDC Retrofit - EMS Upgrade	Pneumatic	Per Building	Existing	33,122	5	$48,911	3%	0
Health	Heat Pump	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	Existing	296	20	$477	76%	18
Health	Heat Pump	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	New	296	20	$477	76%	1
Health	Heat Pump	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	Existing	131	20	$60	62%	1
Health	Heat Pump	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	New	131	20	$60	62%	0
Health	Heat Pump	Duct Repair And Sealing	Reduction In Duct Losses to 5%	No Repair or Sealing, 15% duct losses	Per Building SqFt	Existing	0.18	18	$0.23	38%	78
Health	Heat Pump	Exhaust Hood Makeup Air	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	Hood Pulls Conditioned Air (No Make-up Air)	Per Building	Existing	9,936	10	$5,450	52%	170
Health	Heat Pump	Exhaust Hood Makeup Air	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	Hood Pulls Conditioned Air (No Make-up Air)	Per Building	New	7,494	10	$5,450	52%	7
Health	Heat Pump	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	Existing	0.30	30	$10	75%	0
Health	Heat Pump	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	New	0.18	30	$10	75%	0
Health	Heat Pump	Heat Pump - Below Standard	Below Standard Air Source Heat Pump 9.0 EER and 2.8 COP, = 135 and < 240 kBtuh	Below Standard Air Source Heat Pump 9.0 EER and 2.8 COP, = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.00	15	$0.00	100%	0
Health	Heat Pump	Heat Pump - Below Standard	Below Standard Air Source Heat Pump 9.0 EER and 2.8 COP, = 135 and < 240 kBtuh	Below Standard Air Source Heat Pump 9.0 EER and 2.8 COP, = 135 and < 240 kBtuh	Per Building SqFt	New	0.00	15	$0.00	100%	0
Health	Heat Pump	Heat Pump - ENERGY STAR	ENERGY STAR Ground Source Heat Pump 16.2 EER and 3.6 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	Existing	1.35	15	$14	5%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Health	Heat Pump	Heat Pump - ENERGY STAR	ENERGY STAR Ground Source Heat Pump 16.2 EER and 3.6 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	New	1.01	15	$9	5%	0
Health	Heat Pump	Heat Pump - High Efficiency	High Efficiency Air Source Heat Pump 11.1 EER and 3.3 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.22	15	$0.12	100%	128
Health	Heat Pump	Heat Pump - High Efficiency	High Efficiency Air Source Heat Pump 11.1 EER and 3.3 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	New	0.17	15	$0.12	100%	11
Health	Heat Pump	Heat Pump - Premium Efficiency	Premium Efficiency Water Source Heat Pump 12.0 EER and 4.2 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	Existing	1.09	15	$0.70	5%	32
Health	Heat Pump	Heat Pump - Premium Efficiency	Premium Efficiency Water Source Heat Pump 12.0 EER and 4.2 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	New	0.82	15	$0.81	5%	3
Health	Heat Pump	Heat Pump - Standard	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.00	15	$0.00	100%	0
Health	Heat Pump	Heat Pump - Standard	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	New	0.00	15	$0.00	100%	0
Health	Heat Pump	Heat Pump - Variable Refrigerant Flow System	Variable Refrigerant Flow System (VRF) - Heat Pump	Packaged VAV With Electric Reheat	Per Ton	Existing	929	15	$540	33%	1,226
Health	Heat Pump	Heat Pump - Variable Refrigerant Flow System	Variable Refrigerant Flow System (VRF) - Heat Pump	Packaged VAV With Electric Reheat	Per Ton	New	701	15	$540	81%	132
Health	Heat Pump	Infiltration Control	Weather-Stripping	Standard Practice	Per Window SqFt	Existing	4.10	13	$0.38	9%	44
Health	Heat Pump	Insulation - Duct	New Duct Insulation (R-8) (Unconditioned Spaces)	No Insulation	Per Surface Area of Duct	Existing	3.24	20	$2	15%	53
Health	Heat Pump	Insulation - Floor	R-30	Average Existing Insulation (R-10)	Per Floor Area SqFt	Existing	0.29	25	$1	29%	0
Health	Heat Pump	Insulation - Roof	R-20ci	Average Existing Insulation (R-10)	Per Roof Area SqFt	Existing	0.19	25	$1	13%	0
Health	Heat Pump	Insulation - Wall	R-13+R-7.5ci	Average Existing Insulation (R-10)	Per Wall Area SqFt	Existing	0.58	25	$1	33%	0
Health	Heat Pump	Package Terminal - Heat Pump	High Efficiency Package Terminal Air Conditioner	Federal Standard Equipment	Per Ton	Existing	74	15	$150	10%	0
Health	Heat Pump	Package Terminal - Heat Pump	High Efficiency Package Terminal Air Conditioner	Federal Standard Equipment	Per Ton	New	74	15	$150	10%	0
Health	Heat Pump	Retro-Commissioning	Retro-Commissioning	No Retro-Commissioning	Per SqFt	Existing	0.97	7	$0.30	90%	1,217
Health	Heat Pump	Thermostat Programmable	Setback Thermostat 5-1-1, 5-2 or 7-day	Manual Thermostat	Per Thermostat	Existing	1,656	15	$138	77%	231
Health	Heat Pump	Tune-up - Air Source Heat Pump	Air Source Heat Pump Maintenance (Tune-up)	Unmaintained Air Source Heat Pump	Per Ton	Existing	244	3	$48	48%	17
Health	Heat Pump	Tune-up - Ground Source Heat Pump	Ground Source Heat Pump Maintenance (Tune-up)	Unmaintained Ground Source Heat Pump	Per Ton	Existing	244	3	$48	48%	17
Health	Heat Pump	Variable Air-Volume Systems	Install Variable Air-Volume System	Constant Volume System	Per Building SqFt	Existing	1.30	15	$1	10%	209
Health	Heat Pump	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	Existing	1.22	25	$3	53%	0
Health	Heat Pump	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	New	1.22	25	$3	60%	0
Health	Heat Pump	Window - Metal Framing	U-Value = 0.55 (Code Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	1.27	25	$27	10%	0
Health	Heat Pump	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	Existing	0.78	25	$2	12%	0
Health	Heat Pump	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	New	0.78	25	$2	14%	0
Health	Heat Pump	Window - Non-Metal Framing	U-Value = 0.35 (Code Non-Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	3.89	25	$42	12%	0
Health	Lighting	Bi-Level Control, Stairwell Lighting	Bi-Level Stairwell Occupancy Sensor Control, 50% Lighting Power During Unoccupied Time	Continuous Full Power Lighting in Stairways	Per Stairwell Lighting Control	Existing	355	9	$107	68%	1,412

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Health	Lighting	Bi-Level Control, Stairwell Lighting	Bi-Level Stairwell Occupancy Sensor Control, 50% Lighting Power During Unoccupied Time	Continuous Full Power Lighting in Stairways	Per Stairwell Lighting Control	New	224	9	$107	68%	52
Health	Lighting	Ceiling Fans	ENERGY STAR Ceiling Fans with Light Kit	Standard Ceiling Fan	Per Ceiling Fan	Existing	98	10	$119	85%	0
Health	Lighting	Ceiling Fans	ENERGY STAR Ceiling Fans with Light Kit	Standard Ceiling Fan	Per Ceiling Fan	New	98	10	$119	85%	0
Health	Lighting	Daylighting Controls	Continuous Dimming, Fluorescent Fixtures (Day-Lighting)	No Dimming Controls	Per Applicable SQFT of Dimmable Perimeter Area of Building	Existing	4.97	9	$1	62%	12,163
Health	Lighting	Daylighting Controls	Continuous Dimming, Fluorescent Fixtures (Day-Lighting)	No Dimming Controls	Per Applicable SQFT of Dimmable Perimeter Area of Building	New	3.14	13	$1	0%	0
Health	Lighting	Daylighting Controls	Dual Level Switches, Fluorescent Fixtures	No Dimming Controls	Per Applicable SQFT of Dimmable Perimeter Area of Building	Existing	2.04	9	$0.83	62%	3,029
Health	Lighting	Daylighting Controls	Dual Level Switches, Fluorescent Fixtures	No Dimming Controls	Per Applicable SQFT of Dimmable Perimeter Area of Building	New	1.29	13	$0.83	0%	0
Health	Lighting	Exit Sign - LED	LED Exit Signs	CFL Exit Sign	Per Exit Sign	Existing	175	11	$68	54%	470
Health	Lighting	Exit Sign - Photoluminescent	Photoluminescent Exit Sign	LED Exit Sign	Per Exit Sign	Existing	35	13	$30	93%	163
Health	Lighting	Exit Sign - Photoluminescent	Photoluminescent Exit Sign	LED Exit Sign	Per Exit Sign	New	35	13	$30	93%	9
Health	Lighting	LED Refrigerated Case Lighting	LED Refrigerated Case Lighting	Fluorescent	Per Refrigerated Glass Case	Existing	224	13	$600	49%	0
Health	Lighting	LED Refrigerated Case Lighting	LED Refrigerated Case Lighting	Fluorescent	Per Refrigerated Glass Case	New	224	13	$600	49%	0
Health	Lighting	LED Strip Lighting	LED Strip Lighting (Non-Refrigerated)	Fluorescent	Per Linear Foot of Lighting	Existing	0.59	11	$2	78%	0
Health	Lighting	LED Strip Lighting	LED Strip Lighting (Non-Refrigerated)	Fluorescent	Per Linear Foot of Lighting	New	0.59	11	$2	78%	0
Health	Lighting	LightLouver Daylighting System	LightLouver Daylighting System	No Daylight System	Per Linear Feet of Window	Existing	49	9	$65	40%	0
Health	Lighting	Lighting - CFL Lamp Package	ENERGY STAR CFL	EISA Incandescent	Per Building	Existing	11,925	2	$68	68%	689
Health	Lighting	Lighting - Clock/Timer	Lighting Clock/Timer Commercial grade	No Time Clock	Per Lighting Control	Existing	2,250	9	$205	42%	2,164
Health	Lighting	Lighting - Fluorescent High Performance Package	Fluorescent HP Lamps and Ballasts Packages	Standard Lighting	Per Lighting Package	Existing	27,925	13	$49,849	90%	0
Health	Lighting	Lighting - Fluorescent Reduced Wattage Package	Fluorescent RW Lamps and Ballasts Packages	Standard Lighting	Per Lighting Package	Existing	55,851	13	$41,203	76%	13,738
Health	Lighting	Lighting - Induction Lighting Package	Induction Lighting Package	Standard HID Lighting	Per Lighting Package	Existing	1,938	20	$5,849	38%	0
Health	Lighting	Lighting - LED Lamp Package	ENERGY STAR LED	EISA Incandescent	Per Lighting Package	Existing	14,366	10	$3,207	73%	3,417
Health	Lighting	Lighting - LPD Package	LPD Reduction Package 15%	LPD Code	Per Lighting Package	New	30,693	15	$150	68%	109
Health	Lighting	Lighting - LPD Package	LPD Reduction Package 25%	LPD Code	Per Lighting Package	New	51,155	15	$3,633	71%	688
Health	Lighting	Lighting - Specialty Lamp Package	CFL and LED Specialty Lamp Package	Standard Incandescent	Per Lighting Package	Existing	9,148	3	$577	81%	2,391
Health	Lighting	Lighting - Standard	Standard Lighting	Standard Lighting	Per Building SqFt	Existing	0.00	14	$0.00	100%	0
Health	Lighting	Lighting - Standard	Standard Lighting	Standard Lighting	Per Building SqFt	New	0.00	14	$0.00	100%	0
Health	Lighting	Occupancy Sensor - High-Bay	Fixture-Mounted (Control > 150 Watts)	No Sensor	Per Lighting Control	Existing	1,398	14	$225	2%	7
Health	Lighting	Occupancy Sensor - High-Bay	Fixture-Mounted (Control > 150 Watts)	No Sensor	Per Lighting Control	New	885	14	$225	2%	0
Health	Lighting	Occupancy Sensor - Wall or Ceiling	Wall or Ceiling-Mounted (Control > 400 Watts)	No Sensor	Per Lighting Control	Existing	116	14	$225	68%	0
Health	Lighting	Occupancy Sensor - Wall or Ceiling	Wall or Ceiling-Mounted (Control > 400 Watts)	No Sensor	Per Lighting Control	New	73	14	$225	68%	0
Health	Other	Compressed Air Optimization	Compressed Air - Leak Audit, New Compressors, Improved Controls	No Leak Audit And No New Compressor And No New Controls	Per Compressor HP	Existing	281	10	$50	37%	40
Health	Other	Other - Standard	Standard Other Equipment	Standard Other Equipment	Per Building SqFt	Existing	0.00	10	$0.00	100%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Health	Other	Other - Standard	Standard Other Equipment	Standard Other Equipment	Per Building SqFt	New	0.00	10	$0.00	100%	0
Health	Other	Transformers	Transformers, Three-Phase Low-Voltage Dry-Type CEE Tier 1	Standard Efficiency Transformer NEMA TP-1-2002	Per Transformer	Existing	578	30	$1,115	50%	94
Health	Other	Transformers	Transformers, Three-Phase Low-Voltage Dry-Type CEE Tier 1	Standard Efficiency Transformer NEMA TP-1-2002	Per Transformer	New	578	30	$1,115	50%	5
Health	Other Plug Load	All-In-One Office Equipment	All-In-One ENERGY STAR Office Equipment	Non-ENERGY STAR Features	Per All-in-One Device	Existing	200	6	$218	68%	0
Health	Other Plug Load	All-In-One Office Equipment	All-In-One ENERGY STAR Office Equipment	Non-ENERGY STAR Features	Per All-in-One Device	New	200	6	$218	68%	0
Health	Other Plug Load	Ceiling Fans	ENERGY STAR Ceiling Fans with Light Kit	Standard Ceiling Fan	Per Ceiling Fan	Existing	4.33	10	$119	85%	0
Health	Other Plug Load	Ceiling Fans	ENERGY STAR Ceiling Fans with Light Kit	Standard Ceiling Fan	Per Ceiling Fan	New	4.33	10	$119	85%	0
Health	Other Plug Load	Ceiling Fans	ENERGY STAR Ceiling Fans without Light Kit	Standard Ceiling Fan	Per Ceiling Fan	Existing	4.33	10	$1	85%	5
Health	Other Plug Load	Ceiling Fans	ENERGY STAR Ceiling Fans without Light Kit	Standard Ceiling Fan	Per Ceiling Fan	New	4.33	10	$1	85%	0
Health	Other Plug Load	Plug Load - Standard Equipment	Standard Plug Load	Standard Plug Load	Per Building SqFt	Existing	0.00	10	$0.00	100%	0
Health	Other Plug Load	Plug Load - Standard Equipment	Standard Plug Load	Standard Plug Load	Per Building SqFt	New	0.00	10	$0.00	100%	0
Health	Other Plug Load	Snow Melt System Control	Snow Melt System Control	Manual Control	Per Snow Melt Control	Existing	1,223	25	$2,782	5%	0
Health	Other Plug Load	Snow Melt System Control	Snow Melt System Control	Manual Control	Per Snow Melt Control	New	1,270	25	$2,782	0%	0
Health	Other Plug Load	Water Coolers	ENERGY STAR Water Cooler	Non-ENERGY STAR Water Cooler	Per Water Cooler	Existing	242	10	$5	34%	53
Health	Other Plug Load	Water Coolers	ENERGY STAR Water Cooler	Non-ENERGY STAR Water Cooler	Per Water Cooler	New	252	10	$5	34%	3
Health	Photo Copiers	Photo Copier - ENERGY STAR	ENERGY STAR Photo Copier	Standard Photo Copier	Per Building SqFt	Existing	0.00	6	$0.00	100%	0
Health	Photo Copiers	Photo Copier - ENERGY STAR	ENERGY STAR Photo Copier	Standard Photo Copier	Per Building SqFt	New	0.00	6	$0.00	100%	0
Health	Photo Copiers	Photo Copiers - Standard	Standard Photo Copier	Standard Photo Copier	Per Building SqFt	Existing	0.00	6	$0.00	100%	0
Health	Photo Copiers	Photo Copiers - Standard	Standard Photo Copier	Standard Photo Copier	Per Building SqFt	New	0.00	6	$0.00	100%	0
Health	Printers	Printers - ENERGY STAR	ENERGY STAR Printers	Standard Printers	Per Building SqFt	Existing	0.02	6	$0.00	100%	295
Health	Printers	Printers - ENERGY STAR	ENERGY STAR Printers	Standard Printers	Per Building SqFt	New	0.02	6	$0.00	100%	21
Health	Printers	Printers - Standard	Standard Printers	Standard Printers	Per Building SqFt	Existing	0.00	6	$0.00	100%	0
Health	Printers	Printers - Standard	Standard Printers	Standard Printers	Per Building SqFt	New	0.00	6	$0.00	100%	0
Health	Refrigeration	Anti-Sweat Heater Controls	Variable Temperature Controls (Humidistat)	Constant Controls	Per Control (Weighted by Grocery Refrigeration)	Existing	767	12	$78	79%	175
Health	Refrigeration	Anti-Sweat Heater Controls	Variable Temperature Controls (Humidistat)	Constant Controls	Per Control (Weighted by Grocery Refrigeration)	New	767	12	$78	20%	3
Health	Refrigeration	Case Fans with ECM motors	ECM Motors on Evaporator Fan for Display Cases	Standard Case Fan Motor	Per ECM (Weighted by Grocery Refrigeration)	Existing	1,018	12	$243	37%	108
Health	Refrigeration	Case Fans with ECM motors	ECM Motors on Evaporator Fan for Display Cases	Standard Case Fan Motor	Per ECM (Weighted by Grocery Refrigeration)	New	1,018	12	$243	37%	6
Health	Refrigeration	Demand Control Defrost - Electric	Refrigerant Defrost	No Demand Control Defrost	Per Building SqFt	Existing	0.00	10	$0.09	41%	0
Health	Refrigeration	Demand Control Defrost - Hot Gas	Refrigerant Defrost	No Demand Control Defrost	Per Building SqFt	Existing	0.01	10	$0.11	41%	0
Health	Refrigeration	Evaporator Fans - Walk-ins	High-Efficiency Evaporator Fans, Walk-in Refrigerators	Standard Evaporator Fans	Per Walk-in Fan	Existing	435	15	$132	69%	289
Health	Refrigeration	Evaporator Fans - Walk-ins	High-Efficiency Evaporator Fans, Walk-in Refrigerators	Standard Evaporator Fans	Per Walk-in Fan	New	435	15	$132	69%	17
Health	Refrigeration	Glass Door Refrigerators	ENERGY STAR Qualified (Volume 0 to 50+ Cubic Feet)	Standard Equipment	Per Glass Door Refrigerator	Existing	1,086	12	$704	90%	39

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Health	Refrigeration	Glass Door Refrigerators	ENERGY STAR Qualified (Volume 0 to 50+ Cubic Feet)	Standard Equipment	Per Glass Door Refrigerator	New	1,086	12	$704	95%	3
Health	Refrigeration	Ice Makers, Air Cooled	ENERGY STAR Qualified, Ice-Making Head	Standard Equipment	Per Ice Maker	Existing	1,197	10	$140	27%	52
Health	Refrigeration	Ice Makers, Air Cooled	ENERGY STAR Qualified, Ice-Making Head	Standard Equipment	Per Ice Maker	New	1,197	10	$140	27%	3
Health	Refrigeration	Ice Makers, Air Cooled	ENERGY STAR Qualified, Remote Condensing	Standard Equipment	Per Ice Maker	Existing	1,293	10	$5	27%	57
Health	Refrigeration	Ice Makers, Air Cooled	ENERGY STAR Qualified, Remote Condensing	Standard Equipment	Per Ice Maker	New	1,293	10	$5	27%	3
Health	Refrigeration	Ice Makers, Air Cooled	ENERGY STAR Qualified, Self-Contained	Standard Equipment	Per Ice Maker	Existing	317	10	$5	27%	14
Health	Refrigeration	Ice Makers, Air Cooled	ENERGY STAR Qualified, Self-Contained	Standard Equipment	Per Ice Maker	New	317	10	$5	27%	1
Health	Refrigeration	Ice Makers, Water-Cooled	Ice-Making Head - Water Cooled	Standard Equipment	Per Ice Maker	Existing	894	10	$1,000	27%	0
Health	Refrigeration	Ice Makers, Water-Cooled	Ice-Making Head - Water Cooled	Standard Equipment	Per Ice Maker	New	894	10	$1,000	27%	0
Health	Refrigeration	Ice Makers, Water-Cooled	Self-Contained - Water Cooled	Standard Equipment	Per Ice Maker	Existing	187	10	$850	27%	0
Health	Refrigeration	Ice Makers, Water-Cooled	Self-Contained - Water Cooled	Standard Equipment	Per Ice Maker	New	187	10	$850	27%	0
Health	Refrigeration	Night Covers for Display Cases	Night Covers for Display Cases	No Night Covers	Per Building	Existing	231	10	$3,274	5%	0
Health	Refrigeration	Night Covers for Display Cases	Night Covers for Display Cases	No Night Covers	Per Building	New	238	10	$3,274	5%	0
Health	Refrigeration	Novelty Cooler Shutoff	Cooler Shutoff with Controls System or Shutoff Switch	No Cooler Shutoff	Per Cooler Case	Existing	680	10	$102	63%	69
Health	Refrigeration	Novelty Cooler Shutoff	Cooler Shutoff with Controls System or Shutoff Switch	No Cooler Shutoff	Per Cooler Case	New	680	10	$102	63%	4
Health	Refrigeration	Occupancy Sensor - Refrigerated Cases	Occupancy Sensor - Refrigerated Cases	No Sensor	Per Linear Foot of Refrigerated Display Case	Existing	20	8	$3	14%	4
Health	Refrigeration	Occupancy Sensor - Refrigerated Cases	Occupancy Sensor - Refrigerated Cases	No Sensor	Per Linear Foot of Refrigerated Display Case	New	20	8	$3	14%	0
Health	Refrigeration	Refrigeration - Retro-Commissioning	Refrigeration Retro Commissioning (Refrigeration System Diagnostics / Operations And Maintenance)	No Retro-Commissioning	Per Refrigeration Ton	Existing	90	10	$191	78%	0
Health	Refrigeration	Refrigeration - Commissioning	Commissioning (Refrigeration System Diagnostics / Operations and Maintenance for a New Unit)	No Commissioning	Per Refrigeration Ton	New	93	3	$49	87%	0
Health	Refrigeration	Refrigeration - Standard	Standard Refrigeration	Standard Refrigeration	Per Building SqFt	Existing	0.00	14	$0.00	100%	0
Health	Refrigeration	Refrigeration - Standard	Standard Refrigeration	Standard Refrigeration	Per Building SqFt	New	0.00	14	$0.00	100%	0
Health	Refrigeration	Solid Door Freezers	ENERGY STAR Qualified (Volume 0 to 50+ Cubic Feet)	Standard Equipment	Per Commercial Freezer	Existing	1,463	12	$247	76%	9
Health	Refrigeration	Solid Door Freezers	ENERGY STAR Qualified (Volume 0 to 50+ Cubic Feet)	Standard Equipment	Per Commercial Freezer	New	1,463	12	$247	76%	1
Health	Refrigeration	Solid Door Refrigerators	ENERGY STAR Qualified (Volume 0 to 50+ Cubic Feet)	Standard Equipment	Per Commercial Refrigerator	Existing	849	12	$124	75%	5
Health	Refrigeration	Solid Door Refrigerators	ENERGY STAR Qualified (Volume 0 to 50+ Cubic Feet)	Standard Equipment	Per Commercial Refrigerator	New	849	12	$124	75%	0
Health	Refrigeration	Strip Curtains for Walk-Ins	Strip Curtains for Walk-Ins	No Strip Curtains for Walk-Ins	Per Walk-in	Existing	363	4	$300	12%	0
Health	Refrigeration	Strip Curtains for Walk-Ins	Strip Curtains for Walk-Ins	No Strip Curtains for Walk-Ins	Per Walk-in	New	374	4	$300	12%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Health	Refrigerators	Refrigerator - 2014 Federal Standard	2014 Standard Refrigerator	Standard Refrigerator	Per Building SqFt	Existing	0.05	13	$0.15	100%	0
Health	Refrigerators	Refrigerator - 2014 Federal Standard	2014 Standard Refrigerator	Standard Refrigerator	Per Building SqFt	New	0.05	13	$0.15	100%	0
Health	Refrigerators	Refrigerator - Below Standard	Below Standard Refrigerator	Below Standard Refrigerator	Per Building SqFt	Existing	0.00	13	$0.00	100%	0
Health	Refrigerators	Refrigerator - Below Standard	Below Standard Refrigerator	Below Standard Refrigerator	Per Building SqFt	New	0.00	13	$0.00	100%	0
Health	Refrigerators	Refrigerator - CEE Tier 1	CEE Tier 1 Refrigerator	Standard Refrigerator	Per Building SqFt	Existing	0.06	13	$0.21	100%	0
Health	Refrigerators	Refrigerator - CEE Tier 1	CEE Tier 1 Refrigerator	Standard Refrigerator	Per Building SqFt	New	0.06	13	$0.21	100%	0
Health	Refrigerators	Refrigerator - CEE Tier 2	CEE Tier 2 Refrigerator	Standard Refrigerator	Per Building SqFt	Existing	0.02	13	$0.09	100%	0
Health	Refrigerators	Refrigerator - CEE Tier 2	CEE Tier 2 Refrigerator	Standard Refrigerator	Per Building SqFt	New	0.02	13	$0.09	100%	0
Health	Refrigerators	Refrigerator - ENERGY STAR	ENERGY STAR Refrigerator	Standard Refrigerator	Per Building SqFt	Existing	0.01	13	$0.03	100%	0
Health	Refrigerators	Refrigerator - ENERGY STAR	ENERGY STAR Refrigerator	Standard Refrigerator	Per Building SqFt	New	0.01	13	$0.03	100%	0
Health	Refrigerators	Refrigerator - Federal Standard	Standard Refrigerator	Standard Refrigerator	Per Building SqFt	Existing	0.00	13	$0.00	100%	0
Health	Refrigerators	Refrigerator - Federal Standard	Standard Refrigerator	Standard Refrigerator	Per Building SqFt	New	0.00	13	$0.00	100%	0
Health	Servers	Server - ENERGY STAR	ENERGY STAR Server	Standard Server	Per Building SqFt	Existing	0.00	9	$0.00	100%	62
Health	Servers	Server - ENERGY STAR	ENERGY STAR Server	Standard Server	Per Building SqFt	New	0.00	9	$0.00	100%	5
Health	Servers	Server - Standard	Standard Server	Standard Server	Per Building SqFt	Existing	0.00	9	$0.00	100%	0
Health	Servers	Server - Standard	Standard Server	Standard Server	Per Building SqFt	New	0.00	9	$0.00	100%	0
Health	Space Heat	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	Existing	14,118	5	$8,259	18%	0
Health	Space Heat	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	New	22,143	5	$5,556	18%	0
Health	Space Heat	Direct Digital Control System-Installation	DDC Retrofit - EMS Upgrade	Pneumatic	Per Building	Existing	21,177	5	$9,587	3%	0
Health	Space Heat	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	Existing	488	20	$477	76%	0
Health	Space Heat	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	New	488	20	$477	76%	0
Health	Space Heat	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	Existing	217	20	$60	62%	30
Health	Space Heat	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	New	217	20	$60	62%	2
Health	Space Heat	Duct Repair And Sealing	Reduction In Duct Losses to 5%	No Repair or Sealing, 15% duct losses	Per Building SqFt	Existing	0.11	18	$0.23	38%	0
Health	Space Heat	Exhaust Hood Makeup Air	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	Hood Pulls Conditioned Air (No Make-up Air)	Per Building	Existing	6,353	10	$5,450	52%	0
Health	Space Heat	Exhaust Hood Makeup Air	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	Hood Pulls Conditioned Air (No Make-up Air)	Per Building	New	9,964	10	$5,450	52%	0
Health	Space Heat	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	Existing	0.38	30	$10	75%	0
Health	Space Heat	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	New	0.60	30	$10	75%	0
Health	Space Heat	Infiltration Control	Weather-Stripping	Standard Practice	Per Window SqFt	Existing	3.66	13	$0.38	9%	77
Health	Space Heat	Insulation - Duct	New Duct Insulation (R-8) (Unconditioned Spaces)	No Insulation	Per Surface Area of Duct	Existing	2.07	20	$2	15%	0
Health	Space Heat	Insulation - Floor	R-30	Average Existing Insulation (R-10)	Per Floor Area SqFt	Existing	0.47	25	$1	29%	0
Health	Space Heat	Insulation - Roof	R-20ci	Average Existing Insulation (R-10)	Per Roof Area SqFt	Existing	0.31	25	$1	13%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Health	Space Heat	Insulation - Wall	R-13+R-7.5ci	Average Existing Insulation (R-10)	Per Wall Area SqFt	Existing	0.97	25	$1	33%	0
Health	Space Heat	Space Heat - Standard	Standard Space Heat	Standard Space Heat	Per Building SqFt	Existing	0.00	20	$0.00	100%	0
Health	Space Heat	Space Heat - Standard	Standard Space Heat	Standard Space Heat	Per Building SqFt	New	0.00	20	$0.00	100%	0
Health	Space Heat	Thermostat Programmable	Setback Thermostat 5-1-1, 5-2 or 7-day	Manual Thermostat	Per Thermostat	Existing	1,058	15	$138	77%	282
Health	Space Heat	Variable Air-Volume Systems	Install Variable Air-Volume System	Constant Volume System	Per Building SqFt	Existing	0.50	15	$1	10%	0
Health	Space Heat	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	Existing	2.01	25	$3	53%	0
Health	Space Heat	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	New	2.01	25	$3	60%	0
Health	Space Heat	Window - Metal Framing	U-Value = 0.55 (Code Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	2.09	25	$27	10%	0
Health	Space Heat	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	Existing	1.28	25	$2	12%	0
Health	Space Heat	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	New	1.28	25	$2	14%	0
Health	Space Heat	Window - Non-Metal Framing	U-Value = 0.35 (Code Non-Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	6.42	25	$42	12%	0
Health	Vending Machines	Vending Machine - Controller	Refrigerated Vending Machine Controller	No Controls	Per Vending Machine	Existing	1,394	3	$238	25%	102
Health	Vending Machines	Vending Machine - Controller	Refrigerated Vending Machine Controller	No Controls	Per Vending Machine	New	1,394	3	$238	25%	5
Health	Vending Machines	Vending Machine - ENERGY STAR	ENERGY STAR Vending Machine	Standard Vending Machine	Per Building SqFt	Existing	0.03	10	$0.00	100%	253
Health	Vending Machines	Vending Machine - ENERGY STAR	ENERGY STAR Vending Machine	Standard Vending Machine	Per Building SqFt	New	0.03	10	$0.00	100%	22
Health	Vending Machines	Vending Machine - Standard	Standard Vending Machine	Standard Vending Machine	Per Building SqFt	Existing	0.00	10	$0.00	100%	0
Health	Vending Machines	Vending Machine - Standard	Standard Vending Machine	Standard Vending Machine	Per Building SqFt	New	0.00	10	$0.00	100%	0
Health	Water Heat	Clothes Washer	Commercial Ozonating Clothes Washer	Standard Commercial Clothes Washer	Per Clothes Washer	Existing	1,425	10	$5,944	14%	0
Health	Water Heat	Clothes Washer	Commercial Ozonating Clothes Washer	Standard Commercial Clothes Washer	Per Clothes Washer	New	1,425	10	$5,944	14%	0
Health	Water Heat	Clothes Washer	Residential Grade, Clothes Washer Enhanced Efficiency MEF = 3.10 and WF = 3.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	2,371	11	$789	33%	156
Health	Water Heat	Clothes Washer	Residential Grade, Clothes Washer Enhanced Efficiency MEF = 3.10 and WF = 3.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	2,371	11	$789	33%	8
Health	Water Heat	Clothes Washer	Residential Grade, Clothes Washer CEE Tier 2 MEF = 2.2 and WF = 4.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	1,707	11	$391	31%	105
Health	Water Heat	Clothes Washer	Residential Grade, Clothes Washer CEE Tier 2 MEF = 2.2 and WF = 4.5	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	1,707	11	$391	31%	5
Health	Water Heat	Clothes Washer	Residential Grade, Clothes Washer CEE Tier 3 MEF = 2.4 and WF = 4.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	1,898	11	$565	29%	114
Health	Water Heat	Clothes Washer	Residential Grade, Clothes Washer CEE Tier 3 MEF = 2.4 and WF = 4.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	1,898	11	$565	29%	6
Health	Water Heat	Clothes Washer	Residential Grade, Clothes Washer ENERGY STAR MEF = 2.0 and WF = 6.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	Existing	1,478	11	$134	28%	0
Health	Water Heat	Clothes Washer	Residential Grade, Clothes Washer ENERGY STAR MEF = 2.0 and WF = 6.0	Standard Clothes Washer MEF = 1.26 and WF = 9.5 (Federal Standard)	Per Clothes Washer	New	1,478	11	$134	28%	0
Health	Water Heat	Desuperheaters - Air Conditioner	Add-on Desuperheaters to Air Conditioner	No Desuperheater	Per Desuperheater	Existing	314	10	$600	28%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Health	Water Heat	Desuperheaters - Air Source Heat Pump	Add-on Desuperheaters to Air Source Heat Pump	No Desuperheater	Per Desuperheater	Existing	1,963	10	$600	2%	27
Health	Water Heat	Desuperheaters - Ground Source Heat Pump	Add-on Desuperheaters to Ground Source Heat Pump	No Desuperheater	Per Desuperheater	Existing	1,963	10	$600	0%	1
Health	Water Heat	Dishwasher	Dishwasher Enhanced Efficiency (EF 1.00) 200 kWh/yr and 4.00 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle = 307 kWh/yr and = 5.0 Gallons/Cycle for July 1, 2011 - Dec 31, 2011	Per Dishwasher	Existing	155	11	$1,067	81%	0
Health	Water Heat	Dishwasher	Dishwasher Enhanced Efficiency (EF 1.00) 200 kWh/yr and 4.00 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle = 307 kWh/yr and = 5.0 Gallons/Cycle for July 1, 2011 - Dec 31, 2011	Per Dishwasher	New	155	11	$1,067	81%	0
Health	Water Heat	Dishwasher	ENERGY STAR 295 kWh/yr and 4.25 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle = 307 kWh/yr and = 5.0 Gallons/Cycle for July 1, 2011 - Dec 31, 2011	Per Dishwasher	Existing	60	11	$272	68%	0
Health	Water Heat	Dishwasher	ENERGY STAR 295 kWh/yr and 4.25 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle = 307 kWh/yr and = 5.0 Gallons/Cycle for July 1, 2011 - Dec 31, 2011	Per Dishwasher	New	60	11	$272	68%	0
Health	Water Heat	Dishwasher	High Temp Commercial High Efficiency Dishwasher (ENERGY STAR)	Standard High Temp Commercial Dishwasher	Per Dishwasher	Existing	3,264	14	$442	8%	35
Health	Water Heat	Dishwasher	High Temp Commercial High Efficiency Dishwasher (ENERGY STAR)	Standard High Temp Commercial Dishwasher	Per Dishwasher	New	3,264	14	$442	8%	2
Health	Water Heat	Dishwasher	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)	Standard High Temp Commercial Dishwasher	Per Dishwasher	Existing	5,112	14	$307	9%	71
Health	Water Heat	Dishwasher	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)	Standard High Temp Commercial Dishwasher	Per Dishwasher	New	5,112	14	$307	9%	3
Health	Water Heat	Drainwater Heat Recovery	Install Power-Pipe or GFX System	No GFX or Power-Pipe System	Per 40 Gal Water Heater	Existing	1,963	40	$833	60%	929
Health	Water Heat	Drainwater Heat Recovery	Install Power-Pipe or GFX System	No GFX or Power-Pipe System	Per 40 Gal Water Heater	New	1,963	40	$666	83%	62
Health	Water Heat	Faucet Aerator	0.5 GPM	Existing Aerator (3.0 GPM)	Per Aerator	Existing	70	10	$4	67%	479
Health	Water Heat	Low-Flow Showerheads	2.0 GPM	2.5 GPM Showerhead (Federal Code)	Per Showerhead	Existing	103	10	$8	21%	119
Health	Water Heat	Low-Flow Showerheads	2.0 GPM	2.5 GPM Showerhead (Federal Code)	Per Showerhead	New	103	10	$8	21%	6
Health	Water Heat	Low-Flow Showerheads	2.5 GPM Showerhead (Federal Code)	Existing Showerhead (4.5 GPM)	Per Showerhead	Existing	229	10	$31	5%	61
Health	Water Heat	Low-Flow Spray Heads	1.0 GPM	1.6 GPM (Code)	Per Spray Head	Existing	485	5	$39	13%	14
Health	Water Heat	Low-Flow Spray Heads	1.0 GPM	1.6 GPM (Code)	Per Spray Head	New	485	5	$39	13%	1
Health	Water Heat	Low-Flow Spray Heads	1.6 GPM (Code)	Existing Spray Head (2.5 GPM)	Per Spray Head	Existing	728	5	$30	8%	16
Health	Water Heat	Ultrasonic Faucet Control	Install Ultrasonic Faucet Control	No Faucet Control	Per Faucet	Existing	21	10	$196	86%	0
Health	Water Heat	Ultrasonic Faucet Control	Install Ultrasonic Faucet Control	No Faucet Control	Per Faucet	New	21	10	$196	86%	0
Health	Water Heat	Water Heater - Pipe Insulation	Hot Water Pipe Insulation (R-4)	No Pipe Insulation	Per Linear Foot	Existing	29	13	$2	56%	45
Health	Water Heat	Water Heater - Tank Blanket/Insulation	Install Insulation (R-11)	No Tank Insulation	Per Water Heater	Existing	392	7	$62	5%	13
Health	Water Heat	Water Heater - Thermostat Setback	Install Programmable Thermostat (120 Degrees)	No Thermostat Setback (130 Degrees)	Per Water Heater	Existing	1,335	4	$102	75%	686
Health	Water Heat	Water Heating - ENERGY STAR	ENERGY STAR Heat Pump Water Heater EF = 2.0	Standard Water Heater EF = 0.92	Per Building SqFt	Existing	0.89	13	$0.41	75%	1,831
Health	Water Heat	Water Heating - ENERGY STAR	ENERGY STAR Heat Pump Water Heater EF = 2.0	Standard Water Heater EF = 0.92	Per Building SqFt	New	0.89	13	$0.41	75%	203
Health	Water Heat	Water Heating - Storage 2015 Standard	2015 Standard Water Heater EF = 0.95	Standard Water Heater EF = 0.92	Per Building SqFt	Existing	0.04	13	$0.01	100%	30

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Health	Water Heat	Water Heating - Storage 2015 Standard	2015 Standard Water Heater EF = 0.95	Standard Water Heater EF = 0.92	Per Building SqFt	New	0.04	13	$0.01	100%	3
Health	Water Heat	Water Heating - Storage Below Standard	Below Standard Water Heater EF = 0.86	Below Standard Water Heater EF = 0.86	Per Building SqFt	Existing	0.00	13	$0.00	100%	0
Health	Water Heat	Water Heating - Storage Below Standard	Below Standard Water Heater EF = 0.86	Below Standard Water Heater EF = 0.86	Per Building SqFt	New	0.00	13	$0.00	100%	0
Health	Water Heat	Water Heating - Storage Standard	Standard Water Heater EF = 0.92	Standard Water Heater EF = 0.92	Per Building SqFt	Existing	0.00	13	$0.00	100%	0
Health	Water Heat	Water Heating - Storage Standard	Standard Water Heater EF = 0.92	Standard Water Heater EF = 0.92	Per Building SqFt	New	0.00	13	$0.00	100%	0
Health	Water Heat	Water Heating - Tankless	Tankless Water Heater EF = 0.95	Standard Water Heater EF = 0.92	Per Building SqFt	Existing	0.10	13	$0.08	0%	0
Health	Water Heat	Water Heating - Tankless	Tankless Water Heater EF = 0.95	Standard Water Heater EF = 0.92	Per Building SqFt	New	0.10	13	$0.08	0%	0
Large Office	Computers	Computer - ENERGY STAR	ENERGY STAR Computer	Standard Computer	Per Building SqFt	Existing	0.32	4	$0.06	100%	8,204
Large Office	Computers	Computer - ENERGY STAR	ENERGY STAR Computer	Standard Computer	Per Building SqFt	New	0.32	4	$0.06	100%	493
Large Office	Computers	Computer - Standard	Standard Computer	Standard Computer	Per Building SqFt	Existing	0.00	4	$0.00	100%	0
Large Office	Computers	Computer - Standard	Standard Computer	Standard Computer	Per Building SqFt	New	0.00	4	$0.00	100%	0
Large Office	Computers	Office Computer Network Energy Management	Office Computer Network Energy Management	No Network Management	Per Computer	Existing	88	5	$12	62%	3,421
Large Office	Computers	Office Computer Network Energy Management	Office Computer Network Energy Management	No Network Management	Per Computer	New	88	5	$12	62%	197
Large Office	Cooling Chillers	Chiller - Below Code	Below Standard Chiller - 0.74 kW/ton	Below Standard Chiller - 0.74 kW/ton	Per Building SqFt	Existing	0.00	20	$0.00	100%	0
Large Office	Cooling Chillers	Chiller - Below Code	Below Standard Chiller - 0.74 kW/ton	Below Standard Chiller - 0.74 kW/ton	Per Building SqFt	New	0.00	20	$0.00	100%	0
Large Office	Cooling Chillers	Chiller - High Efficiency	High Efficiency Chiller - 0.63 kW/ton	Standard Chiller - 0.68 kW/ton	Per Building SqFt	Existing	0.15	20	$0.02	100%	0
Large Office	Cooling Chillers	Chiller - High Efficiency	High Efficiency Chiller - 0.63 kW/ton	Standard Chiller - 0.68 kW/ton	Per Building SqFt	New	0.09	20	$0.02	100%	0
Large Office	Cooling Chillers	Chiller - Pipe Insulation	Above Code (3" of Insulation, Approximately R-11)	Code (1.5" of Insulation, Approximately R-6)	Per Linear Foot of Insulation	Existing	6.33	15	$4	58%	208
Large Office	Cooling Chillers	Chiller - Pipe Insulation	Above Code (3" of Insulation, Approximately R-11)	Code (1.5" of Insulation, Approximately R-6)	Per Linear Foot of Insulation	New	3.93	15	$4	85%	11
Large Office	Cooling Chillers	Chiller - Pipe Insulation	Code (1.5" of Insulation, Approximately R-6)	No Insulation	Per Linear Foot of Insulation	Existing	6.33	15	$4	58%	206
Large Office	Cooling Chillers	Chiller - Premium Efficiency	Premium Efficiency Chiller - 0.58 kW/ton	Standard Chiller - 0.68 kW/ton	Per Building SqFt	Existing	0.30	20	$0.11	100%	0
Large Office	Cooling Chillers	Chiller - Premium Efficiency	Premium Efficiency Chiller - 0.58 kW/ton	Standard Chiller - 0.68 kW/ton	Per Building SqFt	New	0.19	20	$0.11	100%	0
Large Office	Cooling Chillers	Chiller - Standard	Standard Chiller - 0.68 kW/ton	Standard Chiller - 0.68 kW/ton	Per Building SqFt	Existing	0.00	20	$0.00	100%	0
Large Office	Cooling Chillers	Chiller - Standard	Standard Chiller - 0.68 kW/ton	Standard Chiller - 0.68 kW/ton	Per Building SqFt	New	0.00	20	$0.00	100%	0
Large Office	Cooling Chillers	Chiller - VSD Retrofit	Centrifugal Chiller - VSD Remodel for Existing	Constant Speed Motor	Per Ton	Existing	45	10	$70	38%	0
Large Office	Cooling Chillers	Chiller - Water Piping Loop with VSD Control	VSD for Secondary Chilled Water Loop	Primary Loop Only w/ Constant Speed Pump	Per Ton	Existing	69	10	$212	62%	0
Large Office	Cooling Chillers	Chiller - Water Reset	Install Chilled Water Reset	No Chilled Water Reset	Per Control Point	Existing	105	10	$681	90%	0
Large Office	Cooling Chillers	Chiller Air-Cooled	Chiller Air Cooled with Condenser 10.0 EER	Standard 9.562 EER	Per Ton	Existing	40	20	$112	7%	0
Large Office	Cooling Chillers	Chiller Air-Cooled	Chiller Air Cooled with Condenser 10.0 EER	Standard 9.562 EER	Per Ton	New	24	20	$112	7%	0
Large Office	Cooling Chillers	Commissioning	Commissioning/QI - New Installation	No Commissioning	Per SqFt	New	0.17	7	$1	95%	0
Large Office	Cooling Chillers	Cool Roofs	ENERGY STAR Cool Roof - Reflect Material (Reflectivity = 0.55)	Standard Roof	Per Roof Area SqFt	Existing	0.21	15	$0.68	93%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Large Office	Cooling Chillers	Cool Roofs	ENERGY STAR Cool Roof - Reflect Material (Reflectivity = 0.55)	Standard Roof	Per Roof Area SqFt	New	0.13	15	$0.68	93%	0
Large Office	Cooling Chillers	Demand Controlled Ventilation	Demand Controlled Ventilation - DCV (Occupancy Sensors / CO2 Sensors)	Constant Ventilation	Per Sensor	Existing	52	15	$450	26%	266
Large Office	Cooling Chillers	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	Existing	26,974	5	$24,507	33%	0
Large Office	Cooling Chillers	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	New	16,764	5	$24,507	33%	0
Large Office	Cooling Chillers	Direct Digital Control System-Installation	DDC Retrofit - EMS Upgrade	Pneumatic	Per Building	Existing	40,461	5	$44,782	6%	0
Large Office	Cooling Chillers	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	Existing	17	20	$477	76%	0
Large Office	Cooling Chillers	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	New	17	20	$477	76%	0
Large Office	Cooling Chillers	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	Existing	7.87	20	$60	62%	2
Large Office	Cooling Chillers	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	New	7.87	20	$60	62%	0
Large Office	Cooling Chillers	Duct Repair And Sealing	Reduction In Duct Losses to 5%	No Repair or Sealing, 15% duct losses	Per Building SqFt	Existing	0.06	18	$0.23	1%	0
Large Office	Cooling Chillers	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	Existing	0.21	30	$10	75%	0
Large Office	Cooling Chillers	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	New	0.13	30	$10	75%	0
Large Office	Cooling Chillers	Infiltration Control	Weather-Stripping	Standard Practice	Per Window SqFt	Existing	1.17	13	$0.38	9%	64
Large Office	Cooling Chillers	Insulation - Duct	New Duct Insulation (R-8) (Unconditioned Spaces)	No Insulation	Per Surface Area of Duct	Existing	1.12	20	$2	0%	2
Large Office	Cooling Chillers	Insulation - Roof	R-20ci	Average Existing Insulation (R-10)	Per Roof Area SqFt	Existing	0.01	25	$1	13%	0
Large Office	Cooling Chillers	Insulation - Wall	R-13+R-7.5ci	Average Existing Insulation (R-10)	Per Wall Area SqFt	Existing	0.03	25	$1	33%	0
Large Office	Cooling Chillers	Retro-Commissioning	Retro-Commissioning	No Retro-Commissioning	Per SqFt	Existing	0.33	7	$0.30	76%	2,837
Large Office	Cooling Chillers	Tune-up - Chiller	Chiller Maintenance (Tune-up)	Unmaintained Chiller	Per SqFt	Existing	0.21	3	$0.15	16%	0
Large Office	Cooling Chillers	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	Existing	0.07	25	$3	62%	0
Large Office	Cooling Chillers	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	New	0.07	25	$3	69%	0
Large Office	Cooling Chillers	Window - Metal Framing	U-Value = 0.55 (Code Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	0.07	25	$27	12%	0
Large Office	Cooling Chillers	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	Existing	0.04	25	$2	1%	0
Large Office	Cooling Chillers	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	New	0.04	25	$2	1%	0
Large Office	Cooling Chillers	Window - Non-Metal Framing	U-Value = 0.35 (Code Non-Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	0.23	25	$42	1%	0
Large Office	Cooling DX	Advanced Control Technology	Advanced Control Technologies for Packaged Air-Conditioning Units (Retrofit)	Standard Controls	Per 5 Tons of Cooling	Existing	950	15	$4,920	15%	0
Large Office	Cooling DX	Commissioning	Commissioning/QI - New Installation	No Commissioning	Per SqFt	New	0.23	7	$1	90%	0
Large Office	Cooling DX	Cool Roofs	ENERGY STAR Cool Roof - Reflect Material (Reflectivity = 0.55)	Standard Roof	Per Roof Area SqFt	Existing	0.25	15	$0.68	93%	0
Large Office	Cooling DX	Cool Roofs	ENERGY STAR Cool Roof - Reflect Material (Reflectivity = 0.55)	Standard Roof	Per Roof Area SqFt	New	0.18	15	$0.68	93%	0
Large Office	Cooling DX	Demand Controlled Ventilation	Demand Controlled Ventilation - DCV (Occupancy Sensors / CO2 Sensors)	Constant Ventilation	Per Sensor	Existing	64	15	$450	26%	531
Large Office	Cooling DX	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	Existing	32,888	5	$13,562	33%	1,292

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Large Office	Cooling DX	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	New	23,191	5	$24,507	33%	0
Large Office	Cooling DX	Direct Digital Control System-Installation	DDC Retrofit - EMS Upgrade	Pneumatic	Per Building	Existing	49,333	5	$44,782	6%	0
Large Office	Cooling DX	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	Existing	24	20	$477	76%	0
Large Office	Cooling DX	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	New	24	20	$477	76%	0
Large Office	Cooling DX	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	Existing	11	20	$60	62%	4
Large Office	Cooling DX	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	New	11	20	$60	62%	0
Large Office	Cooling DX	Duct Repair And Sealing	Reduction In Duct Losses to 5%	No Repair or Sealing, 15% duct losses	Per Building SqFt	Existing	0.07	18	$0.23	38%	431
Large Office	Cooling DX	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	Existing	0.25	30	$10	75%	0
Large Office	Cooling DX	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	New	0.18	30	$10	75%	0
Large Office	Cooling DX	Infiltration Control	Weather-Stripping	Standard Practice	Per Window SqFt	Existing	1.42	13	$0.38	9%	129
Large Office	Cooling DX	Insulation - Duct	New Duct Insulation (R-8) (Unconditioned Spaces)	No Insulation	Per Surface Area of Duct	Existing	1.37	20	$2	15%	303
Large Office	Cooling DX	Insulation - Floor	R-30	Average Existing Insulation (R-10)	Per Floor Area SqFt	Existing	0.02	25	$1	29%	0
Large Office	Cooling DX	Insulation - Roof	R-20ci	Average Existing Insulation (R-10)	Per Roof Area SqFt	Existing	0.01	25	$1	13%	0
Large Office	Cooling DX	Insulation - Wall	R-13+R-7.5ci	Average Existing Insulation (R-10)	Per Wall Area SqFt	Existing	0.04	25	$1	33%	0
Large Office	Cooling DX	Package Terminal - Air Conditioner	High Efficiency Package Terminal Air Conditioner	Federal Standard Equipment	Per Package Terminal AC	Existing	55	9	$88	7%	0
Large Office	Cooling DX	Package Terminal - Air Conditioner	High Efficiency Package Terminal Air Conditioner	Federal Standard Equipment	Per Package Terminal AC	New	55	9	$88	7%	0
Large Office	Cooling DX	Retro-Commissioning	Retro-Commissioning	No Retro-Commissioning	Per SqFt	Existing	0.41	7	$0.30	90%	6,890
Large Office	Cooling DX	Rooftop DX Unit - Below Standard	Below Standard 9.5 EER, Air-Cooled = 135 and < 240 kBtuh	Below Standard 9.5 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.00	15	$0.00	100%	0
Large Office	Cooling DX	Rooftop DX Unit - Below Standard	Below Standard 9.5 EER, Air-Cooled = 135 and < 240 kBtuh	Below Standard 9.5 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	New	0.00	15	$0.00	100%	0
Large Office	Cooling DX	Rooftop DX Unit - CEE Tier 1	CEE Tier 1 11.5 EER, Air-Cooled = 135 and < 240 kBtuh	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.11	15	$0.05	100%	0
Large Office	Cooling DX	Rooftop DX Unit - CEE Tier 1	CEE Tier 1 11.5 EER, Air-Cooled = 135 and < 240 kBtuh	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	New	0.07	15	$0.05	100%	0
Large Office	Cooling DX	Rooftop DX Unit - CEE Tier 2	CEE Tier 2 12.0 EER, Air-Cooled = 135 and < 240 kBtuh	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.21	15	$0.08	100%	1,648
Large Office	Cooling DX	Rooftop DX Unit - CEE Tier 2	CEE Tier 2 12.0 EER, Air-Cooled = 135 and < 240 kBtuh	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	New	0.15	15	$0.08	100%	176
Large Office	Cooling DX	Rooftop DX Unit - Standard	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.00	15	$0.00	100%	0
Large Office	Cooling DX	Rooftop DX Unit - Standard	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	New	0.00	15	$0.00	100%	0
Large Office	Cooling DX	Thermostat Programmable	Setback Thermostat 5-1-1, 5-2 or 7-day	Manual Thermostat	Per Thermostat	Existing	986	15	$138	80%	1,190
Large Office	Cooling DX	Tune-up - Air Conditioner	Air Conditioner Maintenance (Tune-up)	Unmaintained Air Conditioner	Per Ton	Existing	111	3	$48	48%	0
Large Office	Cooling DX	Variable Air-Volume Systems	Install Variable Air-Volume System	Constant Volume System	Per Building SqFt	Existing	0.77	15	$1	10%	1,443
Large Office	Cooling DX	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	Existing	0.10	25	$3	62%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Large Office	Cooling DX	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	New	0.10	25	$3	69%	0
Large Office	Cooling DX	Window - Metal Framing	U-Value = 0.55 (Code Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	0.10	25	$27	12%	0
Large Office	Cooling DX	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	Existing	0.06	25	$2	1%	0
Large Office	Cooling DX	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	New	0.06	25	$2	1%	0
Large Office	Cooling DX	Window - Non-Metal Framing	U-Value = 0.35 (Code Non-Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	0.32	25	$42	1%	0
Large Office	Cooling DX	Window Air Conditioner	CEE TIER 1 = 11.3 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Window AC	Existing	88	9	$406	32%	0
Large Office	Cooling DX	Window Air Conditioner	CEE TIER 1 = 11.3 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Window AC	New	88	9	$406	32%	0
Large Office	Cooling DX	Window Air Conditioner	CEE TIER 2 = 11.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Window AC	Existing	112	9	$771	33%	0
Large Office	Cooling DX	Window Air Conditioner	CEE TIER 2 = 11.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Window AC	New	112	9	$771	33%	0
Large Office	Cooling DX	Window Air Conditioner	ENERGY STAR = 10.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Window AC	Existing	61	9	$41	26%	5
Large Office	Cooling DX	Window Air Conditioner	ENERGY STAR = 10.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Window AC	New	61	9	$41	26%	0
Large Office	Ext Lighting	Exterior Lighting - Standard	Standard Exterior Lighting	Standard Exterior Lighting	Per Building SqFt	Existing	0.00	14	$0.00	100%	0
Large Office	Ext Lighting	Exterior Lighting - Standard	Standard Exterior Lighting	Standard Exterior Lighting	Per Building SqFt	New	0.00	14	$0.00	100%	0
Large Office	Ext Lighting	Lighting - LED Lighting Package	Exterior LED Lighting Package	Standard Lighting	Per Lighting Package	Existing	279	13	$1,957	66%	0
Large Office	Ext Lighting	Lighting - High Intensity Discharge Package	High Efficiency Metal Halide Lighting Packages	Standard HID Lighting	Per Lighting Package	Existing	120	5	$87	62%	0
Large Office	Ext Lighting	Lighting - Induction Lighting Package	Induction Lighting Package	Standard HID Lighting	Per Lighting Package	Existing	342	13	$479	67%	0
Large Office	Fax	Fax - ENERGY STAR	ENERGY STAR Fax	Standard Fax	Per Building SqFt	Existing	0.00	6	$0.00	100%	98
Large Office	Fax	Fax - ENERGY STAR	ENERGY STAR Fax	Standard Fax	Per Building SqFt	New	0.00	6	$0.00	100%	7
Large Office	Fax	Fax - Standard	Standard Fax	Standard Fax	Per Building SqFt	Existing	0.00	6	$0.00	100%	0
Large Office	Fax	Fax - Standard	Standard Fax	Standard Fax	Per Building SqFt	New	0.00	6	$0.00	100%	0
Large Office	Flat Screen Monitors	Monitor - ENERGY STAR Flat Screen	ENERGY STAR Flat Screen Monitor	Standard Flat Screen Monitor	Per Building SqFt	Existing	0.00	4	$0.00	100%	0
Large Office	Flat Screen Monitors	Monitor - ENERGY STAR Flat Screen	ENERGY STAR Flat Screen Monitor	Standard Flat Screen Monitor	Per Building SqFt	New	0.00	4	$0.00	100%	0
Large Office	Flat Screen Monitors	Monitor - Standard Flat Screen	Standard Flat Screen Monitor	Standard Flat Screen Monitor	Per Building SqFt	Existing	0.00	4	$0.00	100%	0
Large Office	Flat Screen Monitors	Monitor - Standard Flat Screen	Standard Flat Screen Monitor	Standard Flat Screen Monitor	Per Building SqFt	New	0.00	4	$0.00	100%	0
Large Office	Freezers	Freezer - 2014 Federal Standard	2014 Standard Freezer	Standard Freezer	Per Building SqFt	Existing	0.00	12	$0.00	100%	0
Large Office	Freezers	Freezer - 2014 Federal Standard	2014 Standard Freezer	Standard Freezer	Per Building SqFt	New	0.00	12	$0.00	100%	0
Large Office	Freezers	Freezer - Below Standard	Below Standard Freezer	Below Standard Freezer	Per Building SqFt	Existing	0.00	12	$0.00	100%	0
Large Office	Freezers	Freezer - Below Standard	Below Standard Freezer	Below Standard Freezer	Per Building SqFt	New	0.00	12	$0.00	100%	0
Large Office	Freezers	Freezer - ENERGY STAR	ENERGY STAR Freezer	Standard Freezer	Per Building SqFt	Existing	0.00	12	$0.00	100%	0
Large Office	Freezers	Freezer - ENERGY STAR	ENERGY STAR Freezer	Standard Freezer	Per Building SqFt	New	0.00	12	$0.00	100%	0
Large Office	Freezers	Freezer - Standard	Standard Freezer	Standard Freezer	Per Building SqFt	Existing	0.00	12	$0.00	100%	0
Large Office	Freezers	Freezer - Standard	Standard Freezer	Standard Freezer	Per Building SqFt	New	0.00	12	$0.00	100%	0
Large Office	HVAC Aux	Cooling Tower-Two-Speed Fan Motor	Cooling Tower-Two-Speed Fan Motor	Cooling Tower-One-Speed Fan Motor	Per Chiller Ton	Existing	82	15	$2	33%	1,957
Large Office	HVAC Aux	Cooling Tower-VSD Fan Control	Variable-Speed Tower Fans Replace Two-Speed	Cooling Tower-One-Speed Fan Motor	Per Chiller Ton	Existing	23	13	$19	71%	48
Large Office	HVAC Aux	Cooling Tower-VSD Fan Control	Variable-Speed Tower Fans Replace Two-Speed	Cooling Tower-One-Speed Fan Motor	Per Chiller Ton	New	14	13	$19	11%	0
Large Office	HVAC Aux	ECM Motor	Central Air Conditioner ECM Fan	Standard Motor	Per ECM	Existing	651	15	$200	42%	866
Large Office	HVAC Aux	ECM Motor	Central Air Conditioner ECM Fan	Standard Motor	Per ECM	New	415	15	$200	61%	47
Large Office	HVAC Aux	ECM Motor	Electric Furnace ECM Fan	Standard Motor	Per ECM	Existing	651	15	$200	10%	203

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Large Office	HVAC Aux	ECM Motor	Electric Furnace ECM Fan	Standard Motor	Per ECM	New	415	15	$200	14%	11
Large Office	HVAC Aux	ECM Motor	Gas Furnace ECM Fan (CEE Air Handling Ratio < 0.02)	Standard Motor	Per ECM	Existing	651	15	$200	49%	1,002
Large Office	HVAC Aux	ECM Motor	Gas Furnace ECM Fan (CEE Air Handling Ratio < 0.02)	Standard Motor	Per ECM	New	415	15	$200	71%	54
Large Office	HVAC Aux	HVAC Auxillary - Standard Equipment	Standard HVAC Auxillary	Standard HVAC Auxillary	Per Building SqFt	Existing	0.00	15	$0.00	100%	0
Large Office	HVAC Aux	HVAC Auxillary - Standard Equipment	Standard HVAC Auxillary	Standard HVAC Auxillary	Per Building SqFt	New	0.00	15	$0.00	100%	0
Large Office	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	Existing	75	15	$274	67%	0
Large Office	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	New	75	15	$274	67%	0
Large Office	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	Existing	2,066	15	$2,036	0%	1
Large Office	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	New	518	15	$2,036	9%	0
Large Office	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	Existing	518	15	$678	9%	0
Large Office	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	New	1,143	15	$678	1%	0
Large Office	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	Existing	5,959	15	$4,197	0%	0
Large Office	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	New	2,066	15	$4,197	0%	0
Large Office	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	Existing	1,143	15	$1,375	1%	2
Large Office	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	New	5,959	15	$1,375	0%	0
Large Office	HVAC Aux	Variable Air-Volume Systems	Install Variable Air-Volume System	Constant Volume System	Per Building SqFt	Existing	0.16	15	$1	10%	0
Large Office	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 1-15 HP	Constant Speed Motor	Per Building	Existing	34,511	15	$7,638	67%	5,634
Large Office	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 1-15 HP	Constant Speed Motor	Per Building	New	21,973	15	$7,638	67%	209
Large Office	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 125-200 HP	Constant Speed Motor	Per Building	Existing	34,511	15	$3,587	1%	51
Large Office	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 125-200 HP	Constant Speed Motor	Per Building	New	21,973	15	$3,587	1%	2
Large Office	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 20-40 HP	Constant Speed Motor	Per Building	Existing	34,511	15	$4,427	4%	363
Large Office	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 20-40 HP	Constant Speed Motor	Per Building	New	21,973	15	$4,427	4%	13
Large Office	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 250-500 HP	Constant Speed Motor	Per Building	Existing	34,511	15	$2,722	0%	19
Large Office	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 250-500 HP	Constant Speed Motor	Per Building	New	21,973	15	$2,722	0%	1
Large Office	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 50-100 HP	Constant Speed Motor	Per Building	Existing	34,511	15	$5,454	1%	115
Large Office	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 50-100 HP	Constant Speed Motor	Per Building	New	21,973	15	$5,454	1%	4
Large Office	Heat Pump	Commissioning	Commissioning/QI - New Installation	No Commissioning	Per SqFt	New	0.89	7	$1	90%	0
Large Office	Heat Pump	Cool Roofs	ENERGY STAR Cool Roof - Reflect Material (Reflectivity = 0.55)	Standard Roof	Per Roof Area SqFt	Existing	0.23	15	$0.68	93%	0
Large Office	Heat Pump	Cool Roofs	ENERGY STAR Cool Roof - Reflect Material (Reflectivity = 0.55)	Standard Roof	Per Roof Area SqFt	New	0.12	15	$0.68	93%	0
Large Office	Heat Pump	Demand Controlled Ventilation	Demand Controlled Ventilation - DCV (Occupancy Sensors / CO2 Sensors)	Constant Ventilation	Per Sensor	Existing	1,338	15	$450	43%	0
Large Office	Heat Pump	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	Existing	97,718	5	$27,124	33%	0
Large Office	Heat Pump	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	New	88,312	5	$27,124	33%	0
Large Office	Heat Pump	Direct Digital Control System-Installation	DDC Retrofit - EMS Upgrade	Pneumatic	Per Building	Existing	46,577	5	$89,564	6%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Large Office	Heat Pump	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	Existing	296	20	$477	76%	0
Large Office	Heat Pump	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	New	296	20	$477	76%	0
Large Office	Heat Pump	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	Existing	131	20	$60	62%	0
Large Office	Heat Pump	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	New	131	20	$60	62%	0
Large Office	Heat Pump	Duct Repair And Sealing	Reduction In Duct Losses to 5%	No Repair or Sealing, 15% duct losses	Per Building SqFt	Existing	0.22	18	$0.23	38%	0
Large Office	Heat Pump	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	Existing	0.23	30	$10	75%	0
Large Office	Heat Pump	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	New	0.12	30	$10	75%	0
Large Office	Heat Pump	Heat Pump - Below Standard	Below Standard Air Source Heat Pump 9.0 EER and 2.8 COP, = 135 and < 240 kBtuh	Below Standard Air Source Heat Pump 9.0 EER and 2.8 COP, = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.00	15	$0.00	100%	0
Large Office	Heat Pump	Heat Pump - Below Standard	Below Standard Air Source Heat Pump 9.0 EER and 2.8 COP, = 135 and < 240 kBtuh	Below Standard Air Source Heat Pump 9.0 EER and 2.8 COP, = 135 and < 240 kBtuh	Per Building SqFt	New	0.00	15	$0.00	100%	0
Large Office	Heat Pump	Heat Pump - ENERGY STAR	ENERGY STAR Ground Source Heat Pump 16.2 EER and 3.6 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	Existing	1.34	15	$13	5%	0
Large Office	Heat Pump	Heat Pump - ENERGY STAR	ENERGY STAR Ground Source Heat Pump 16.2 EER and 3.6 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	New	1.16	15	$8	5%	0
Large Office	Heat Pump	Heat Pump - High Efficiency	High Efficiency Air Source Heat Pump 11.1 EER and 3.3 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.26	15	$0.11	100%	0
Large Office	Heat Pump	Heat Pump - High Efficiency	High Efficiency Air Source Heat Pump 11.1 EER and 3.3 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	New	0.23	15	$0.11	100%	0
Large Office	Heat Pump	Heat Pump - Premium Efficiency	Premium Efficiency Water Source Heat Pump 12.0 EER and 4.2 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	Existing	1.56	15	$0.65	5%	0
Large Office	Heat Pump	Heat Pump - Premium Efficiency	Premium Efficiency Water Source Heat Pump 12.0 EER and 4.2 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	New	1.43	15	$0.75	5%	0
Large Office	Heat Pump	Heat Pump - Standard	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.00	15	$0.00	100%	0
Large Office	Heat Pump	Heat Pump - Standard	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	New	0.00	15	$0.00	100%	0
Large Office	Heat Pump	Heat Pump - Variable Refrigerant Flow System	Variable Refrigerant Flow System (VRF) - Heat Pump	Packaged VAV With Electric Reheat	Per Ton	Existing	1,262	15	$540	33%	0
Large Office	Heat Pump	Heat Pump - Variable Refrigerant Flow System	Variable Refrigerant Flow System (VRF) - Heat Pump	Packaged VAV With Electric Reheat	Per Ton	New	1,140	15	$540	81%	0
Large Office	Heat Pump	Infiltration Control	Weather-Stripping	Standard Practice	Per Window SqFt	Existing	8.17	13	$0.38	9%	0
Large Office	Heat Pump	Insulation - Duct	New Duct Insulation (R-8) (Unconditioned Spaces)	No Insulation	Per Surface Area of Duct	Existing	4.09	20	$2	15%	0
Large Office	Heat Pump	Insulation - Floor	R-30	Average Existing Insulation (R-10)	Per Floor Area SqFt	Existing	0.29	25	$1	29%	0
Large Office	Heat Pump	Insulation - Roof	R-20ci	Average Existing Insulation (R-10)	Per Roof Area SqFt	Existing	0.19	25	$1	13%	0
Large Office	Heat Pump	Insulation - Wall	R-13+R-7.5ci	Average Existing Insulation (R-10)	Per Wall Area SqFt	Existing	0.58	25	$1	33%	0
Large Office	Heat Pump	Package Terminal - Heat Pump	High Efficiency Package Terminal Air Conditioner	Federal Standard Equipment	Per Ton	Existing	55	15	$150	10%	0
Large Office	Heat Pump	Package Terminal - Heat Pump	High Efficiency Package Terminal Air Conditioner	Federal Standard Equipment	Per Ton	New	55	15	$150	10%	0
Large Office	Heat Pump	Retro-Commissioning	Retro-Commissioning	No Retro-Commissioning	Per SqFt	Existing	1.22	7	$0.30	90%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Large Office	Heat Pump	Thermostat Programmable	Setback Thermostat 5-1-1, 5-2 or 7-day	Manual Thermostat	Per Thermostat	Existing	2,931	15	$138	80%	0
Large Office	Heat Pump	Tune-up - Air Source Heat Pump	Air Source Heat Pump Maintenance (Tune-up)	Unmaintained Air Source Heat Pump	Per Ton	Existing	332	3	$48	48%	0
Large Office	Heat Pump	Tune-up - Ground Source Heat Pump	Ground Source Heat Pump Maintenance (Tune-up)	Unmaintained Ground Source Heat Pump	Per Ton	Existing	332	3	$48	48%	0
Large Office	Heat Pump	Variable Air-Volume Systems	Install Variable Air-Volume System	Constant Volume System	Per Building SqFt	Existing	1.39	15	$1	10%	0
Large Office	Heat Pump	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	Existing	1.22	25	$3	62%	0
Large Office	Heat Pump	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	New	1.22	25	$3	69%	0
Large Office	Heat Pump	Window - Metal Framing	U-Value = 0.55 (Code Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	1.27	25	$27	12%	0
Large Office	Heat Pump	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	Existing	0.78	25	$2	1%	0
Large Office	Heat Pump	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	New	0.78	25	$2	1%	0
Large Office	Heat Pump	Window - Non-Metal Framing	U-Value = 0.35 (Code Non-Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	3.89	25	$42	1%	0
Large Office	Lighting	Bi-Level Control, Stairwell Lighting	Bi-Level Stairwell Occupancy Sensor Control, 50% Lighting Power During Unoccupied Time	Continuous Full Power Lighting in Stairways	Per Stairwell Lighting Control	Existing	488	9	$107	68%	5,128
Large Office	Lighting	Bi-Level Control, Stairwell Lighting	Bi-Level Stairwell Occupancy Sensor Control, 50% Lighting Power During Unoccupied Time	Continuous Full Power Lighting in Stairways	Per Stairwell Lighting Control	New	305	9	$107	68%	187
Large Office	Lighting	Ceiling Fans	ENERGY STAR Ceiling Fans with Light Kit	Standard Ceiling Fan	Per Ceiling Fan	Existing	98	10	$119	85%	0
Large Office	Lighting	Ceiling Fans	ENERGY STAR Ceiling Fans with Light Kit	Standard Ceiling Fan	Per Ceiling Fan	New	98	10	$119	85%	0
Large Office	Lighting	Daylighting Controls	Continuous Dimming, Fluorescent Fixtures (Day-Lighting)	No Dimming Controls	Per Applicable SQFT of Dimmable Perimeter Area of Building	Existing	3.41	9	$1	66%	19,643
Large Office	Lighting	Daylighting Controls	Continuous Dimming, Fluorescent Fixtures (Day-Lighting)	No Dimming Controls	Per Applicable SQFT of Dimmable Perimeter Area of Building	New	2.13	13	$1	0%	0
Large Office	Lighting	Daylighting Controls	Dual Level Switches, Fluorescent Fixtures	No Dimming Controls	Per Applicable SQFT of Dimmable Perimeter Area of Building	Existing	1.40	9	$0.83	66%	4,226
Large Office	Lighting	Daylighting Controls	Dual Level Switches, Fluorescent Fixtures	No Dimming Controls	Per Applicable SQFT of Dimmable Perimeter Area of Building	New	0.87	13	$0.83	0%	0
Large Office	Lighting	Exit Sign - LED	LED Exit Signs	CFL Exit Sign	Per Exit Sign	Existing	175	11	$68	38%	790
Large Office	Lighting	Exit Sign - Photoluminescent	Photoluminescent Exit Sign	LED Exit Sign	Per Exit Sign	Existing	35	13	$30	93%	391
Large Office	Lighting	Exit Sign - Photoluminescent	Photoluminescent Exit Sign	LED Exit Sign	Per Exit Sign	New	35	13	$30	93%	23
Large Office	Lighting	LED Strip Lighting	LED Strip Lighting (Non-Refrigerated)	Fluorescent	Per Linear Foot of Lighting	Existing	0.44	11	$2	78%	0
Large Office	Lighting	LED Strip Lighting	LED Strip Lighting (Non-Refrigerated)	Fluorescent	Per Linear Foot of Lighting	New	0.44	11	$2	78%	0
Large Office	Lighting	LightLouver Daylighting System	LightLouver Daylighting System	No Daylight System	Per Linear Feet of Window	Existing	49	9	$65	40%	0
Large Office	Lighting	Lighting - CFL Lamp Package	ENERGY STAR CFL	EISA Incandescent	Per Building	Existing	41,101	2	$319	68%	1,787
Large Office	Lighting	Lighting - Clock/Timer	Lighting Clock/Timer Commercial grade	No Time Clock	Per Lighting Control	Existing	1,727	9	$205	42%	3,930
Large Office	Lighting	Lighting - Fluorescent High Performance Package	Fluorescent HP Lamps and Ballasts Packages	Standard Lighting	Per Lighting Package	Existing	66,014	13	$63,081	90%	0
Large Office	Lighting	Lighting - Fluorescent Reduced Wattage Package	Fluorescent RW Lamps and Ballasts Packages	Standard Lighting	Per Lighting Package	Existing	32,029	13	$34,099	76%	0
Large Office	Lighting	Lighting - Induction Lighting Package	Induction Lighting Package	Standard HID Lighting	Per Lighting Package	Existing	14,422	20	$26,771	38%	0
Large Office	Lighting	Lighting - LED Lamp Package	ENERGY STAR LED	EISA Incandescent	Per Lighting Package	Existing	49,513	12	$14,881	73%	8,864
Large Office	Lighting	Lighting - LPD Package	LPD Reduction Package 15%	LPD Code	Per Lighting Package	New	73,154	15	$1,099	68%	195

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Large Office	Lighting	Lighting - LPD Package	LPD Reduction Package 25%	LPD Code	Per Lighting Package	New	21,923	15	$13,491	71%	1,234
Large Office	Lighting	Lighting - Specialty Lamp Package	CFL and LED Specialty Lamp Package	Standard Incandescent	Per Lighting Package	Existing	4,646	4	$395	81%	914
Large Office	Lighting	Lighting - Standard	Standard Lighting	Standard Lighting	Per Building SqFt	Existing	0.00	14	$0.00	100%	0
Large Office	Lighting	Lighting - Standard	Standard Lighting	Standard Lighting	Per Building SqFt	New	0.00	14	$0.00	100%	0
Large Office	Lighting	Occupancy Sensor - High-Bay	Fixture-Mounted (Control > 150 Watts)	No Sensor	Per Lighting Control	Existing	960	14	$225	3%	81
Large Office	Lighting	Occupancy Sensor - High-Bay	Fixture-Mounted (Control > 150 Watts)	No Sensor	Per Lighting Control	New	601	14	$225	3%	3
Large Office	Lighting	Occupancy Sensor - Wall or Ceiling	Wall or Ceiling-Mounted (Control > 400 Watts)	No Sensor	Per Lighting Control	Existing	84	14	$225	69%	0
Large Office	Lighting	Occupancy Sensor - Wall or Ceiling	Wall or Ceiling-Mounted (Control > 400 Watts)	No Sensor	Per Lighting Control	New	52	14	$225	69%	0
Large Office	Other	Other - Standard	Standard Other Equipment	Standard Other Equipment	Per Building SqFt	Existing	0.00	10	$0.00	100%	0
Large Office	Other	Other - Standard	Standard Other Equipment	Standard Other Equipment	Per Building SqFt	New	0.00	10	$0.00	100%	0
Large Office	Other	Transformers	Transformers, Three-Phase Low-Voltage Dry-Type CEE Tier 1	Standard Efficiency Transformer NEMA TP-1-2002	Per Transformer	Existing	1,612	30	$5,078	50%	0
Large Office	Other	Transformers	Transformers, Three-Phase Low-Voltage Dry-Type CEE Tier 1	Standard Efficiency Transformer NEMA TP-1-2002	Per Transformer	New	1,612	30	$5,078	50%	0
Large Office	Other Plug Load	All-In-One Office Equipment	All-In-One ENERGY STAR Office Equipment	Non-ENERGY STAR Features	Per All-in-One Device	Existing	200	6	$218	68%	0
Large Office	Other Plug Load	All-In-One Office Equipment	All-In-One ENERGY STAR Office Equipment	Non-ENERGY STAR Features	Per All-in-One Device	New	200	6	$218	68%	0
Large Office	Other Plug Load	Ceiling Fans	ENERGY STAR Ceiling Fans with Light Kit	Standard Ceiling Fan	Per Ceiling Fan	Existing	4.33	10	$119	85%	0
Large Office	Other Plug Load	Ceiling Fans	ENERGY STAR Ceiling Fans with Light Kit	Standard Ceiling Fan	Per Ceiling Fan	New	4.33	10	$119	85%	0
Large Office	Other Plug Load	Ceiling Fans	ENERGY STAR Ceiling Fans without Light Kit	Standard Ceiling Fan	Per Ceiling Fan	Existing	4.33	10	$1	85%	9
Large Office	Other Plug Load	Ceiling Fans	ENERGY STAR Ceiling Fans without Light Kit	Standard Ceiling Fan	Per Ceiling Fan	New	4.33	10	$1	85%	1
Large Office	Other Plug Load	Plug Load - Standard Equipment	Standard Plug Load	Standard Plug Load	Per Building SqFt	Existing	0.00	10	$0.00	100%	0
Large Office	Other Plug Load	Plug Load - Standard Equipment	Standard Plug Load	Standard Plug Load	Per Building SqFt	New	0.00	10	$0.00	100%	0
Large Office	Other Plug Load	Snow Melt System Control	Snow Melt System Control	Manual Control	Per Snow Melt Control	Existing	1,501	25	$2,782	5%	84
Large Office	Other Plug Load	Snow Melt System Control	Snow Melt System Control	Manual Control	Per Snow Melt Control	New	1,600	25	$2,782	0%	0
Large Office	Other Plug Load	Water Coolers	ENERGY STAR Water Cooler	Non-ENERGY STAR Water Cooler	Per Water Cooler	Existing	209	10	$5	56%	115
Large Office	Other Plug Load	Water Coolers	ENERGY STAR Water Cooler	Non-ENERGY STAR Water Cooler	Per Water Cooler	New	223	10	$5	56%	7
Large Office	Photo Copiers	Photo Copier - ENERGY STAR	ENERGY STAR Photo Copier	Standard Photo Copier	Per Building SqFt	Existing	0.00	6	$0.01	100%	0
Large Office	Photo Copiers	Photo Copier - ENERGY STAR	ENERGY STAR Photo Copier	Standard Photo Copier	Per Building SqFt	New	0.00	6	$0.01	100%	0
Large Office	Photo Copiers	Photo Copiers - Standard	Standard Photo Copier	Standard Photo Copier	Per Building SqFt	Existing	0.00	6	$0.00	100%	0
Large Office	Photo Copiers	Photo Copiers - Standard	Standard Photo Copier	Standard Photo Copier	Per Building SqFt	New	0.00	6	$0.00	100%	0
Large Office	Printers	Printers - ENERGY STAR	ENERGY STAR Printers	Standard Printers	Per Building SqFt	Existing	0.06	6	$0.00	100%	1,636
Large Office	Printers	Printers - ENERGY STAR	ENERGY STAR Printers	Standard Printers	Per Building SqFt	New	0.06	6	$0.00	100%	114
Large Office	Printers	Printers - Standard	Standard Printers	Standard Printers	Per Building SqFt	Existing	0.00	6	$0.00	100%	0
Large Office	Printers	Printers - Standard	Standard Printers	Standard Printers	Per Building SqFt	New	0.00	6	$0.00	100%	0
Large Office	Refrigerators	Refrigerator - 2014 Federal Standard	2014 Standard Refrigerator	Standard Refrigerator	Per Building SqFt	Existing	0.03	13	$0.09	100%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Large Office	Refrigerators	Refrigerator - 2014 Federal Standard	2014 Standard Refrigerator	Standard Refrigerator	Per Building SqFt	New	0.03	13	$0.09	100%	0
Large Office	Refrigerators	Refrigerator - Below Standard	Below Standard Refrigerator	Below Standard Refrigerator	Per Building SqFt	Existing	0.00	13	$0.00	100%	0
Large Office	Refrigerators	Refrigerator - Below Standard	Below Standard Refrigerator	Below Standard Refrigerator	Per Building SqFt	New	0.00	13	$0.00	100%	0
Large Office	Refrigerators	Refrigerator - CEE Tier 1	CEE Tier 1 Refrigerator	Standard Refrigerator	Per Building SqFt	Existing	0.04	13	$0.13	100%	0
Large Office	Refrigerators	Refrigerator - CEE Tier 1	CEE Tier 1 Refrigerator	Standard Refrigerator	Per Building SqFt	New	0.04	13	$0.13	100%	0
Large Office	Refrigerators	Refrigerator - CEE Tier 2	CEE Tier 2 Refrigerator	Standard Refrigerator	Per Building SqFt	Existing	0.01	13	$0.05	100%	0
Large Office	Refrigerators	Refrigerator - CEE Tier 2	CEE Tier 2 Refrigerator	Standard Refrigerator	Per Building SqFt	New	0.01	13	$0.05	100%	0
Large Office	Refrigerators	Refrigerator - ENERGY STAR	ENERGY STAR Refrigerator	Standard Refrigerator	Per Building SqFt	Existing	0.01	13	$0.02	100%	0
Large Office	Refrigerators	Refrigerator - ENERGY STAR	ENERGY STAR Refrigerator	Standard Refrigerator	Per Building SqFt	New	0.01	13	$0.02	100%	0
Large Office	Refrigerators	Refrigerator - Federal Standard	Standard Refrigerator	Standard Refrigerator	Per Building SqFt	Existing	0.00	13	$0.00	100%	0
Large Office	Refrigerators	Refrigerator - Federal Standard	Standard Refrigerator	Standard Refrigerator	Per Building SqFt	New	0.00	13	$0.00	100%	0
Large Office	Servers	Server - ENERGY STAR	ENERGY STAR Server	Standard Server	Per Building SqFt	Existing	0.04	9	$0.00	100%	916
Large Office	Servers	Server - ENERGY STAR	ENERGY STAR Server	Standard Server	Per Building SqFt	New	0.04	9	$0.00	100%	77
Large Office	Servers	Server - Standard	Standard Server	Standard Server	Per Building SqFt	Existing	0.00	9	$0.00	100%	0
Large Office	Servers	Server - Standard	Standard Server	Standard Server	Per Building SqFt	New	0.00	9	$0.00	100%	0
Large Office	Space Heat	Demand Controlled Ventilation	Demand Controlled Ventilation - DCV (Occupancy Sensors / CO2 Sensors)	Constant Ventilation	Per Sensor	Existing	399	15	$450	43%	0
Large Office	Space Heat	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	Existing	34,054	5	$5,556	33%	223
Large Office	Space Heat	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	New	98,156	5	$13,562	33%	39
Large Office	Space Heat	Direct Digital Control System-Installation	DDC Retrofit - EMS Upgrade	Pneumatic	Per Building	Existing	51,082	5	$24,455	6%	0
Large Office	Space Heat	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	Existing	488	20	$477	76%	0
Large Office	Space Heat	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	New	488	20	$477	76%	0
Large Office	Space Heat	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	Existing	217	20	$60	62%	10
Large Office	Space Heat	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	New	217	20	$60	62%	1
Large Office	Space Heat	Duct Repair And Sealing	Reduction In Duct Losses to 5%	No Repair or Sealing, 15% duct losses	Per Building SqFt	Existing	0.07	18	$0.23	38%	0
Large Office	Space Heat	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	Existing	0.26	30	$10	75%	0
Large Office	Space Heat	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	New	0.76	30	$10	75%	0
Large Office	Space Heat	Infiltration Control	Weather-Stripping	Standard Practice	Per Window SqFt	Existing	3.45	13	$0.38	9%	43
Large Office	Space Heat	Insulation - Duct	New Duct Insulation (R-8) (Unconditioned Spaces)	No Insulation	Per Surface Area of Duct	Existing	1.42	20	$2	15%	0
Large Office	Space Heat	Insulation - Floor	R-30	Average Existing Insulation (R-10)	Per Floor Area SqFt	Existing	0.47	25	$1	29%	0
Large Office	Space Heat	Insulation - Roof	R-20ci	Average Existing Insulation (R-10)	Per Roof Area SqFt	Existing	0.31	25	$1	13%	0
Large Office	Space Heat	Insulation - Wall	R-13+R-7.5ci	Average Existing Insulation (R-10)	Per Wall Area SqFt	Existing	0.97	25	$1	33%	0
Large Office	Space Heat	Space Heat - Standard	Standard Space Heat	Standard Space Heat	Per Building SqFt	Existing	0.00	20	$0.00	100%	0
Large Office	Space Heat	Space Heat - Standard	Standard Space Heat	Standard Space Heat	Per Building SqFt	New	0.00	20	$0.00	100%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Large Office	Space Heat	Thermostat Programmable	Setback Thermostat 5-1-1, 5-2 or 7-day	Manual Thermostat	Per Thermostat	Existing	1,021	15	$138	80%	166
Large Office	Space Heat	Variable Air-Volume Systems	Install Variable Air-Volume System	Constant Volume System	Per Building SqFt	Existing	0.34	15	$1	10%	0
Large Office	Space Heat	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	Existing	2.01	25	$3	62%	0
Large Office	Space Heat	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	New	2.01	25	$3	69%	0
Large Office	Space Heat	Window - Metal Framing	U-Value = 0.55 (Code Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	2.09	25	$27	12%	0
Large Office	Space Heat	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	Existing	1.28	25	$2	1%	0
Large Office	Space Heat	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	New	1.28	25	$2	1%	0
Large Office	Space Heat	Window - Non-Metal Framing	U-Value = 0.35 (Code Non-Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	6.42	25	$42	1%	0
Large Office	Vending Machines	Vending Machine - Controller	Refrigerated Vending Machine Controller	No Controls	Per Vending Machine	Existing	1,394	3	$238	25%	263
Large Office	Vending Machines	Vending Machine - Controller	Refrigerated Vending Machine Controller	No Controls	Per Vending Machine	New	1,394	3	$238	25%	13
Large Office	Vending Machines	Vending Machine - ENERGY STAR	ENERGY STAR Vending Machine	Standard Vending Machine	Per Building SqFt	Existing	0.03	10	$0.00	100%	655
Large Office	Vending Machines	Vending Machine - ENERGY STAR	ENERGY STAR Vending Machine	Standard Vending Machine	Per Building SqFt	New	0.03	10	$0.00	100%	57
Large Office	Vending Machines	Vending Machine - Standard	Standard Vending Machine	Standard Vending Machine	Per Building SqFt	Existing	0.00	10	$0.00	100%	0
Large Office	Vending Machines	Vending Machine - Standard	Standard Vending Machine	Standard Vending Machine	Per Building SqFt	New	0.00	10	$0.00	100%	0
Large Office	Water Heat	Desuperheaters - Air Conditioner	Add-on Desuperheaters to Air Conditioner	No Desuperheater	Per Desuperheater	Existing	541	10	$600	49%	0
Large Office	Water Heat	Desuperheaters - Air Source Heat Pump	Add-on Desuperheaters to Air Source Heat Pump	No Desuperheater	Per Desuperheater	Existing	3,387	10	$600	4%	22
Large Office	Water Heat	Desuperheaters - Ground Source Heat Pump	Add-on Desuperheaters to Ground Source Heat Pump	No Desuperheater	Per Desuperheater	Existing	3,387	10	$600	0%	1
Large Office	Water Heat	Dishwasher	Dishwasher Enhanced Efficiency (EF 1.00) 200 kWh/yr and 4.00 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle = 307 kWh/yr and = 5.0 Gallons/Cycle for July 1, 2011 - Dec 31, 2011	Per Dishwasher	Existing	155	11	$1,067	86%	0
Large Office	Water Heat	Dishwasher	Dishwasher Enhanced Efficiency (EF 1.00) 200 kWh/yr and 4.00 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle = 307 kWh/yr and = 5.0 Gallons/Cycle for July 1, 2011 - Dec 31, 2011	Per Dishwasher	New	155	11	$1,067	86%	0
Large Office	Water Heat	Dishwasher	ENERGY STAR 295 kWh/yr and 4.25 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle = 307 kWh/yr and = 5.0 Gallons/Cycle for July 1, 2011 - Dec 31, 2011	Per Dishwasher	Existing	60	11	$272	72%	0
Large Office	Water Heat	Dishwasher	ENERGY STAR 295 kWh/yr and 4.25 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle = 307 kWh/yr and = 5.0 Gallons/Cycle for July 1, 2011 - Dec 31, 2011	Per Dishwasher	New	60	11	$272	72%	0
Large Office	Water Heat	Drainwater Heat Recovery	Install Power-Pipe or GFX System	No GFX or Power-Pipe System	Per 40 Gal Water Heater	Existing	3,387	40	$833	60%	443
Large Office	Water Heat	Drainwater Heat Recovery	Install Power-Pipe or GFX System	No GFX or Power-Pipe System	Per 40 Gal Water Heater	New	3,387	40	$666	83%	29
Large Office	Water Heat	Faucet Aerator	0.5 GPM	Existing Aerator (3.0 GPM)	Per Aerator	Existing	52	10	$4	67%	163
Large Office	Water Heat	Ultrasonic Faucet Control	Install Ultrasonic Faucet Control	No Faucet Control	Per Faucet	Existing	21	10	$196	81%	0
Large Office	Water Heat	Ultrasonic Faucet Control	Install Ultrasonic Faucet Control	No Faucet Control	Per Faucet	New	21	10	$196	81%	0
Large Office	Water Heat	Water Heater - Pipe Insulation	Hot Water Pipe Insulation (R-4)	No Pipe Insulation	Per Linear Foot	Existing	42	13	$2	56%	22
Large Office	Water Heat	Water Heater - Tank Blanket/Insulation	Install Insulation (R-11)	No Tank Insulation	Per Water Heater	Existing	677	7	$62	5%	7

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Large Office	Water Heat	Water Heater - Thermostat Setback	Install Programmable Thermostat (120 Degrees)	No Thermostat Setback (130 Degrees)	Per Water Heater	Existing	2,304	4	$102	35%	155
Large Office	Water Heat	Water Heating - ENERGY STAR	ENERGY STAR Heat Pump Water Heater EF = 2.0	Standard Water Heater EF = 0.92	Per Building SqFt	Existing	0.14	13	$0.06	75%	948
Large Office	Water Heat	Water Heating - ENERGY STAR	ENERGY STAR Heat Pump Water Heater EF = 2.0	Standard Water Heater EF = 0.92	Per Building SqFt	New	0.14	13	$0.06	75%	101
Large Office	Water Heat	Water Heating - Storage 2015 Standard	2015 Standard Water Heater EF = 0.95	Standard Water Heater EF = 0.92	Per Building SqFt	Existing	0.00	13	$0.00	100%	15
Large Office	Water Heat	Water Heating - Storage 2015 Standard	2015 Standard Water Heater EF = 0.95	Standard Water Heater EF = 0.92	Per Building SqFt	New	0.00	13	$0.00	100%	2
Large Office	Water Heat	Water Heating - Storage Below Standard	Below Standard Water Heater EF = 0.86	Below Standard Water Heater EF = 0.86	Per Building SqFt	Existing	0.00	13	$0.00	100%	0
Large Office	Water Heat	Water Heating - Storage Below Standard	Below Standard Water Heater EF = 0.86	Below Standard Water Heater EF = 0.86	Per Building SqFt	New	0.00	13	$0.00	100%	0
Large Office	Water Heat	Water Heating - Storage Standard	Standard Water Heater EF = 0.92	Standard Water Heater EF = 0.92	Per Building SqFt	Existing	0.00	13	$0.00	100%	0
Large Office	Water Heat	Water Heating - Storage Standard	Standard Water Heater EF = 0.92	Standard Water Heater EF = 0.92	Per Building SqFt	New	0.00	13	$0.00	100%	0
Large Office	Water Heat	Water Heating - Tankless	Tankless Water Heater EF = 0.95	Standard Water Heater EF = 0.92	Per Building SqFt	Existing	0.01	13	$0.01	0%	0
Large Office	Water Heat	Water Heating - Tankless	Tankless Water Heater EF = 0.95	Standard Water Heater EF = 0.92	Per Building SqFt	New	0.01	13	$0.01	0%	0
Large Retail	Computers	Computer - ENERGY STAR	ENERGY STAR Computer	Standard Computer	Per Building SqFt	Existing	0.05	4	$0.00	100%	1,191
Large Retail	Computers	Computer - ENERGY STAR	ENERGY STAR Computer	Standard Computer	Per Building SqFt	New	0.05	4	$0.00	100%	74
Large Retail	Computers	Computer - Standard	Standard Computer	Standard Computer	Per Building SqFt	Existing	0.00	4	$0.00	100%	0
Large Retail	Computers	Computer - Standard	Standard Computer	Standard Computer	Per Building SqFt	New	0.00	4	$0.00	100%	0
Large Retail	Cooking	Convection Oven	ENERGY STAR Convection Oven	Standard Oven	Per Convection Oven	Existing	127	15	$1,650	75%	0
Large Retail	Cooking	Convection Oven	ENERGY STAR Convection Oven	Standard Oven	Per Convection Oven	New	130	15	$1,650	75%	0
Large Retail	Cooking	Cooking - Standard Equipment	Standard Cooking Equipment	Standard Cooking Equipment	Per Building SqFt	Existing	0.00	12	$0.00	100%	0
Large Retail	Cooking	Cooking - Standard Equipment	Standard Cooking Equipment	Standard Cooking Equipment	Per Building SqFt	New	0.00	12	$0.00	100%	0
Large Retail	Cooking	Fryer	ENERGY STAR Fryer	Standard	Per Fryer	Existing	55	12	$1,271	25%	0
Large Retail	Cooking	Fryer	ENERGY STAR Fryer	Standard	Per Fryer	New	57	12	$1,271	25%	0
Large Retail	Cooking	Hot Food Holding Cabinets	ENERGY STAR Qualified (< 40 watts/cubic foot)	Standard Equipment	Per Hot Food Holding Cabinet	Existing	380	12	$1,500	30%	0
Large Retail	Cooking	Hot Food Holding Cabinets	ENERGY STAR Qualified (< 40 watts/cubic foot)	Standard Equipment	Per Hot Food Holding Cabinet	New	392	12	$1,500	30%	0
Large Retail	Cooking	Steam Cooker	ENERGY STAR Steam Cooker	Standard	Per Steam Cooker	Existing	920	12	$1,500	11%	0
Large Retail	Cooking	Steam Cooker	ENERGY STAR Steam Cooker	Standard	Per Steam Cooker	New	948	12	$1,500	11%	0
Large Retail	Cooling Chillers	Chiller - Below Code	Below Standard Chiller - 0.74 kW/ton	Below Standard Chiller - 0.74 kW/ton	Per Building SqFt	Existing	0.00	20	$0.00	100%	0
Large Retail	Cooling Chillers	Chiller - Below Code	Below Standard Chiller - 0.74 kW/ton	Below Standard Chiller - 0.74 kW/ton	Per Building SqFt	New	0.00	20	$0.00	100%	0
Large Retail	Cooling Chillers	Chiller - High Efficiency	High Efficiency Chiller - 0.63 kW/ton	Standard Chiller - 0.68 kW/ton	Per Building SqFt	Existing	0.11	20	$0.03	100%	0
Large Retail	Cooling Chillers	Chiller - High Efficiency	High Efficiency Chiller - 0.63 kW/ton	Standard Chiller - 0.68 kW/ton	Per Building SqFt	New	0.12	20	$0.03	100%	0
Large Retail	Cooling Chillers	Chiller - Pipe Insulation	Above Code (3" of Insulation, Approximately R-11)	Code (1.5" of Insulation, Approximately R-6)	Per Linear Foot of Insulation	Existing	4.59	15	$4	58%	96
Large Retail	Cooling Chillers	Chiller - Pipe Insulation	Above Code (3" of Insulation, Approximately R-11)	Code (1.5" of Insulation, Approximately R-6)	Per Linear Foot of Insulation	New	5.19	15	$4	85%	9
Large Retail	Cooling Chillers	Chiller - Pipe Insulation	Code (1.5" of Insulation, Approximately R-6)	No Insulation	Per Linear Foot of Insulation	Existing	4.59	15	$4	58%	95
Large Retail	Cooling Chillers	Chiller - Premium Efficiency	Premium Efficiency Chiller - 0.58 kW/ton	Standard Chiller - 0.68 kW/ton	Per Building SqFt	Existing	0.22	20	$0.14	100%	0
Large Retail	Cooling Chillers	Chiller - Premium Efficiency	Premium Efficiency Chiller - 0.58 kW/ton	Standard Chiller - 0.68 kW/ton	Per Building SqFt	New	0.25	20	$0.14	100%	0
Large Retail	Cooling Chillers	Chiller - Standard	Standard Chiller - 0.68 kW/ton	Standard Chiller - 0.68 kW/ton	Per Building SqFt	Existing	0.00	20	$0.00	100%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Large Retail	Cooling Chillers	Chiller - Standard	Standard Chiller - 0.68 kW/ton	Standard Chiller - 0.68 kW/ton	Per Building SqFt	New	0.00	20	$0.00	100%	0
Large Retail	Cooling Chillers	Chiller - VSD Retrofit	Centrifugal Chiller - VSD Remodel for Existing	Constant Speed Motor	Per Ton	Existing	27	10	$70	38%	0
Large Retail	Cooling Chillers	Chiller - Water Piping Loop with VSD Control	VSD for Secondary Chilled Water Loop	Primary Loop Only w/ Constant Speed Pump	Per Ton	Existing	41	10	$212	65%	0
Large Retail	Cooling Chillers	Chiller - Water Reset	Install Chilled Water Reset	No Chilled Water Reset	Per Control Point	Existing	76	10	$681	95%	0
Large Retail	Cooling Chillers	Chiller Air-Cooled	Chiller Air Cooled with Condenser 10.0 EER	Standard 9.562 EER	Per Ton	Existing	24	20	$112	7%	0
Large Retail	Cooling Chillers	Chiller Air-Cooled	Chiller Air Cooled with Condenser 10.0 EER	Standard 9.562 EER	Per Ton	New	27	20	$112	7%	0
Large Retail	Cooling Chillers	Commissioning	Commissioning/QI - New Installation	No Commissioning	Per SqFt	New	0.22	7	$1	100%	0
Large Retail	Cooling Chillers	Cool Roofs	ENERGY STAR Cool Roof - Reflect Material (Reflectivity = 0.55)	Standard Roof	Per Roof Area SqFt	Existing	0.15	15	$0.68	93%	0
Large Retail	Cooling Chillers	Cool Roofs	ENERGY STAR Cool Roof - Reflect Material (Reflectivity = 0.55)	Standard Roof	Per Roof Area SqFt	New	0.17	15	$0.68	93%	0
Large Retail	Cooling Chillers	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	Existing	7,795	5	$9,117	33%	0
Large Retail	Cooling Chillers	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	New	8,801	5	$9,117	33%	0
Large Retail	Cooling Chillers	Direct Digital Control System-Installation	DDC Retrofit - EMS Upgrade	Pneumatic	Per Building	Existing	11,693	5	$16,201	6%	0
Large Retail	Cooling Chillers	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	Existing	17	20	$477	76%	0
Large Retail	Cooling Chillers	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	New	17	20	$477	76%	0
Large Retail	Cooling Chillers	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	Existing	7.87	20	$60	62%	2
Large Retail	Cooling Chillers	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	New	7.87	20	$60	62%	0
Large Retail	Cooling Chillers	Duct Repair And Sealing	Reduction In Duct Losses to 5%	No Repair or Sealing, 15% duct losses	Per Building SqFt	Existing	0.04	18	$0.23	1%	0
Large Retail	Cooling Chillers	Exhaust Hood Makeup Air	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	Hood Pulls Conditioned Air (No Make-up Air)	Per Building	Existing	3,508	10	$5,450	23%	0
Large Retail	Cooling Chillers	Exhaust Hood Makeup Air	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	Hood Pulls Conditioned Air (No Make-up Air)	Per Building	New	3,960	10	$5,450	23%	7
Large Retail	Cooling Chillers	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	Existing	0.15	30	$10	75%	0
Large Retail	Cooling Chillers	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	New	0.17	30	$10	75%	0
Large Retail	Cooling Chillers	Infiltration Control	Weather-Stripping	Standard Practice	Per Window SqFt	Existing	0.86	13	$0.38	9%	29
Large Retail	Cooling Chillers	Insulation - Duct	New Duct Insulation (R-8) (Unconditioned Spaces)	No Insulation	Per Surface Area of Duct	Existing	0.81	20	$2	0%	0
Large Retail	Cooling Chillers	Insulation - Roof	R-20ci	Average Existing Insulation (R-10)	Per Roof Area SqFt	Existing	0.01	25	$1	13%	0
Large Retail	Cooling Chillers	Insulation - Wall	R-13+R-7.5ci	Average Existing Insulation (R-10)	Per Wall Area SqFt	Existing	0.03	25	$1	33%	0
Large Retail	Cooling Chillers	Retro-Commissioning	Retro-Commissioning	No Retro-Commissioning	Per SqFt	Existing	0.24	7	$0.30	80%	1,373
Large Retail	Cooling Chillers	Tune-up - Chiller	Chiller Maintenance (Tune-up)	Unmaintained Chiller	Per SqFt	Existing	0.15	3	$0.15	16%	0
Large Retail	Cooling Chillers	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	Existing	0.07	25	$3	60%	0
Large Retail	Cooling Chillers	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	New	0.07	25	$3	67%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Large Retail	Cooling Chillers	Window - Metal Framing	U-Value = 0.55 (Code Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	0.07	25	$27	11%	0
Large Retail	Cooling Chillers	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	Existing	0.04	25	$2	4%	0
Large Retail	Cooling Chillers	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	New	0.04	25	$2	5%	0
Large Retail	Cooling Chillers	Window - Non-Metal Framing	U-Value = 0.35 (Code Non-Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	0.23	25	$42	4%	0
Large Retail	Cooling DX	Advanced Control Technology	Advanced Control Technologies for Packaged Air-Conditioning Units (Retrofit)	Standard Controls	Per 5 Tons of Cooling	Existing	626	15	$4,920	15%	0
Large Retail	Cooling DX	Commissioning	Commissioning/QI - New Installation	No Commissioning	Per SqFt	New	0.26	7	$1	90%	0
Large Retail	Cooling DX	Cool Roofs	ENERGY STAR Cool Roof - Reflect Material (Reflectivity = 0.55)	Standard Roof	Per Roof Area SqFt	Existing	0.20	15	$0.68	93%	0
Large Retail	Cooling DX	Cool Roofs	ENERGY STAR Cool Roof - Reflect Material (Reflectivity = 0.55)	Standard Roof	Per Roof Area SqFt	New	0.20	15	$0.68	93%	0
Large Retail	Cooling DX	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	Existing	10,456	5	$24,507	33%	0
Large Retail	Cooling DX	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	New	10,548	5	$9,117	33%	0
Large Retail	Cooling DX	Direct Digital Control System-Installation	DDC Retrofit - EMS Upgrade	Pneumatic	Per Building	Existing	15,684	5	$16,201	6%	0
Large Retail	Cooling DX	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	Existing	24	20	$477	76%	0
Large Retail	Cooling DX	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	New	24	20	$477	76%	0
Large Retail	Cooling DX	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	Existing	11	20	$60	62%	6
Large Retail	Cooling DX	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	New	11	20	$60	62%	0
Large Retail	Cooling DX	Duct Repair And Sealing	Reduction In Duct Losses to 5%	No Repair or Sealing, 15% duct losses	Per Building SqFt	Existing	0.06	18	$0.23	38%	258
Large Retail	Cooling DX	Exhaust Hood Makeup Air	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	Hood Pulls Conditioned Air (No Make-up Air)	Per Building	Existing	4,705	10	$5,450	23%	238
Large Retail	Cooling DX	Exhaust Hood Makeup Air	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	Hood Pulls Conditioned Air (No Make-up Air)	Per Building	New	4,746	10	$5,450	23%	17
Large Retail	Cooling DX	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	Existing	0.20	30	$10	75%	0
Large Retail	Cooling DX	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	New	0.20	30	$10	75%	0
Large Retail	Cooling DX	Infiltration Control	Weather-Stripping	Standard Practice	Per Window SqFt	Existing	1.15	13	$0.38	9%	75
Large Retail	Cooling DX	Insulation - Duct	New Duct Insulation (R-8) (Unconditioned Spaces)	No Insulation	Per Surface Area of Duct	Existing	1.09	20	$2	15%	175
Large Retail	Cooling DX	Insulation - Floor	R-30	Average Existing Insulation (R-10)	Per Floor Area SqFt	Existing	0.02	25	$1	29%	0
Large Retail	Cooling DX	Insulation - Roof	R-20ci	Average Existing Insulation (R-10)	Per Roof Area SqFt	Existing	0.01	25	$1	13%	0
Large Retail	Cooling DX	Insulation - Wall	R-13+R-7.5ci	Average Existing Insulation (R-10)	Per Wall Area SqFt	Existing	0.04	25	$1	33%	0
Large Retail	Cooling DX	Package Terminal - Air Conditioner	High Efficiency Package Terminal Air Conditioner	Federal Standard Equipment	Per Package Terminal AC	Existing	63	9	$88	7%	0
Large Retail	Cooling DX	Package Terminal - Air Conditioner	High Efficiency Package Terminal Air Conditioner	Federal Standard Equipment	Per Package Terminal AC	New	63	9	$88	7%	0
Large Retail	Cooling DX	Retro-Commissioning	Retro-Commissioning	No Retro-Commissioning	Per SqFt	Existing	0.32	7	$0.30	90%	3,977
Large Retail	Cooling DX	Rooftop DX Unit - Below Standard	Below Standard 9.5 EER, Air-Cooled = 135 and < 240 kBtuh	Below Standard 9.5 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.00	15	$0.00	100%	0
Large Retail	Cooling DX	Rooftop DX Unit - Below Standard	Below Standard 9.5 EER, Air-Cooled = 135 and < 240 kBtuh	Below Standard 9.5 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	New	0.00	15	$0.00	100%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Large Retail	Cooling DX	Rooftop DX Unit - CEE Tier 1	CEE Tier 1 11.5 EER, Air-Cooled = 135 and < 240 kBtuh	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.09	15	$0.06	100%	0
Large Retail	Cooling DX	Rooftop DX Unit - CEE Tier 1	CEE Tier 1 11.5 EER, Air-Cooled = 135 and < 240 kBtuh	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	New	0.09	15	$0.06	100%	0
Large Retail	Cooling DX	Rooftop DX Unit - CEE Tier 2	CEE Tier 2 12.0 EER, Air-Cooled = 135 and < 240 kBtuh	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.17	15	$0.10	100%	983
Large Retail	Cooling DX	Rooftop DX Unit - CEE Tier 2	CEE Tier 2 12.0 EER, Air-Cooled = 135 and < 240 kBtuh	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	New	0.17	15	$0.10	100%	144
Large Retail	Cooling DX	Rooftop DX Unit - Standard	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.00	15	$0.00	100%	0
Large Retail	Cooling DX	Rooftop DX Unit - Standard	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	New	0.00	15	$0.00	100%	0
Large Retail	Cooling DX	Thermostat Programmable	Setback Thermostat 5-1-1, 5-2 or 7-day	Manual Thermostat	Per Thermostat	Existing	1,045	15	$138	89%	763
Large Retail	Cooling DX	Tune-up - Air Conditioner	Air Conditioner Maintenance (Tune-up)	Unmaintained Air Conditioner	Per Ton	Existing	73	3	$48	48%	0
Large Retail	Cooling DX	Variable Air-Volume Systems	Install Variable Air-Volume System	Constant Volume System	Per Building SqFt	Existing	0.61	15	$1	10%	836
Large Retail	Cooling DX	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	Existing	0.10	25	$3	60%	0
Large Retail	Cooling DX	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	New	0.10	25	$3	67%	0
Large Retail	Cooling DX	Window - Metal Framing	U-Value = 0.55 (Code Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	0.10	25	$27	11%	0
Large Retail	Cooling DX	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	Existing	0.06	25	$2	4%	0
Large Retail	Cooling DX	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	New	0.06	25	$2	5%	0
Large Retail	Cooling DX	Window - Non-Metal Framing	U-Value = 0.35 (Code Non-Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	0.32	25	$42	4%	0
Large Retail	Cooling DX	Window Air Conditioner	CEE TIER 1 = 11.3 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Window AC	Existing	101	9	$406	32%	0
Large Retail	Cooling DX	Window Air Conditioner	CEE TIER 1 = 11.3 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Window AC	New	101	9	$406	32%	0
Large Retail	Cooling DX	Window Air Conditioner	CEE TIER 2 = 11.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Window AC	Existing	129	9	$771	33%	0
Large Retail	Cooling DX	Window Air Conditioner	CEE TIER 2 = 11.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Window AC	New	129	9	$771	33%	0
Large Retail	Cooling DX	Window Air Conditioner	ENERGY STAR = 10.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Window AC	Existing	70	9	$41	26%	10
Large Retail	Cooling DX	Window Air Conditioner	ENERGY STAR = 10.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Window AC	New	70	9	$41	26%	1
Large Retail	Ext Lighting	Exterior Lighting - Standard	Standard Exterior Lighting	Standard Exterior Lighting	Per Building SqFt	Existing	0.00	14	$0.00	100%	0
Large Retail	Ext Lighting	Exterior Lighting - Standard	Standard Exterior Lighting	Standard Exterior Lighting	Per Building SqFt	New	0.00	14	$0.00	100%	0
Large Retail	Ext Lighting	Lighting - LED Lighting Package	Exterior LED Lighting Package	Standard Lighting	Per Lighting Package	Existing	1,013	13	$2,844	66%	0
Large Retail	Ext Lighting	Lighting - High Intensity Discharge Package	High Efficiency Metal Halide Lighting Packages	Standard HID Lighting	Per Lighting Package	Existing	436	5	$104	62%	52
Large Retail	Ext Lighting	Lighting - Induction Lighting Package	Induction Lighting Package	Standard HID Lighting	Per Lighting Package	Existing	1,241	13	$679	67%	369
Large Retail	Fax	Fax - ENERGY STAR	ENERGY STAR Fax	Standard Fax	Per Building SqFt	Existing	0.00	6	$0.00	100%	145
Large Retail	Fax	Fax - ENERGY STAR	ENERGY STAR Fax	Standard Fax	Per Building SqFt	New	0.00	6	$0.00	100%	10
Large Retail	Fax	Fax - Standard	Standard Fax	Standard Fax	Per Building SqFt	Existing	0.00	6	$0.00	100%	0
Large Retail	Fax	Fax - Standard	Standard Fax	Standard Fax	Per Building SqFt	New	0.00	6	$0.00	100%	0
Large Retail	Flat Screen Monitors	Monitor - ENERGY STAR Flat Screen	ENERGY STAR Flat Screen Monitor	Standard Flat Screen Monitor	Per Building SqFt	Existing	0.00	4	$0.00	100%	0
Large Retail	Flat Screen Monitors	Monitor - ENERGY STAR Flat Screen	ENERGY STAR Flat Screen Monitor	Standard Flat Screen Monitor	Per Building SqFt	New	0.00	4	$0.00	100%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Large Retail	Flat Screen Monitors	Monitor - Standard Flat Screen	Standard Flat Screen Monitor	Standard Flat Screen Monitor	Per Building SqFt	Existing	0.00	4	$0.00	100%	0
Large Retail	Flat Screen Monitors	Monitor - Standard Flat Screen	Standard Flat Screen Monitor	Standard Flat Screen Monitor	Per Building SqFt	New	0.00	4	$0.00	100%	0
Large Retail	Freezers	Freezer - 2014 Federal Standard	2014 Standard Freezer	Standard Freezer	Per Building SqFt	Existing	0.00	12	$0.00	100%	0
Large Retail	Freezers	Freezer - 2014 Federal Standard	2014 Standard Freezer	Standard Freezer	Per Building SqFt	New	0.00	12	$0.00	100%	0
Large Retail	Freezers	Freezer - Below Standard	Below Standard Freezer	Below Standard Freezer	Per Building SqFt	Existing	0.00	12	$0.00	100%	0
Large Retail	Freezers	Freezer - Below Standard	Below Standard Freezer	Below Standard Freezer	Per Building SqFt	New	0.00	12	$0.00	100%	0
Large Retail	Freezers	Freezer - ENERGY STAR	ENERGY STAR Freezer	Standard Freezer	Per Building SqFt	Existing	0.00	12	$0.00	100%	0
Large Retail	Freezers	Freezer - ENERGY STAR	ENERGY STAR Freezer	Standard Freezer	Per Building SqFt	New	0.00	12	$0.00	100%	0
Large Retail	Freezers	Freezer - Standard	Standard Freezer	Standard Freezer	Per Building SqFt	Existing	0.00	12	$0.00	100%	0
Large Retail	Freezers	Freezer - Standard	Standard Freezer	Standard Freezer	Per Building SqFt	New	0.00	12	$0.00	100%	0
Large Retail	HVAC Aux	Cooling Tower-Two-Speed Fan Motor	Cooling Tower-Two-Speed Fan Motor	Cooling Tower-One-Speed Fan Motor	Per Chiller Ton	Existing	56	15	$2	33%	1,190
Large Retail	HVAC Aux	Cooling Tower-VSD Fan Control	Variable-Speed Tower Fans Replace Two-Speed	Cooling Tower-One-Speed Fan Motor	Per Chiller Ton	Existing	16	13	$19	71%	0
Large Retail	HVAC Aux	Cooling Tower-VSD Fan Control	Variable-Speed Tower Fans Replace Two-Speed	Cooling Tower-One-Speed Fan Motor	Per Chiller Ton	New	13	13	$19	11%	0
Large Retail	HVAC Aux	Demand Controlled Ventilation - Range Hood	For Range Hoods – VFD Controlled	No DCV	Per Range Hood	Existing	1,430	10	$12,500	49%	0
Large Retail	HVAC Aux	Demand Controlled Ventilation - Range Hood	For Range Hoods – VFD Controlled	No DCV	Per Range Hood	New	1,165	10	$6,500	49%	0
Large Retail	HVAC Aux	ECM Motor	Central Air Conditioner ECM Fan	Standard Motor	Per ECM	Existing	542	15	$200	53%	643
Large Retail	HVAC Aux	ECM Motor	Central Air Conditioner ECM Fan	Standard Motor	Per ECM	New	442	15	$200	77%	45
Large Retail	HVAC Aux	ECM Motor	Electric Furnace ECM Fan	Standard Motor	Per ECM	Existing	542	15	$200	4%	52
Large Retail	HVAC Aux	ECM Motor	Electric Furnace ECM Fan	Standard Motor	Per ECM	New	442	15	$200	6%	4
Large Retail	HVAC Aux	ECM Motor	Gas Furnace ECM Fan (CEE Air Handling Ratio < 0.02)	Standard Motor	Per ECM	Existing	542	15	$200	47%	574
Large Retail	HVAC Aux	ECM Motor	Gas Furnace ECM Fan (CEE Air Handling Ratio < 0.02)	Standard Motor	Per ECM	New	442	15	$200	69%	40
Large Retail	HVAC Aux	HVAC Auxillary - Standard Equipment	Standard HVAC Auxillary	Standard HVAC Auxillary	Per Building SqFt	Existing	0.00	15	$0.00	100%	0
Large Retail	HVAC Aux	HVAC Auxillary - Standard Equipment	Standard HVAC Auxillary	Standard HVAC Auxillary	Per Building SqFt	New	0.00	15	$0.00	100%	0
Large Retail	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	Existing	75	15	$274	67%	0
Large Retail	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	New	75	15	$274	67%	0
Large Retail	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	Existing	2,066	15	$2,036	0%	0
Large Retail	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	New	518	15	$2,036	9%	0
Large Retail	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	Existing	518	15	$678	9%	17
Large Retail	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	New	1,143	15	$678	1%	0
Large Retail	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	Existing	5,959	15	$4,197	0%	0
Large Retail	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	New	2,066	15	$4,197	0%	0
Large Retail	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	Existing	1,143	15	$1,375	1%	1
Large Retail	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	New	5,959	15	$1,375	0%	0
Large Retail	HVAC Aux	Variable Air-Volume Systems	Install Variable Air-Volume System	Constant Volume System	Per Building SqFt	Existing	0.13	15	$1	10%	0
Large Retail	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 1-15 HP	Constant Speed Motor	Per Building	Existing	11,441	15	$2,532	67%	3,427
Large Retail	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 1-15 HP	Constant Speed Motor	Per Building	New	9,322	15	$2,532	67%	163
Large Retail	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 125-200 HP	Constant Speed Motor	Per Building	Existing	11,441	15	$1,189	1%	31

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Large Retail	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 125-200 HP	Constant Speed Motor	Per Building	New	9,322	15	$1,189	1%	1
Large Retail	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 20-40 HP	Constant Speed Motor	Per Building	Existing	11,441	15	$1,467	4%	221
Large Retail	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 20-40 HP	Constant Speed Motor	Per Building	New	9,322	15	$1,467	4%	10
Large Retail	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 250-500 HP	Constant Speed Motor	Per Building	Existing	11,441	15	$902	0%	12
Large Retail	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 250-500 HP	Constant Speed Motor	Per Building	New	9,322	15	$902	0%	1
Large Retail	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 50-100 HP	Constant Speed Motor	Per Building	Existing	11,441	15	$1,808	1%	70
Large Retail	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 50-100 HP	Constant Speed Motor	Per Building	New	9,322	15	$1,808	1%	3
Large Retail	Heat Pump	Commissioning	Commissioning/QI - New Installation	No Commissioning	Per SqFt	New	0.79	7	$1	90%	0
Large Retail	Heat Pump	Cool Roofs	ENERGY STAR Cool Roof - Reflect Material (Reflectivity = 0.55)	Standard Roof	Per Roof Area SqFt	Existing	0.22	15	$0.68	93%	0
Large Retail	Heat Pump	Cool Roofs	ENERGY STAR Cool Roof - Reflect Material (Reflectivity = 0.55)	Standard Roof	Per Roof Area SqFt	New	0.14	15	$0.68	93%	0
Large Retail	Heat Pump	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	Existing	35,343	5	$49,014	33%	0
Large Retail	Heat Pump	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	New	31,066	5	$49,014	33%	0
Large Retail	Heat Pump	Direct Digital Control System-Installation	DDC Retrofit - EMS Upgrade	Pneumatic	Per Building	Existing	53,014	5	$32,403	6%	0
Large Retail	Heat Pump	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	Existing	296	20	$477	76%	0
Large Retail	Heat Pump	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	New	296	20	$477	76%	0
Large Retail	Heat Pump	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	Existing	131	20	$60	62%	7
Large Retail	Heat Pump	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	New	131	20	$60	62%	0
Large Retail	Heat Pump	Duct Repair And Sealing	Reduction In Duct Losses to 5%	No Repair or Sealing, 15% duct losses	Per Building SqFt	Existing	0.20	18	$0.23	38%	65
Large Retail	Heat Pump	Exhaust Hood Makeup Air	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	Hood Pulls Conditioned Air (No Make-up Air)	Per Building	Existing	15,904	10	$5,450	23%	82
Large Retail	Heat Pump	Exhaust Hood Makeup Air	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	Hood Pulls Conditioned Air (No Make-up Air)	Per Building	New	13,979	10	$5,450	23%	4
Large Retail	Heat Pump	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	Existing	0.22	30	$10	75%	0
Large Retail	Heat Pump	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	New	0.14	30	$10	75%	0
Large Retail	Heat Pump	Heat Pump - Below Standard	Below Standard Air Source Heat Pump 9.0 EER and 2.8 COP, = 135 and < 240 kBtuh	Below Standard Air Source Heat Pump 9.0 EER and 2.8 COP, = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.00	15	$0.00	100%	0
Large Retail	Heat Pump	Heat Pump - Below Standard	Below Standard Air Source Heat Pump 9.0 EER and 2.8 COP, = 135 and < 240 kBtuh	Below Standard Air Source Heat Pump 9.0 EER and 2.8 COP, = 135 and < 240 kBtuh	Per Building SqFt	New	0.00	15	$0.00	100%	0
Large Retail	Heat Pump	Heat Pump - ENERGY STAR	ENERGY STAR Ground Source Heat Pump 16.2 EER and 3.6 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	Existing	1.22	15	$16	5%	0
Large Retail	Heat Pump	Heat Pump - ENERGY STAR	ENERGY STAR Ground Source Heat Pump 16.2 EER and 3.6 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	New	1.17	15	$10	5%	0
Large Retail	Heat Pump	Heat Pump - High Efficiency	High Efficiency Air Source Heat Pump 11.1 EER and 3.3 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.23	15	$0.14	100%	97

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Large Retail	Heat Pump	Heat Pump - High Efficiency	High Efficiency Air Source Heat Pump 11.1 EER and 3.3 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	New	0.21	15	$0.14	100%	10
Large Retail	Heat Pump	Heat Pump - Premium Efficiency	Premium Efficiency Water Source Heat Pump 12.0 EER and 4.2 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	Existing	1.41	15	$0.79	5%	30
Large Retail	Heat Pump	Heat Pump - Premium Efficiency	Premium Efficiency Water Source Heat Pump 12.0 EER and 4.2 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	New	1.19	15	$0.91	5%	3
Large Retail	Heat Pump	Heat Pump - Standard	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.00	15	$0.00	100%	0
Large Retail	Heat Pump	Heat Pump - Standard	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	New	0.00	15	$0.00	100%	0
Large Retail	Heat Pump	Heat Pump - Variable Refrigerant Flow System	Variable Refrigerant Flow System (VRF) - Heat Pump	Packaged VAV With Electric Reheat	Per Ton	Existing	946	15	$540	33%	978
Large Retail	Heat Pump	Heat Pump - Variable Refrigerant Flow System	Variable Refrigerant Flow System (VRF) - Heat Pump	Packaged VAV With Electric Reheat	Per Ton	New	832	15	$540	81%	123
Large Retail	Heat Pump	Infiltration Control	Weather-Stripping	Standard Practice	Per Window SqFt	Existing	7.44	13	$0.38	9%	40
Large Retail	Heat Pump	Insulation - Duct	New Duct Insulation (R-8) (Unconditioned Spaces)	No Insulation	Per Surface Area of Duct	Existing	3.71	20	$2	15%	49
Large Retail	Heat Pump	Insulation - Floor	R-30	Average Existing Insulation (R-10)	Per Floor Area SqFt	Existing	0.29	25	$1	29%	0
Large Retail	Heat Pump	Insulation - Roof	R-20ci	Average Existing Insulation (R-10)	Per Roof Area SqFt	Existing	0.19	25	$1	13%	0
Large Retail	Heat Pump	Insulation - Wall	R-13+R-7.5ci	Average Existing Insulation (R-10)	Per Wall Area SqFt	Existing	0.58	25	$1	33%	0
Large Retail	Heat Pump	Package Terminal - Heat Pump	High Efficiency Package Terminal Air Conditioner	Federal Standard Equipment	Per Ton	Existing	63	15	$150	10%	0
Large Retail	Heat Pump	Package Terminal - Heat Pump	High Efficiency Package Terminal Air Conditioner	Federal Standard Equipment	Per Ton	New	63	15	$150	10%	0
Large Retail	Heat Pump	Retro-Commissioning	Retro-Commissioning	No Retro-Commissioning	Per SqFt	Existing	1.11	7	$0.30	90%	976
Large Retail	Heat Pump	Thermostat Programmable	Setback Thermostat 5-1-1, 5-2 or 7-day	Manual Thermostat	Per Thermostat	Existing	3,534	15	$138	89%	217
Large Retail	Heat Pump	Tune-up - Air Source Heat Pump	Air Source Heat Pump Maintenance (Tune-up)	Unmaintained Air Source Heat Pump	Per Ton	Existing	249	3	$48	48%	14
Large Retail	Heat Pump	Tune-up - Ground Source Heat Pump	Ground Source Heat Pump Maintenance (Tune-up)	Unmaintained Ground Source Heat Pump	Per Ton	Existing	249	3	$48	48%	14
Large Retail	Heat Pump	Variable Air-Volume Systems	Install Variable Air-Volume System	Constant Volume System	Per Building SqFt	Existing	1.28	15	$1	10%	147
Large Retail	Heat Pump	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	Existing	1.22	25	$3	60%	0
Large Retail	Heat Pump	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	New	1.22	25	$3	67%	0
Large Retail	Heat Pump	Window - Metal Framing	U-Value = 0.55 (Code Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	1.27	25	$27	11%	0
Large Retail	Heat Pump	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	Existing	0.78	25	$2	4%	0
Large Retail	Heat Pump	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	New	0.78	25	$2	5%	0
Large Retail	Heat Pump	Window - Non-Metal Framing	U-Value = 0.35 (Code Non-Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	3.89	25	$42	4%	0
Large Retail	Lighting	Bi-Level Control, Stairwell Lighting	Bi-Level Stairwell Occupancy Sensor Control, 50% Lighting Power During Unoccupied Time	Continuous Full Power Lighting in Stairways	Per Stairwell Lighting Control	Existing	155	9	$107	68%	1,194
Large Retail	Lighting	Bi-Level Control, Stairwell Lighting	Bi-Level Stairwell Occupancy Sensor Control, 50% Lighting Power During Unoccupied Time	Continuous Full Power Lighting in Stairways	Per Stairwell Lighting Control	New	95	9	$107	68%	0
Large Retail	Lighting	Ceiling Fans	ENERGY STAR Ceiling Fans with Light Kit	Standard Ceiling Fan	Per Ceiling Fan	Existing	98	10	$119	85%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Large Retail	Lighting	Ceiling Fans	ENERGY STAR Ceiling Fans with Light Kit	Standard Ceiling Fan	Per Ceiling Fan	New	98	10	$119	85%	0
Large Retail	Lighting	Daylighting Controls	Continuous Dimming, Fluorescent Fixtures (Day-Lighting)	No Dimming Controls	Per Applicable SQFT of Dimmable Perimeter Area of Building	Existing	5.44	9	$1	52%	12,896
Large Retail	Lighting	Daylighting Controls	Continuous Dimming, Fluorescent Fixtures (Day-Lighting)	No Dimming Controls	Per Applicable SQFT of Dimmable Perimeter Area of Building	New	3.33	13	$1	0%	0
Large Retail	Lighting	Daylighting Controls	Dual Level Switches, Fluorescent Fixtures	No Dimming Controls	Per Applicable SQFT of Dimmable Perimeter Area of Building	Existing	2.23	9	$0.83	52%	4,850
Large Retail	Lighting	Daylighting Controls	Dual Level Switches, Fluorescent Fixtures	No Dimming Controls	Per Applicable SQFT of Dimmable Perimeter Area of Building	New	1.37	13	$0.83	0%	0
Large Retail	Lighting	Exit Sign - LED	LED Exit Signs	CFL Exit Sign	Per Exit Sign	Existing	175	11	$68	56%	1,283
Large Retail	Lighting	Exit Sign - Photoluminescent	Photoluminescent Exit Sign	LED Exit Sign	Per Exit Sign	Existing	35	13	$30	93%	428
Large Retail	Lighting	Exit Sign - Photoluminescent	Photoluminescent Exit Sign	LED Exit Sign	Per Exit Sign	New	35	13	$30	93%	25
Large Retail	Lighting	LED Refrigerated Case Lighting	LED Refrigerated Case Lighting	Fluorescent	Per Refrigerated Glass Case	Existing	192	13	$600	76%	0
Large Retail	Lighting	LED Refrigerated Case Lighting	LED Refrigerated Case Lighting	Fluorescent	Per Refrigerated Glass Case	New	192	13	$600	76%	0
Large Retail	Lighting	LED Strip Lighting	LED Strip Lighting (Non-Refrigerated)	Fluorescent	Per Linear Foot of Lighting	Existing	0.51	11	$2	78%	0
Large Retail	Lighting	LED Strip Lighting	LED Strip Lighting (Non-Refrigerated)	Fluorescent	Per Linear Foot of Lighting	New	0.51	11	$2	78%	0
Large Retail	Lighting	LightLouver Daylighting System	LightLouver Daylighting System	No Daylight System	Per Linear Feet of Window	Existing	49	9	$65	40%	0
Large Retail	Lighting	Lighting - CFL Lamp Package	ENERGY STAR CFL	EISA Incandescent	Per Building	Existing	44,657	2	$300	68%	3,562
Large Retail	Lighting	Lighting - Clock/Timer	Lighting Clock/Timer Commercial grade	No Time Clock	Per Lighting Control	Existing	2,679	9	$205	30%	3,202
Large Retail	Lighting	Lighting - Fluorescent High Performance Package	Fluorescent HP Lamps and Ballasts Packages	Standard Lighting	Per Lighting Package	Existing	33,316	13	$68,046	90%	0
Large Retail	Lighting	Lighting - Fluorescent Reduced Wattage Package	Fluorescent RW Lamps and Ballasts Packages	Standard Lighting	Per Lighting Package	Existing	66,632	13	$56,454	76%	22,639
Large Retail	Lighting	Lighting - High Bay Fluorescent High Output Package	High Bay Fluorescent HO Packages	Standard HID Lighting	Per Lighting Package	Existing	29,784	15	$4,358	73%	6,144
Large Retail	Lighting	Lighting - High Bay LED Package	High Bay LED Package	Standard HID Lighting	Per Lighting Package	Existing	19,568	20	$81,955	94%	0
Large Retail	Lighting	Lighting - High Intensity Discharge Package	High Efficiency Metal Halide Lighting Packages	Standard HID Lighting	Per Lighting Package	Existing	12,083	15	$4,310	67%	0
Large Retail	Lighting	Lighting - Induction Lighting Package	Induction Lighting Package	Standard HID Lighting	Per Lighting Package	Existing	33,387	20	$24,476	38%	5,672
Large Retail	Lighting	Lighting - LED Lamp Package	ENERGY STAR LED	EISA Incandescent	Per Lighting Package	Existing	53,798	12	$14,013	73%	17,675
Large Retail	Lighting	Lighting - LPD Package	LPD Reduction Package 15%	LPD Code	Per Lighting Package	New	45,481	15	$1,729	68%	222
Large Retail	Lighting	Lighting - LPD Package	LPD Reduction Package 25%	LPD Code	Per Lighting Package	New	75,803	15	$11,104	71%	1,407
Large Retail	Lighting	Lighting - Specialty Lamp Package	CFL and LED Specialty Lamp Package	Standard Incandescent	Per Lighting Package	Existing	11,423	3	$841	81%	4,124
Large Retail	Lighting	Lighting - Standard	Standard Lighting	Standard Lighting	Per Building SqFt	Existing	0.00	14	$0.00	100%	0
Large Retail	Lighting	Lighting - Standard	Standard Lighting	Standard Lighting	Per Building SqFt	New	0.00	14	$0.00	100%	0
Large Retail	Lighting	Occupancy Sensor - High-Bay	Fixture-Mounted (Control > 150 Watts)	No Sensor	Per Lighting Control	Existing	1,531	14	$225	12%	1,250
Large Retail	Lighting	Occupancy Sensor - High-Bay	Fixture-Mounted (Control > 150 Watts)	No Sensor	Per Lighting Control	New	938	14	$225	12%	45
Large Retail	Lighting	Occupancy Sensor - Wall or Ceiling	Wall or Ceiling-Mounted (Control > 400 Watts)	No Sensor	Per Lighting Control	Existing	106	14	$225	53%	0
Large Retail	Lighting	Occupancy Sensor - Wall or Ceiling	Wall or Ceiling-Mounted (Control > 400 Watts)	No Sensor	Per Lighting Control	New	65	14	$225	53%	0
Large Retail	Other	Other - Standard	Standard Other Equipment	Standard Other Equipment	Per Building SqFt	Existing	0.00	10	$0.00	100%	0
Large Retail	Other	Other - Standard	Standard Other Equipment	Standard Other Equipment	Per Building SqFt	New	0.00	10	$0.00	100%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Large Retail	Other	Transformers	Transformers, Three-Phase Low-Voltage Dry-Type CEE Tier 1	Standard Efficiency Transformer NEMA TP-1-2002	Per Transformer	Existing	981	30	$2,740	50%	0
Large Retail	Other	Transformers	Transformers, Three-Phase Low-Voltage Dry-Type CEE Tier 1	Standard Efficiency Transformer NEMA TP-1-2002	Per Transformer	New	981	30	$2,740	50%	0
Large Retail	Other Plug Load	All-In-One Office Equipment	All-In-One ENERGY STAR Office Equipment	Non-ENERGY STAR Features	Per All-in-One Device	Existing	200	6	$218	68%	0
Large Retail	Other Plug Load	All-In-One Office Equipment	All-In-One ENERGY STAR Office Equipment	Non-ENERGY STAR Features	Per All-in-One Device	New	200	6	$218	68%	0
Large Retail	Other Plug Load	Ceiling Fans	ENERGY STAR Ceiling Fans with Light Kit	Standard Ceiling Fan	Per Ceiling Fan	Existing	4.33	10	$119	85%	0
Large Retail	Other Plug Load	Ceiling Fans	ENERGY STAR Ceiling Fans with Light Kit	Standard Ceiling Fan	Per Ceiling Fan	New	4.33	10	$119	85%	0
Large Retail	Other Plug Load	Ceiling Fans	ENERGY STAR Ceiling Fans without Light Kit	Standard Ceiling Fan	Per Ceiling Fan	Existing	4.33	10	$1	85%	3
Large Retail	Other Plug Load	Ceiling Fans	ENERGY STAR Ceiling Fans without Light Kit	Standard Ceiling Fan	Per Ceiling Fan	New	4.33	10	$1	85%	0
Large Retail	Other Plug Load	Plug Load - Standard Equipment	Standard Plug Load	Standard Plug Load	Per Building SqFt	Existing	0.00	10	$0.00	100%	0
Large Retail	Other Plug Load	Plug Load - Standard Equipment	Standard Plug Load	Standard Plug Load	Per Building SqFt	New	0.00	10	$0.00	100%	0
Large Retail	Other Plug Load	Snow Melt System Control	Snow Melt System Control	Manual Control	Per Snow Melt Control	Existing	459	25	$2,782	5%	0
Large Retail	Other Plug Load	Snow Melt System Control	Snow Melt System Control	Manual Control	Per Snow Melt Control	New	480	25	$2,782	0%	0
Large Retail	Other Plug Load	Water Coolers	ENERGY STAR Water Cooler	Non-ENERGY STAR Water Cooler	Per Water Cooler	Existing	255	10	$5	19%	21
Large Retail	Other Plug Load	Water Coolers	ENERGY STAR Water Cooler	Non-ENERGY STAR Water Cooler	Per Water Cooler	New	266	10	$5	19%	1
Large Retail	Photo Copiers	Photo Copier - ENERGY STAR	ENERGY STAR Photo Copier	Standard Photo Copier	Per Building SqFt	Existing	0.01	6	$0.02	100%	0
Large Retail	Photo Copiers	Photo Copier - ENERGY STAR	ENERGY STAR Photo Copier	Standard Photo Copier	Per Building SqFt	New	0.01	6	$0.02	100%	0
Large Retail	Photo Copiers	Photo Copiers - Standard	Standard Photo Copier	Standard Photo Copier	Per Building SqFt	Existing	0.00	6	$0.00	100%	0
Large Retail	Photo Copiers	Photo Copiers - Standard	Standard Photo Copier	Standard Photo Copier	Per Building SqFt	New	0.00	6	$0.00	100%	0
Large Retail	Printers	Printers - ENERGY STAR	ENERGY STAR Printers	Standard Printers	Per Building SqFt	Existing	0.01	6	$0.00	100%	316
Large Retail	Printers	Printers - ENERGY STAR	ENERGY STAR Printers	Standard Printers	Per Building SqFt	New	0.01	6	$0.00	100%	22
Large Retail	Printers	Printers - Standard	Standard Printers	Standard Printers	Per Building SqFt	Existing	0.00	6	$0.00	100%	0
Large Retail	Printers	Printers - Standard	Standard Printers	Standard Printers	Per Building SqFt	New	0.00	6	$0.00	100%	0
Large Retail	Refrigeration	Anti-Sweat Heater Controls	Variable Temperature Controls (Humidistat)	Constant Controls	Per Control (Weighted by Grocery Refrigeration)	Existing	767	12	$78	74%	316
Large Retail	Refrigeration	Anti-Sweat Heater Controls	Variable Temperature Controls (Humidistat)	Constant Controls	Per Control (Weighted by Grocery Refrigeration)	New	767	12	$78	18%	5
Large Retail	Refrigeration	Case Fans with ECM motors	ECM Motors on Evaporator Fan for Display Cases	Standard Case Fan Motor	Per ECM (Weighted by Grocery Refrigeration)	Existing	1,018	12	$243	37%	209
Large Retail	Refrigeration	Case Fans with ECM motors	ECM Motors on Evaporator Fan for Display Cases	Standard Case Fan Motor	Per ECM (Weighted by Grocery Refrigeration)	New	1,018	12	$243	37%	12
Large Retail	Refrigeration	Compressor - Scroll	High Efficiency Scroll Compressor	Standard Reciprocating Compressor	Per Scroll Compressor HP	Existing	679	10	$140	4%	42
Large Retail	Refrigeration	Compressor - Scroll	High Efficiency Scroll Compressor	Standard Reciprocating Compressor	Per Scroll Compressor HP	New	699	10	$140	4%	2
Large Retail	Refrigeration	Compressor - VSD Retrofit	Refrigeration Compressor VSD Retrofit	Standard Compressor	Per Retrofit Compressor HP	Existing	761	13	$266	3%	51
Large Retail	Refrigeration	Demand Control Defrost - Electric	Refrigerant Defrost	No Demand Control Defrost	Per Building SqFt	Existing	0.00	10	$0.09	41%	0
Large Retail	Refrigeration	Demand Control Defrost - Hot Gas	Refrigerant Defrost	No Demand Control Defrost	Per Building SqFt	Existing	0.01	10	$0.11	41%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Large Retail	Refrigeration	Evaporator Fans - Walk-ins	High-Efficiency Evaporator Fans, Walk-in Refrigerators	Standard Evaporator Fans	Per Walk-in Fan	Existing	435	15	$132	69%	558
Large Retail	Refrigeration	Evaporator Fans - Walk-ins	High-Efficiency Evaporator Fans, Walk-in Refrigerators	Standard Evaporator Fans	Per Walk-in Fan	New	435	15	$132	69%	33
Large Retail	Refrigeration	Floating Head Pressure Control - Condensing Unit	Floating Head Pressure Control - Condensing Unit	No Floating Head Pressure Control	Per Condensing Unit HP	Existing	618	14	$295	46%	196
Large Retail	Refrigeration	Floating Head Pressure Control - Condensing Unit	Floating Head Pressure Control - Condensing Unit	No Floating Head Pressure Control	Per Condensing Unit HP	New	618	14	$295	46%	11
Large Retail	Refrigeration	Floating Head Pressure Control - Remote Condenser	Floating Head Pressure Control - Remote Condenser	No Floating Head Pressure Control	Per Condensing Unit HP	Existing	513	14	$232	46%	163
Large Retail	Refrigeration	Floating Head Pressure Control - Remote Condenser	Floating Head Pressure Control - Remote Condenser	No Floating Head Pressure Control	Per Condensing Unit HP	New	513	14	$232	46%	10
Large Retail	Refrigeration	Ice Makers, Air Cooled	ENERGY STAR Qualified, Ice-Making Head	Standard Equipment	Per Ice Maker	Existing	1,197	10	$140	29%	15
Large Retail	Refrigeration	Ice Makers, Air Cooled	ENERGY STAR Qualified, Ice-Making Head	Standard Equipment	Per Ice Maker	New	1,197	10	$140	29%	1
Large Retail	Refrigeration	Ice Makers, Air Cooled	ENERGY STAR Qualified, Remote Condensing	Standard Equipment	Per Ice Maker	Existing	1,293	10	$5	29%	17
Large Retail	Refrigeration	Ice Makers, Air Cooled	ENERGY STAR Qualified, Remote Condensing	Standard Equipment	Per Ice Maker	New	1,293	10	$5	29%	1
Large Retail	Refrigeration	Ice Makers, Air Cooled	ENERGY STAR Qualified, Self-Contained	Standard Equipment	Per Ice Maker	Existing	317	10	$5	29%	4
Large Retail	Refrigeration	Ice Makers, Air Cooled	ENERGY STAR Qualified, Self-Contained	Standard Equipment	Per Ice Maker	New	317	10	$5	29%	0
Large Retail	Refrigeration	Ice Makers, Water-Cooled	Ice-Making Head - Water Cooled	Standard Equipment	Per Ice Maker	Existing	894	10	$1,000	29%	0
Large Retail	Refrigeration	Ice Makers, Water-Cooled	Ice-Making Head - Water Cooled	Standard Equipment	Per Ice Maker	New	894	10	$1,000	29%	0
Large Retail	Refrigeration	Ice Makers, Water-Cooled	Self-Contained - Water Cooled	Standard Equipment	Per Ice Maker	Existing	187	10	$850	29%	0
Large Retail	Refrigeration	Ice Makers, Water-Cooled	Self-Contained - Water Cooled	Standard Equipment	Per Ice Maker	New	187	10	$850	29%	0
Large Retail	Refrigeration	Night Covers for Display Cases	Night Covers for Display Cases	No Night Covers	Per Building	Existing	324	10	$3,052	27%	0
Large Retail	Refrigeration	Night Covers for Display Cases	Night Covers for Display Cases	No Night Covers	Per Building	New	334	10	$3,052	27%	0
Large Retail	Refrigeration	Novelty Cooler Shutoff	Cooler Shutoff with Controls System or Shutoff Switch	No Cooler Shutoff	Per Cooler Case	Existing	749	10	$1,124	63%	0
Large Retail	Refrigeration	Novelty Cooler Shutoff	Cooler Shutoff with Controls System or Shutoff Switch	No Cooler Shutoff	Per Cooler Case	New	749	10	$1,124	63%	0
Large Retail	Refrigeration	Occupancy Sensor - Refrigerated Cases	Occupancy Sensor - Refrigerated Cases	No Sensor	Per Linear Foot of Refrigerated Display Case	Existing	20	8	$3	14%	52
Large Retail	Refrigeration	Occupancy Sensor - Refrigerated Cases	Occupancy Sensor - Refrigerated Cases	No Sensor	Per Linear Foot of Refrigerated Display Case	New	20	8	$3	14%	3
Large Retail	Refrigeration	Refrigeration - Retro-Commissioning	Refrigeration Retro Commissioning (Refrigeration System Diagnostics / Operations And Maintenance)	No Retro-Commissioning	Per Refrigeration Ton	Existing	31	10	$191	78%	0
Large Retail	Refrigeration	Refrigeration - Commissioning	Commissioning (Refrigeration System Diagnostics / Operations and Maintenance for a New Unit)	No Commissioning	Per Refrigeration Ton	New	32	3	$49	87%	0
Large Retail	Refrigeration	Refrigeration - Standard	Standard Refrigeration	Standard Refrigeration	Per Building SqFt	Existing	0.00	14	$0.00	100%	0
Large Retail	Refrigeration	Refrigeration - Standard	Standard Refrigeration	Standard Refrigeration	Per Building SqFt	New	0.00	14	$0.00	100%	0
Large Retail	Refrigeration	Strip Curtains for Walk-Ins	Strip Curtains for Walk-Ins	No Strip Curtains for Walk-Ins	Per Walk-in	Existing	254	4	$300	51%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Large Retail	Refrigeration	Strip Curtains for Walk-Ins	Strip Curtains for Walk-Ins	No Strip Curtains for Walk-Ins	Per Walk-in	New	262	4	$300	51%	0
Large Retail	Refrigerators	Refrigerator - 2014 Federal Standard	2014 Standard Refrigerator	Standard Refrigerator	Per Building SqFt	Existing	0.02	13	$0.08	100%	0
Large Retail	Refrigerators	Refrigerator - 2014 Federal Standard	2014 Standard Refrigerator	Standard Refrigerator	Per Building SqFt	New	0.02	13	$0.08	100%	0
Large Retail	Refrigerators	Refrigerator - Below Standard	Below Standard Refrigerator	Below Standard Refrigerator	Per Building SqFt	Existing	0.00	13	$0.00	100%	0
Large Retail	Refrigerators	Refrigerator - Below Standard	Below Standard Refrigerator	Below Standard Refrigerator	Per Building SqFt	New	0.00	13	$0.00	100%	0
Large Retail	Refrigerators	Refrigerator - CEE Tier 1	CEE Tier 1 Refrigerator	Standard Refrigerator	Per Building SqFt	Existing	0.03	13	$0.11	100%	0
Large Retail	Refrigerators	Refrigerator - CEE Tier 1	CEE Tier 1 Refrigerator	Standard Refrigerator	Per Building SqFt	New	0.03	13	$0.11	100%	0
Large Retail	Refrigerators	Refrigerator - CEE Tier 2	CEE Tier 2 Refrigerator	Standard Refrigerator	Per Building SqFt	Existing	0.01	13	$0.05	100%	0
Large Retail	Refrigerators	Refrigerator - CEE Tier 2	CEE Tier 2 Refrigerator	Standard Refrigerator	Per Building SqFt	New	0.01	13	$0.05	100%	0
Large Retail	Refrigerators	Refrigerator - ENERGY STAR	ENERGY STAR Refrigerator	Standard Refrigerator	Per Building SqFt	Existing	0.01	13	$0.01	100%	0
Large Retail	Refrigerators	Refrigerator - ENERGY STAR	ENERGY STAR Refrigerator	Standard Refrigerator	Per Building SqFt	New	0.01	13	$0.01	100%	0
Large Retail	Refrigerators	Refrigerator - Federal Standard	Standard Refrigerator	Standard Refrigerator	Per Building SqFt	Existing	0.00	13	$0.00	100%	0
Large Retail	Refrigerators	Refrigerator - Federal Standard	Standard Refrigerator	Standard Refrigerator	Per Building SqFt	New	0.00	13	$0.00	100%	0
Large Retail	Servers	Server - ENERGY STAR	ENERGY STAR Server	Standard Server	Per Building SqFt	Existing	0.00	9	$0.00	100%	113
Large Retail	Servers	Server - ENERGY STAR	ENERGY STAR Server	Standard Server	Per Building SqFt	New	0.00	9	$0.00	100%	10
Large Retail	Servers	Server - Standard	Standard Server	Standard Server	Per Building SqFt	Existing	0.00	9	$0.00	100%	0
Large Retail	Servers	Server - Standard	Standard Server	Standard Server	Per Building SqFt	New	0.00	9	$0.00	100%	0
Large Retail	Space Heat	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	Existing	39,589	5	$13,562	33%	0
Large Retail	Space Heat	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	New	74,945	5	$24,507	33%	0
Large Retail	Space Heat	Direct Digital Control System-Installation	DDC Retrofit - EMS Upgrade	Pneumatic	Per Building	Existing	59,383	5	$44,782	6%	0
Large Retail	Space Heat	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	Existing	488	20	$477	76%	0
Large Retail	Space Heat	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	New	488	20	$477	76%	0
Large Retail	Space Heat	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	Existing	217	20	$60	62%	10
Large Retail	Space Heat	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	New	217	20	$60	62%	1
Large Retail	Space Heat	Duct Repair And Sealing	Reduction In Duct Losses to 5%	No Repair or Sealing, 15% duct losses	Per Building SqFt	Existing	0.23	18	$0.23	38%	0
Large Retail	Space Heat	Exhaust Hood Makeup Air	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	Hood Pulls Conditioned Air (No Make-up Air)	Per Building	Existing	17,815	10	$5,450	23%	84
Large Retail	Space Heat	Exhaust Hood Makeup Air	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	Hood Pulls Conditioned Air (No Make-up Air)	Per Building	New	33,725	10	$5,450	23%	10
Large Retail	Space Heat	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	Existing	0.77	30	$10	75%	0
Large Retail	Space Heat	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	New	1.47	30	$10	75%	0
Large Retail	Space Heat	Infiltration Control	Weather-Stripping	Standard Practice	Per Window SqFt	Existing	10	13	$0.38	9%	51
Large Retail	Space Heat	Insulation - Duct	New Duct Insulation (R-8) (Unconditioned Spaces)	No Insulation	Per Surface Area of Duct	Existing	4.16	20	$2	15%	51
Large Retail	Space Heat	Insulation - Floor	R-30	Average Existing Insulation (R-10)	Per Floor Area SqFt	Existing	0.47	25	$1	29%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Large Retail	Space Heat	Insulation - Roof	R-20ci	Average Existing Insulation (R-10)	Per Roof Area SqFt	Existing	0.31	25	$1	13%	0
Large Retail	Space Heat	Insulation - Wall	R-13+R-7.5ci	Average Existing Insulation (R-10)	Per Wall Area SqFt	Existing	0.97	25	$1	33%	0
Large Retail	Space Heat	Space Heat - Standard	Standard Space Heat	Standard Space Heat	Per Building SqFt	Existing	0.00	20	$0.00	100%	0
Large Retail	Space Heat	Space Heat - Standard	Standard Space Heat	Standard Space Heat	Per Building SqFt	New	0.00	20	$0.00	100%	0
Large Retail	Space Heat	Thermostat Programmable	Setback Thermostat 5-1-1, 5-2 or 7-day	Manual Thermostat	Per Thermostat	Existing	3,958	15	$138	89%	224
Large Retail	Space Heat	Variable Air-Volume Systems	Install Variable Air-Volume System	Constant Volume System	Per Building SqFt	Existing	1.01	15	$1	10%	0
Large Retail	Space Heat	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	Existing	2.01	25	$3	60%	0
Large Retail	Space Heat	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	New	2.01	25	$3	67%	0
Large Retail	Space Heat	Window - Metal Framing	U-Value = 0.55 (Code Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	2.09	25	$27	11%	0
Large Retail	Space Heat	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	Existing	1.28	25	$2	4%	0
Large Retail	Space Heat	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	New	1.28	25	$2	5%	0
Large Retail	Space Heat	Window - Non-Metal Framing	U-Value = 0.35 (Code Non-Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	6.42	25	$42	4%	0
Large Retail	Vending Machines	Vending Machine - Controller	Refrigerated Vending Machine Controller	No Controls	Per Vending Machine	Existing	1,394	3	$238	25%	269
Large Retail	Vending Machines	Vending Machine - Controller	Refrigerated Vending Machine Controller	No Controls	Per Vending Machine	New	1,394	3	$238	25%	14
Large Retail	Vending Machines	Vending Machine - ENERGY STAR	ENERGY STAR Vending Machine	Standard Vending Machine	Per Building SqFt	Existing	0.04	10	$0.00	100%	668
Large Retail	Vending Machines	Vending Machine - ENERGY STAR	ENERGY STAR Vending Machine	Standard Vending Machine	Per Building SqFt	New	0.04	10	$0.00	100%	59
Large Retail	Vending Machines	Vending Machine - Standard	Standard Vending Machine	Standard Vending Machine	Per Building SqFt	Existing	0.00	10	$0.00	100%	0
Large Retail	Vending Machines	Vending Machine - Standard	Standard Vending Machine	Standard Vending Machine	Per Building SqFt	New	0.00	10	$0.00	100%	0
Large Retail	Water Heat	Desuperheaters - Air Conditioner	Add-on Desuperheaters to Air Conditioner	No Desuperheater	Per Desuperheater	Existing	230	10	$600	62%	0
Large Retail	Water Heat	Desuperheaters - Air Source Heat Pump	Add-on Desuperheaters to Air Source Heat Pump	No Desuperheater	Per Desuperheater	Existing	1,439	10	$600	2%	8
Large Retail	Water Heat	Desuperheaters - Ground Source Heat Pump	Add-on Desuperheaters to Ground Source Heat Pump	No Desuperheater	Per Desuperheater	Existing	1,439	10	$600	0%	0
Large Retail	Water Heat	Dishwasher	Dishwasher Enhanced Efficiency (EF 1.00) 200 kWh/yr and 4.00 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle = 307 kWh/yr and = 5.0 Gallons/Cycle for July 1, 2011 - Dec 31, 2011	Per Dishwasher	Existing	155	11	$1,067	14%	0
Large Retail	Water Heat	Dishwasher	Dishwasher Enhanced Efficiency (EF 1.00) 200 kWh/yr and 4.00 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle = 307 kWh/yr and = 5.0 Gallons/Cycle for July 1, 2011 - Dec 31, 2011	Per Dishwasher	New	155	11	$1,067	14%	0
Large Retail	Water Heat	Dishwasher	ENERGY STAR 295 kWh/yr and 4.25 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle = 307 kWh/yr and = 5.0 Gallons/Cycle for July 1, 2011 - Dec 31, 2011	Per Dishwasher	Existing	60	11	$272	12%	0
Large Retail	Water Heat	Dishwasher	ENERGY STAR 295 kWh/yr and 4.25 Gallons/Cycle	Federal Standard 355 kWh/yr and 6.5 Gallons/Cycle = 307 kWh/yr and = 5.0 Gallons/Cycle for July 1, 2011 - Dec 31, 2011	Per Dishwasher	New	60	11	$272	12%	0
Large Retail	Water Heat	Dishwasher	High Temp Commercial High Efficiency Dishwasher (ENERGY STAR)	Standard High Temp Commercial Dishwasher	Per Dishwasher	Existing	570	14	$442	1%	1

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Large Retail	Water Heat	Dishwasher	High Temp Commercial High Efficiency Dishwasher (ENERGY STAR)	Standard High Temp Commercial Dishwasher	Per Dishwasher	New	570	14	$442	1%	0
Large Retail	Water Heat	Dishwasher	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)	Standard High Temp Commercial Dishwasher	Per Dishwasher	Existing	893	14	$307	1%	1
Large Retail	Water Heat	Dishwasher	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)	Standard High Temp Commercial Dishwasher	Per Dishwasher	New	893	14	$307	1%	0
Large Retail	Water Heat	Drainwater Heat Recovery	Install Power-Pipe or GFX System	No GFX or Power-Pipe System	Per 40 Gal Water Heater	Existing	1,439	40	$833	60%	315
Large Retail	Water Heat	Drainwater Heat Recovery	Install Power-Pipe or GFX System	No GFX or Power-Pipe System	Per 40 Gal Water Heater	New	1,439	40	$666	83%	21
Large Retail	Water Heat	Faucet Aerator	0.5 GPM	Existing Aerator (3.0 GPM)	Per Aerator	Existing	74	10	$4	67%	125
Large Retail	Water Heat	Low-Flow Spray Heads	1.0 GPM	1.6 GPM (Code)	Per Spray Head	Existing	485	5	$39	51%	94
Large Retail	Water Heat	Low-Flow Spray Heads	1.0 GPM	1.6 GPM (Code)	Per Spray Head	New	485	5	$39	51%	5
Large Retail	Water Heat	Low-Flow Spray Heads	1.6 GPM (Code)	Existing Spray Head (2.5 GPM)	Per Spray Head	Existing	728	5	$30	33%	95
Large Retail	Water Heat	Refrigeration with Heat Recovery	Heat Recovery from Refrigeration System. Applied to Water Heating Electric End Use	No Heat Recovery	Per Building SqFt	Existing	0.07	16	$0.91	50%	0
Large Retail	Water Heat	Ultrasonic Faucet Control	Install Ultrasonic Faucet Control	No Faucet Control	Per Faucet	Existing	29	10	$196	81%	0
Large Retail	Water Heat	Ultrasonic Faucet Control	Install Ultrasonic Faucet Control	No Faucet Control	Per Faucet	New	29	10	$196	81%	0
Large Retail	Water Heat	Water Heater - Pipe Insulation	Hot Water Pipe Insulation (R-4)	No Pipe Insulation	Per Linear Foot	Existing	17	13	$2	56%	15
Large Retail	Water Heat	Water Heater - Tank Blanket/Insulation	Install Insulation (R-11)	No Tank Insulation	Per Water Heater	Existing	287	7	$62	5%	5
Large Retail	Water Heat	Water Heater - Thermostat Setback	Install Programmable Thermostat (120 Degrees)	No Thermostat Setback (130 Degrees)	Per Water Heater	Existing	979	4	$102	50%	157
Large Retail	Water Heat	Water Heating - ENERGY STAR	ENERGY STAR Heat Pump Water Heater EF = 2.0	Standard Water Heater EF = 0.92	Per Building SqFt	Existing	0.15	13	$0.06	75%	672
Large Retail	Water Heat	Water Heating - ENERGY STAR	ENERGY STAR Heat Pump Water Heater EF = 2.0	Standard Water Heater EF = 0.92	Per Building SqFt	New	0.15	13	$0.06	75%	74
Large Retail	Water Heat	Water Heating - Storage 2015 Standard	2015 Standard Water Heater EF = 0.95	Standard Water Heater EF = 0.92	Per Building SqFt	Existing	0.00	13	$0.00	100%	11
Large Retail	Water Heat	Water Heating - Storage 2015 Standard	2015 Standard Water Heater EF = 0.95	Standard Water Heater EF = 0.92	Per Building SqFt	New	0.00	13	$0.00	100%	1
Large Retail	Water Heat	Water Heating - Storage Below Standard	Below Standard Water Heater EF = 0.86	Below Standard Water Heater EF = 0.86	Per Building SqFt	Existing	0.00	13	$0.00	100%	0
Large Retail	Water Heat	Water Heating - Storage Below Standard	Below Standard Water Heater EF = 0.86	Below Standard Water Heater EF = 0.86	Per Building SqFt	New	0.00	13	$0.00	100%	0
Large Retail	Water Heat	Water Heating - Storage Standard	Standard Water Heater EF = 0.92	Standard Water Heater EF = 0.92	Per Building SqFt	Existing	0.00	13	$0.00	100%	0
Large Retail	Water Heat	Water Heating - Storage Standard	Standard Water Heater EF = 0.92	Standard Water Heater EF = 0.92	Per Building SqFt	New	0.00	13	$0.00	100%	0
Large Retail	Water Heat	Water Heating - Tankless	Tankless Water Heater EF = 0.95	Standard Water Heater EF = 0.92	Per Building SqFt	Existing	0.01	13	$0.01	0%	0
Large Retail	Water Heat	Water Heating - Tankless	Tankless Water Heater EF = 0.95	Standard Water Heater EF = 0.92	Per Building SqFt	New	0.01	13	$0.01	0%	0
Lodging	Computers	Computer - ENERGY STAR	ENERGY STAR Computer	Standard Computer	Per Building SqFt	Existing	0.02	4	$0.00	100%	182
Lodging	Computers	Computer - ENERGY STAR	ENERGY STAR Computer	Standard Computer	Per Building SqFt	New	0.02	4	$0.00	100%	11
Lodging	Computers	Computer - Standard	Standard Computer	Standard Computer	Per Building SqFt	Existing	0.00	4	$0.00	100%	0
Lodging	Computers	Computer - Standard	Standard Computer	Standard Computer	Per Building SqFt	New	0.00	4	$0.00	100%	0
Lodging	Cooking	Convection Oven	ENERGY STAR Convection Oven	Standard Oven	Per Convection Oven	Existing	267	15	$1,650	49%	0
Lodging	Cooking	Convection Oven	ENERGY STAR Convection Oven	Standard Oven	Per Convection Oven	New	275	15	$1,650	49%	0
Lodging	Cooking	Cooking - Standard Equipment	Standard Cooking Equipment	Standard Cooking Equipment	Per Building SqFt	Existing	0.00	12	$0.00	100%	0
Lodging	Cooking	Cooking - Standard Equipment	Standard Cooking Equipment	Standard Cooking Equipment	Per Building SqFt	New	0.00	12	$0.00	100%	0
Lodging	Cooking	Fryer	ENERGY STAR Fryer	Standard	Per Fryer	Existing	117	12	$1,271	32%	0
Lodging	Cooking	Fryer	ENERGY STAR Fryer	Standard	Per Fryer	New	121	12	$1,271	32%	0
Lodging	Cooking	Hot Food Holding Cabinets	ENERGY STAR Qualified (< 40 watts/cubic foot)	Standard Equipment	Per Hot Food Holding Cabinet	Existing	801	12	$1,500	47%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Lodging	Cooking	Hot Food Holding Cabinets	ENERGY STAR Qualified (< 40 watts/cubic foot)	Standard Equipment	Per Hot Food Holding Cabinet	New	826	12	$1,500	47%	0
Lodging	Cooking	Steam Cooker	ENERGY STAR Steam Cooker	Standard	Per Steam Cooker	Existing	1,940	12	$1,500	11%	28
Lodging	Cooking	Steam Cooker	ENERGY STAR Steam Cooker	Standard	Per Steam Cooker	New	1,999	12	$1,500	11%	2
Lodging	Cooling DX	Advanced Control Technology	Advanced Control Technologies for Packaged Air-Conditioning Units (Retrofit)	Standard Controls	Per 5 Tons of Cooling	Existing	842	15	$4,920	15%	0
Lodging	Cooling DX	Commissioning	Commissioning/QI - New Installation	No Commissioning	Per SqFt	New	0.13	7	$1	90%	0
Lodging	Cooling DX	Cool Roofs	ENERGY STAR Cool Roof - Reflect Material (Reflectivity = 0.55)	Standard Roof	Per Roof Area SqFt	Existing	0.16	15	$0.68	44%	0
Lodging	Cooling DX	Cool Roofs	ENERGY STAR Cool Roof - Reflect Material (Reflectivity = 0.55)	Standard Roof	Per Roof Area SqFt	New	0.10	15	$0.68	44%	0
Lodging	Cooling DX	Demand Controlled Ventilation	Demand Controlled Ventilation - DCV (Occupancy Sensors / CO2 Sensors)	Constant Ventilation	Per Sensor	Existing	41	15	$450	10%	27
Lodging	Cooling DX	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	Existing	6,813	5	$9,117	33%	0
Lodging	Cooling DX	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	New	4,302	5	$14,651	33%	0
Lodging	Cooling DX	Direct Digital Control System-Installation	DDC Retrofit - EMS Upgrade	Pneumatic	Per Building	Existing	10,220	5	$26,479	6%	0
Lodging	Cooling DX	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	Existing	24	20	$477	76%	0
Lodging	Cooling DX	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	New	24	20	$477	76%	0
Lodging	Cooling DX	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	Existing	11	20	$60	62%	1
Lodging	Cooling DX	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	New	11	20	$60	62%	0
Lodging	Cooling DX	Duct Repair And Sealing	Reduction In Duct Losses to 5%	No Repair or Sealing, 15% duct losses	Per Building SqFt	Existing	0.04	18	$0.23	38%	62
Lodging	Cooling DX	Exhaust Hood Makeup Air	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	Hood Pulls Conditioned Air (No Make-up Air)	Per Building	Existing	3,066	10	$5,450	49%	0
Lodging	Cooling DX	Exhaust Hood Makeup Air	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	Hood Pulls Conditioned Air (No Make-up Air)	Per Building	New	1,936	10	$5,450	49%	0
Lodging	Cooling DX	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	Existing	0.16	30	$10	75%	0
Lodging	Cooling DX	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	New	0.10	30	$10	75%	0
Lodging	Cooling DX	Hotel Key Card Activated Systems	Key card system to control room HVAC and lighting during non-occupied periods	No key card system to control room, manual controls only	Per Control	Existing	64	15	$140	57%	0
Lodging	Cooling DX	Hotel Key Card Activated Systems	Key card system to control room HVAC and lighting during non-occupied periods	No key card system to control room, manual controls only	Per Control	New	44	15	$140	57%	0
Lodging	Cooling DX	Infiltration Control	Weather-Stripping	Standard Practice	Per Window SqFt	Existing	0.48	13	$0.38	9%	18
Lodging	Cooling DX	Insulation - Duct	New Duct Insulation (R-8) (Unconditioned Spaces)	No Insulation	Per Surface Area of Duct	Existing	0.89	20	$2	15%	40
Lodging	Cooling DX	Insulation - Floor	R-30	Average Existing Insulation (R-10)	Per Floor Area SqFt	Existing	0.02	25	$1	29%	0
Lodging	Cooling DX	Insulation - Roof	R-20ci	Average Existing Insulation (R-10)	Per Roof Area SqFt	Existing	0.01	25	$1	13%	0
Lodging	Cooling DX	Insulation - Wall	R-13+R-7.5ci	Average Existing Insulation (R-10)	Per Wall Area SqFt	Existing	0.04	25	$1	33%	0
Lodging	Cooling DX	Package Terminal - Air Conditioner	High Efficiency Package Terminal Air Conditioner	Federal Standard Equipment	Per Package Terminal AC	Existing	186	9	$88	25%	44
Lodging	Cooling DX	Package Terminal - Air Conditioner	High Efficiency Package Terminal Air Conditioner	Federal Standard Equipment	Per Package Terminal AC	New	186	9	$88	25%	2
Lodging	Cooling DX	Retro-Commissioning	Retro-Commissioning	No Retro-Commissioning	Per SqFt	Existing	0.26	7	$0.30	90%	920

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Lodging	Cooling DX	Rooftop DX Unit - Below Standard	Below Standard 9.5 EER, Air-Cooled = 135 and < 240 kBtuh	Below Standard 9.5 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.00	15	$0.00	100%	0
Lodging	Cooling DX	Rooftop DX Unit - Below Standard	Below Standard 9.5 EER, Air-Cooled = 135 and < 240 kBtuh	Below Standard 9.5 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	New	0.00	15	$0.00	100%	0
Lodging	Cooling DX	Rooftop DX Unit - CEE Tier 1	CEE Tier 1 11.5 EER, Air-Cooled = 135 and < 240 kBtuh	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.07	15	$0.03	100%	0
Lodging	Cooling DX	Rooftop DX Unit - CEE Tier 1	CEE Tier 1 11.5 EER, Air-Cooled = 135 and < 240 kBtuh	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	New	0.04	15	$0.03	100%	0
Lodging	Cooling DX	Rooftop DX Unit - CEE Tier 2	CEE Tier 2 12.0 EER, Air-Cooled = 135 and < 240 kBtuh	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.14	15	$0.06	100%	235
Lodging	Cooling DX	Rooftop DX Unit - CEE Tier 2	CEE Tier 2 12.0 EER, Air-Cooled = 135 and < 240 kBtuh	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	New	0.08	15	$0.06	100%	20
Lodging	Cooling DX	Rooftop DX Unit - Standard	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.00	15	$0.00	100%	0
Lodging	Cooling DX	Rooftop DX Unit - Standard	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Federal Standard 11.0 EER, Air-Cooled = 135 and < 240 kBtuh	Per Building SqFt	New	0.00	15	$0.00	100%	0
Lodging	Cooling DX	Thermostat Programmable	Setback Thermostat 5-1-1, 5-2 or 7-day	Manual Thermostat	Per Thermostat	Existing	340	15	$138	0%	0
Lodging	Cooling DX	Tune-up - Air Conditioner	Air Conditioner Maintenance (Tune-up)	Unmaintained Air Conditioner	Per Ton	Existing	99	3	$48	48%	0
Lodging	Cooling DX	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	Existing	0.10	25	$3	53%	0
Lodging	Cooling DX	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	New	0.10	25	$3	60%	0
Lodging	Cooling DX	Window - Metal Framing	U-Value = 0.55 (Code Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	0.10	25	$27	10%	0
Lodging	Cooling DX	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	Existing	0.06	25	$2	12%	0
Lodging	Cooling DX	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	New	0.06	25	$2	14%	0
Lodging	Cooling DX	Window - Non-Metal Framing	U-Value = 0.35 (Code Non-Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	0.32	25	$42	12%	0
Lodging	Cooling DX	Window Air Conditioner	CEE TIER 1 = 11.3 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Window AC	Existing	296	9	$406	45%	0
Lodging	Cooling DX	Window Air Conditioner	CEE TIER 1 = 11.3 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Window AC	New	296	9	$406	45%	0
Lodging	Cooling DX	Window Air Conditioner	CEE TIER 2 = 11.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Window AC	Existing	378	9	$771	48%	0
Lodging	Cooling DX	Window Air Conditioner	CEE TIER 2 = 11.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Window AC	New	378	9	$771	48%	0
Lodging	Cooling DX	Window Air Conditioner	ENERGY STAR = 10.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Window AC	Existing	206	9	$41	38%	40
Lodging	Cooling DX	Window Air Conditioner	ENERGY STAR = 10.8 EER; 8,000-13,999 Btu	Federal Standard 9.8 EER; 8,000-13,999 Btu	Per Window AC	New	206	9	$41	38%	2
Lodging	Dryer	Dryer - High Efficiency	High Efficiency Dryer	Standard Dryer	Per Building SqFt	Existing	0.29	12	$0.14	10%	0
Lodging	Dryer	Dryer - High Efficiency	High Efficiency Dryer	Standard Dryer	Per Building SqFt	New	0.30	12	$0.14	10%	3
Lodging	Dryer	Dryer - Standard	Standard Dryer	Standard Dryer	Per Building SqFt	Existing	0.00	12	$0.14	100%	0
Lodging	Dryer	Dryer - Standard	Standard Dryer	Standard Dryer	Per Building SqFt	New	0.00	12	$0.14	100%	0
Lodging	Ext Lighting	Exterior Lighting - Standard	Standard Exterior Lighting	Standard Exterior Lighting	Per Building SqFt	Existing	0.00	14	$0.00	100%	0
Lodging	Ext Lighting	Exterior Lighting - Standard	Standard Exterior Lighting	Standard Exterior Lighting	Per Building SqFt	New	0.00	14	$0.00	100%	0
Lodging	Ext Lighting	Lighting - LED Lighting Package	Exterior LED Lighting Package	Standard Lighting	Per Lighting Package	Existing	46	13	$2,232	66%	0
Lodging	Ext Lighting	Lighting - High Intensity Discharge Package	High Efficiency Metal Halide Lighting Packages	Standard HID Lighting	Per Lighting Package	Existing	20	5	$114	62%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Lodging	Ext Lighting	Lighting - Induction Lighting Package	Induction Lighting Package	Standard HID Lighting	Per Lighting Package	Existing	57	13	$557	67%	0
Lodging	Fax	Fax - ENERGY STAR	ENERGY STAR Fax	Standard Fax	Per Building SqFt	Existing	0.00	6	$0.00	100%	13
Lodging	Fax	Fax - ENERGY STAR	ENERGY STAR Fax	Standard Fax	Per Building SqFt	New	0.00	6	$0.00	100%	1
Lodging	Fax	Fax - Standard	Standard Fax	Standard Fax	Per Building SqFt	Existing	0.00	6	$0.00	100%	0
Lodging	Fax	Fax - Standard	Standard Fax	Standard Fax	Per Building SqFt	New	0.00	6	$0.00	100%	0
Lodging	Flat Screen Monitors	Monitor - ENERGY STAR Flat Screen	ENERGY STAR Flat Screen Monitor	Standard Flat Screen Monitor	Per Building SqFt	Existing	0.00	4	$0.00	100%	0
Lodging	Flat Screen Monitors	Monitor - ENERGY STAR Flat Screen	ENERGY STAR Flat Screen Monitor	Standard Flat Screen Monitor	Per Building SqFt	New	0.00	4	$0.00	100%	0
Lodging	Flat Screen Monitors	Monitor - Standard Flat Screen	Standard Flat Screen Monitor	Standard Flat Screen Monitor	Per Building SqFt	Existing	0.00	4	$0.00	100%	0
Lodging	Flat Screen Monitors	Monitor - Standard Flat Screen	Standard Flat Screen Monitor	Standard Flat Screen Monitor	Per Building SqFt	New	0.00	4	$0.00	100%	0
Lodging	Freezers	Freezer - 2014 Federal Standard	2014 Standard Freezer	Standard Freezer	Per Building SqFt	Existing	0.00	12	$0.00	100%	0
Lodging	Freezers	Freezer - 2014 Federal Standard	2014 Standard Freezer	Standard Freezer	Per Building SqFt	New	0.00	12	$0.00	100%	0
Lodging	Freezers	Freezer - Below Standard	Below Standard Freezer	Below Standard Freezer	Per Building SqFt	Existing	0.00	12	$0.00	100%	0
Lodging	Freezers	Freezer - Below Standard	Below Standard Freezer	Below Standard Freezer	Per Building SqFt	New	0.00	12	$0.00	100%	0
Lodging	Freezers	Freezer - ENERGY STAR	ENERGY STAR Freezer	Standard Freezer	Per Building SqFt	Existing	0.00	12	$0.00	100%	0
Lodging	Freezers	Freezer - ENERGY STAR	ENERGY STAR Freezer	Standard Freezer	Per Building SqFt	New	0.00	12	$0.00	100%	0
Lodging	Freezers	Freezer - Standard	Standard Freezer	Standard Freezer	Per Building SqFt	Existing	0.00	12	$0.00	100%	0
Lodging	Freezers	Freezer - Standard	Standard Freezer	Standard Freezer	Per Building SqFt	New	0.00	12	$0.00	100%	0
Lodging	HVAC Aux	Cooling Tower-Two-Speed Fan Motor	Cooling Tower-Two-Speed Fan Motor	Cooling Tower-One-Speed Fan Motor	Per Chiller Ton	Existing	35	15	$2	33%	133
Lodging	HVAC Aux	Cooling Tower-VSD Fan Control	Variable-Speed Tower Fans Replace Two-Speed	Cooling Tower-One-Speed Fan Motor	Per Chiller Ton	Existing	10	13	$19	71%	0
Lodging	HVAC Aux	Cooling Tower-VSD Fan Control	Variable-Speed Tower Fans Replace Two-Speed	Cooling Tower-One-Speed Fan Motor	Per Chiller Ton	New	9	13	$19	11%	0
Lodging	HVAC Aux	Demand Controlled Ventilation - Range Hood	For Range Hoods – VFD Controlled	No DCV	Per Range Hood	Existing	658	10	$12,500	34%	0
Lodging	HVAC Aux	Demand Controlled Ventilation - Range Hood	For Range Hoods – VFD Controlled	No DCV	Per Range Hood	New	613	10	$6,500	34%	0
Lodging	HVAC Aux	ECM Motor	Central Air Conditioner ECM Fan	Standard Motor	Per ECM	Existing	206	15	$200	18%	25
Lodging	HVAC Aux	ECM Motor	Central Air Conditioner ECM Fan	Standard Motor	Per ECM	New	193	15	$200	27%	0
Lodging	HVAC Aux	ECM Motor	Electric Furnace ECM Fan	Standard Motor	Per ECM	Existing	206	15	$200	25%	33
Lodging	HVAC Aux	ECM Motor	Electric Furnace ECM Fan	Standard Motor	Per ECM	New	193	15	$200	36%	0
Lodging	HVAC Aux	ECM Motor	Gas Furnace ECM Fan (CEE Air Handling Ratio < 0.02)	Standard Motor	Per ECM	Existing	206	15	$200	37%	50
Lodging	HVAC Aux	ECM Motor	Gas Furnace ECM Fan (CEE Air Handling Ratio < 0.02)	Standard Motor	Per ECM	New	193	15	$200	54%	0
Lodging	HVAC Aux	HVAC Auxillary - Standard Equipment	Standard HVAC Auxillary	Standard HVAC Auxillary	Per Building SqFt	Existing	0.00	15	$0.00	100%	0
Lodging	HVAC Aux	HVAC Auxillary - Standard Equipment	Standard HVAC Auxillary	Standard HVAC Auxillary	Per Building SqFt	New	0.00	15	$0.00	100%	0
Lodging	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	Existing	75	15	$274	67%	0
Lodging	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	New	75	15	$274	67%	0
Lodging	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	Existing	2,066	15	$2,036	0%	0
Lodging	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	New	518	15	$2,036	9%	0
Lodging	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	Existing	518	15	$678	9%	0
Lodging	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	New	1,143	15	$678	1%	0
Lodging	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	Existing	5,959	15	$4,197	0%	0
Lodging	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	New	2,066	15	$4,197	0%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Lodging	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	Existing	1,143	15	$1,375	1%	0
Lodging	HVAC Aux	Motor - Enhanced (Ultra-PE)	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA Qualifying Standard Motor	Per Motor	New	5,959	15	$1,375	0%	0
Lodging	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 1-15 HP	Constant Speed Motor	Per Building	Existing	3,509	15	$776	67%	383
Lodging	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 1-15 HP	Constant Speed Motor	Per Building	New	3,272	15	$776	67%	21
Lodging	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 125-200 HP	Constant Speed Motor	Per Building	Existing	3,509	15	$364	1%	3
Lodging	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 125-200 HP	Constant Speed Motor	Per Building	New	3,272	15	$364	1%	0
Lodging	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 20-40 HP	Constant Speed Motor	Per Building	Existing	3,509	15	$450	4%	25
Lodging	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 20-40 HP	Constant Speed Motor	Per Building	New	3,272	15	$450	4%	1
Lodging	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 250-500 HP	Constant Speed Motor	Per Building	Existing	3,509	15	$276	0%	1
Lodging	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 250-500 HP	Constant Speed Motor	Per Building	New	3,272	15	$276	0%	0
Lodging	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 50-100 HP	Constant Speed Motor	Per Building	Existing	3,509	15	$554	1%	8
Lodging	HVAC Aux	Variable Frequency Drive	Variable Speed Drive Control, 50-100 HP	Constant Speed Motor	Per Building	New	3,272	15	$554	1%	0
Lodging	Heat Pump	Commissioning	Commissioning/QI - New Installation	No Commissioning	Per SqFt	New	1.09	7	$1	90%	0
Lodging	Heat Pump	Cool Roofs	ENERGY STAR Cool Roof - Reflect Material (Reflectivity = 0.55)	Standard Roof	Per Roof Area SqFt	Existing	0.17	15	$0.68	44%	0
Lodging	Heat Pump	Cool Roofs	ENERGY STAR Cool Roof - Reflect Material (Reflectivity = 0.55)	Standard Roof	Per Roof Area SqFt	New	0.11	15	$0.68	44%	0
Lodging	Heat Pump	Demand Controlled Ventilation	Demand Controlled Ventilation - DCV (Occupancy Sensors / CO2 Sensors)	Constant Ventilation	Per Sensor	Existing	1,462	15	$450	16%	288
Lodging	Heat Pump	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	Existing	34,211	5	$18,235	33%	0
Lodging	Heat Pump	Direct Digital Control System - Optimization	DDC Optimization	Standard DDC	Per Building	New	34,396	5	$18,235	33%	0
Lodging	Heat Pump	Direct Digital Control System-Installation	DDC Retrofit - EMS Upgrade	Pneumatic	Per Building	Existing	51,317	5	$52,958	6%	0
Lodging	Heat Pump	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	Existing	296	20	$477	76%	0
Lodging	Heat Pump	Doors	U-Factor = 0.10	Standard Door (U-Factor = 0.55)	Per Door	New	296	20	$477	76%	0
Lodging	Heat Pump	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	Existing	131	20	$60	62%	3
Lodging	Heat Pump	Doors	U-Factor = 0.35	Standard Door (U-Factor = 0.55)	Per Door	New	131	20	$60	62%	0
Lodging	Heat Pump	Duct Repair And Sealing	Reduction In Duct Losses to 5%	No Repair or Sealing, 15% duct losses	Per Building SqFt	Existing	0.25	18	$0.23	38%	44
Lodging	Heat Pump	Exhaust Hood Makeup Air	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	Hood Pulls Conditioned Air (No Make-up Air)	Per Building	Existing	15,395	10	$5,450	49%	87
Lodging	Heat Pump	Exhaust Hood Makeup Air	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	Hood Pulls Conditioned Air (No Make-up Air)	Per Building	New	15,478	10	$5,450	49%	5
Lodging	Heat Pump	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	Existing	0.17	30	$10	75%	0
Lodging	Heat Pump	Green Roof	Ecoroof, Vegetated Roof System	Standard Roof	Per Roof Area SqFt	New	0.11	30	$10	75%	0
Lodging	Heat Pump	Heat Pump - Below Standard	Below Standard Air Source Heat Pump 9.0 EER and 2.8 COP, = 135 and < 240 kBtuh	Below Standard Air Source Heat Pump 9.0 EER and 2.8 COP, = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.00	15	$0.00	100%	0
Lodging	Heat Pump	Heat Pump - Below Standard	Below Standard Air Source Heat Pump 9.0 EER and 2.8 COP, = 135 and < 240 kBtuh	Below Standard Air Source Heat Pump 9.0 EER and 2.8 COP, = 135 and < 240 kBtuh	Per Building SqFt	New	0.00	15	$0.00	100%	0

Table A.3.3. MidAm Commercial Electric Measure Details

Segment	End Use	Measure Name	Measure Description	Baseline Description	Unit Description	Construction Vintage	Savings per Unit (kWh)	Measure Life	Incrmental Cost per Unit	Measure Applicability	2023 Economic Potential (MWh)
Lodging	Heat Pump	Heat Pump - ENERGY STAR	ENERGY STAR Ground Source Heat Pump 16.2 EER and 3.6 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	Existing	1.32	15	$10	5%	0
Lodging	Heat Pump	Heat Pump - ENERGY STAR	ENERGY STAR Ground Source Heat Pump 16.2 EER and 3.6 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	New	1.18	15	$6	5%	0
Lodging	Heat Pump	Heat Pump - High Efficiency	High Efficiency Air Source Heat Pump 11.1 EER and 3.3 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.27	15	$0.08	100%	65
Lodging	Heat Pump	Heat Pump - High Efficiency	High Efficiency Air Source Heat Pump 11.1 EER and 3.3 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	New	0.27	15	$0.08	100%	7
Lodging	Heat Pump	Heat Pump - Premium Efficiency	Premium Efficiency Water Source Heat Pump 12.0 EER and 4.2 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	Existing	1.77	15	$0.47	5%	22
Lodging	Heat Pump	Heat Pump - Premium Efficiency	Premium Efficiency Water Source Heat Pump 12.0 EER and 4.2 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	New	1.86	15	$0.54	5%	3
Lodging	Heat Pump	Heat Pump - Standard	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	Existing	0.00	15	$0.00	100%	0
Lodging	Heat Pump	Heat Pump - Standard	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Federal Standard Air Source Heat Pump 10.6 EER and 3.2 COP, = 135 and < 240 kBtuh	Per Building SqFt	New	0.00	15	$0.00	100%	0
Lodging	Heat Pump	Heat Pump - Variable Refrigerant Flow System	Variable Refrigerant Flow System (VRF) - Heat Pump	Packaged VAV With Electric Reheat	Per Ton	Existing	1,890	15	$540	33%	733
Lodging	Heat Pump	Heat Pump - Variable Refrigerant Flow System	Variable Refrigerant Flow System (VRF) - Heat Pump	Packaged VAV With Electric Reheat	Per Ton	New	1,900	15	$540	81%	103
Lodging	Heat Pump	Hotel Key Card Activated Systems	Key card system to control room HVAC and lighting during non-occupied periods	No key card system to control room, manual controls only	Per Control	Existing	324	15	$140	57%	129
Lodging	Heat Pump	Hotel Key Card Activated Systems	Key card system to control room HVAC and lighting during non-occupied periods	No key card system to control room, manual controls only	Per Control	New	352	15	$140	57%	8
Lodging	Heat Pump	Infiltration Control	Weather-Stripping	Standard Practice	Per Window SqFt	Existing	5.01	13	$0.38	9%	32
Lodging	Heat Pump	Insulation - Duct	New Duct Insulation (R-8) (Unconditioned Spaces)	No Insulation	Per Surface Area of Duct	Existing	4.47	20	$2	15%	29
Lodging	Heat Pump	Insulation - Floor	R-30	Average Existing Insulation (R-10)	Per Floor Area SqFt	Existing	0.29	25	$1	29%	0
Lodging	Heat Pump	Insulation - Roof	R-20ci	Average Existing Insulation (R-10)	Per Roof Area SqFt	Existing	0.19	25	$1	13%	0
Lodging	Heat Pump	Insulation - Wall	R-13+R-7.5ci	Average Existing Insulation (R-10)	Per Wall Area SqFt	Existing	0.58	25	$1	33%	0
Lodging	Heat Pump	Package Terminal - Heat Pump	High Efficiency Package Terminal Air Conditioner	Federal Standard Equipment	Per Ton	Existing	186	15	$150	33%	7
Lodging	Heat Pump	Package Terminal - Heat Pump	High Efficiency Package Terminal Air Conditioner	Federal Standard Equipment	Per Ton	New	186	15	$150	33%	0
Lodging	Heat Pump	Retro-Commissioning	Retro-Commissioning	No Retro-Commissioning	Per SqFt	Existing	1.33	7	$0.30	90%	667
Lodging	Heat Pump	Thermostat Programmable	Setback Thermostat 5-1-1, 5-2 or 7-day	Manual Thermostat	Per Thermostat	Existing	1,710	15	$138	0%	0
Lodging	Heat Pump	Tune-up - Air Source Heat Pump	Air Source Heat Pump Maintenance (Tune-up)	Unmaintained Air Source Heat Pump	Per Ton	Existing	497	3	$48	48%	10
Lodging	Heat Pump	Tune-up - Ground Source Heat Pump	Ground Source Heat Pump Maintenance (Tune-up)	Unmaintained Ground Source Heat Pump	Per Ton	Existing	497	3	$48	48%	10
Lodging	Heat Pump	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	Existing	1.22	25	$3	53%	0
Lodging	Heat Pump	Window - Metal Framing	U-Value = 0.45	U-Value = 0.55 (Code Metal Framing)	Per Window SqFt	New	1.22	25	$3	60%	0
Lodging	Heat Pump	Window - Metal Framing	U-Value = 0.55 (Code Metal Framing)	Existing Windows U = 0.67	Per Window SqFt	Existing	1.27	25	$27	10%	0
Lodging	Heat Pump	Window - Non-Metal Framing	U-Value = 0.30	U-Value = 0.35 (Code Non-Metal Framing)	Per Window SqFt	Existing	0.78	25	$2	12%	0