Appendix A

Conservation Planning 2018
Cascade Natural Gas Corporation

- **Annual Forecast Figures by Customer Class**
- **Equipment and Non Equipment Libraries**

Residential Forecast			
Year	Tech	Econ	Achievable
2017	Tracking towards:		275,296
2018	954,353	799,877	238,627
2019	968,612	811,490	246,299
2020	1,379,683	876,775	374,705
2021	1,389,880	883,574	390,394
2022	1,406,417	894,415	410,232
2023	1,423,114	905,370	432,060
2024	1,446,435	920,554	457,097
2025	1,456,961	927,601	478,182
2026	1,472,550	936,811	499,503
2027	1,488,131	945,971	518,765

Commercial/Industrial Forecasts			
Year	Tech	Econ	Achievable
2017	Tracking towards:		190,579
2018	3,206,175	1,600,344	377,640
2019	3,254,385	1,625,247	396,712
2020	4,152,749	1,929,891	496,619
2021	4,199,951	1,951,935	535,680
2022	4,263,523	1,981,472	583,589
2023	4,328,933	2,012,229	637,765
2024	4,411,453	2,050,733	699,025
2025	4,459,418	2,073,403	756,711
2026	4,525,838	2,104,676	816,340
2027	4,591,408	2,135,361	872,271

Total Conservation Forecasts			
Year	Technical	Economic	**Achievable**
2017	Tracking towards:		465,875
2018	4,160,528	2,400,221	616,267
2019	4,222,997	2,436,737	643,011
2020	5,532,432	2,806,666	871,324
2021	5,589,831	2,835,509	926,074
2022	5,669,940	2,875,887	993,821
2023	5,752,047	2,917,599	1,069,825
2024	5,857,888	2,971,287	1,156,122
2025	5,916,379	3,001,004	1,234,893
2026	5,998,388	3,041,487	1,315,843
2027	6,079,539	3,081,332	1,391,036

Description	Vintage	Segment	TRC Ratio	PAC Ratio
New High Efficiency Condensing Boiler for Water and Space Heating applied to MF buildings	Early Retirement	Multi_CZ3	1.30	4.34
New High Efficiency Condensing Boiler for Water and Space Heating applied to MF buildings	New	Multi_CZ1	1.30	4.34
New High Efficiency Condensing Boiler for Water and Space Heating applied to MF buildings	Turnover	Multi_CZ2	1.30	4.34
Condensing boiler with 96% estimated seasonal efficiency	Early Retirement	Mfg_CZ1	0.24	0.79
Condensing boiler with 96% estimated seasonal efficiency	Early Retirement	Mfg_CZ2	0.23	0.77
Condensing boiler with 96% estimated seasonal efficiency	Early Retirement	Mfg_CZ3	0.24	0.79
Condensing boiler with 96% estimated seasonal efficiency	Early Retirement	Multi_CZ1	0.21	0.70
Condensing boiler with 96% estimated seasonal efficiency	Early Retirement	Multi_CZ2	0.20	0.68
Condensing boiler with 96% estimated seasonal efficiency	Early Retirement	Multi_CZ3	0.21	0.71
Condensing boiler with 96% estimated seasonal efficiency	Early Retirement	Single_CZ1	0.32	1.05
Condensing boiler with 96% estimated seasonal efficiency	Early Retirement	Single_CZ2	0.31	1.02
Condensing boiler with 96% estimated seasonal efficiency	Early Retirement	Single_CZ3	0.32	1.06
Condensing boiler with 96% estimated seasonal efficiency	New	Mfg_CZ1	0.34	1.13
Condensing boiler with 96% estimated seasonal efficiency	New	Mfg_CZ2	0.33	1.09
Condensing boiler with 96% estimated seasonal efficiency	New	Mfg_CZ3	0.34	1.13
Condensing boiler with 96% estimated seasonal efficiency	New	Multi_CZ1	0.30	1.00
Condensing boiler with 96% estimated seasonal efficiency	New	Multi_CZ2	0.29	0.97
Condensing boiler with 96% estimated seasonal efficiency	New	Multi_CZ3	0.30	1.01
Condensing boiler with 96% estimated seasonal efficiency	New	Single_CZ1	0.45	1.50
Condensing boiler with 96% estimated seasonal efficiency	New	Single_CZ2	0.44	1.46
Condensing boiler with 96% estimated seasonal efficiency	New	Single_CZ3	0.45	1.51
Condensing boiler with 96% estimated seasonal efficiency	Turnover	Mfg_CZ1	0.34	1.13
Condensing boiler with 96% estimated seasonal efficiency	Turnover	Mfg_CZ2	0.33	1.09
Condensing boiler with 96% estimated seasonal efficiency	Turnover	Mfg_CZ3	0.34	1.13
Condensing boiler with 96% estimated seasonal efficiency	Turnover	Multi_CZ1	0.30	1.00
Condensing boiler with 96% estimated seasonal efficiency	Turnover	Multi_CZ2	0.29	0.97
Condensing boiler with 96% estimated seasonal efficiency	Turnover	Multi_CZ3	0.30	1.01
Condensing boiler with 96% estimated seasonal efficiency	Turnover	Single_CZ1	0.45	1.50
Condensing boiler with 96% estimated seasonal efficiency	Turnover	Single_CZ2	0.44	1.46
Condensing boiler with 96% estimated seasonal efficiency	Turnover	Single_CZ3	0.45	1.51
Condensing High Efficiency Natural Gas Tankless Water Heater (0.82 EF)	Early Retirement	Mfg_CZ1	0.26	0.87
Condensing High Efficiency Natural Gas Tankless Water Heater (0.82 EF)	Early Retirement	Mfg_CZ2	0.26	0.87
Condensing High Efficiency Natural Gas Tankless Water Heater (0.82 EF)	Early Retirement	Mfg_CZ3	0.26	0.87
Condensing High Efficiency Natural Gas Tankless Water Heater (0.82 EF)	Early Retirement	Multi_CZ1	0.20	0.66
Condensing High Efficiency Natural Gas Tankless Water Heater (0.82 EF)	Early Retirement	Multi_CZ2	0.20	0.66
Condensing High Efficiency Natural Gas Tankless Water Heater (0.82 EF)	Early Retirement	Multi_CZ3	0.20	0.66
Condensing High Efficiency Natural Gas Tankless Water Heater (0.82 EF)	Early Retirement	Single_CZ1	0.26	0.86
Condensing High Efficiency Natural Gas Tankless Water Heater (0.82 EF)	Early Retirement	Single_CZ2	0.26	0.86
Condensing High Efficiency Natural Gas Tankless Water Heater (0.82 EF)	Early Retirement	Single_CZ3	0.26	0.86
Condensing High Efficiency Natural Gas Tankless Water Heater (0.82 EF)	New	Mfg_CZ1	0.26	0.87
Condensing High Efficiency Natural Gas Tankless Water Heater (0.82 EF)	New	Mfg_CZ2	0.26	0.87
Condensing High Efficiency Natural Gas Tankless Water Heater (0.82 EF)	New	Mfg_CZ3	0.26	0.87
Condensing High Efficiency Natural Gas Tankless Water Heater (0.82 EF)	New	Multi_CZ1	0.20	0.66
Condensing High Efficiency Natural Gas Tankless Water Heater (0.82 EF)	New	Multi_CZ2	0.20	0.66
Condensing High Efficiency Natural Gas Tankless Water Heater (0.82 EF)	New	Multi_CZ3	0.20	0.66
Condensing High Efficiency Natural Gas Tankless Water Heater (0.82 EF)	New	Single_CZ1	0.26	0.86
Condensing High Efficiency Natural Gas Tankless Water Heater (0.82 EF)	New	Single_CZ2	0.26	0.86

Residential Non Equipment

Description	Vintage	Segment	TRC Ratio	PAC Ratio
Attic / Ceiling Insulation > R-49	Existing	Mfg_CZ1	1.79	5.98
Attic / Ceiling Insulation > R-49	Existing	Mfg_CZ2	1.71	5.72
Attic / Ceiling Insulation > R-49	Existing	Mfg_CZ3	2.02	6.73
Attic / Ceiling Insulation > R-49	Existing	Multi_CZ1	1.79	5.98
Attic / Ceiling Insulation > R-49	Existing	Multi_CZ2	1.71	5.72
Attic / Ceiling Insulation > R-49	Existing	Multi_CZ3	2.02	6.73
Attic / Ceiling Insulation > R-49	Existing	Single_CZ1	1.79	5.98
Attic / Ceiling Insulation > R-49	Existing	Single_CZ2	1.71	5.72
Attic / Ceiling Insulation > R-49	Existing	Single_CZ3	2.02	6.73
Attic / Ceiling Insulation > R-49	New	Mfg_CZ1	1.70	5.68
Attic / Ceiling Insulation > R-49	New	Mfg_CZ2	1.63	5.43
Attic / Ceiling Insulation > R-49	New	Mfg_CZ3	1.92	6.40
Attic / Ceiling Insulation > R-49	New	Multi_CZ1	1.70	5.68
Attic / Ceiling Insulation > R-49	New	Multi_CZ2	1.63	5.43
Attic / Ceiling Insulation > R-49	New	Multi_CZ3	1.92	6.40
Attic / Ceiling Insulation > R-49	New	Single_CZ1	1.70	5.68
Attic / Ceiling Insulation > R-49	New	Single_CZ2	1.63	5.43
Attic / Ceiling Insulation > R-49	New	Single_CZ3	1.92	6.40
Attic / Ceiling Insulation > R-49	Existing	Mfg_CZ1	0.68	2.27
Attic / Ceiling Insulation > R-49	Existing	Mfg_CZ2	0.65	2.17
Attic / Ceiling Insulation > R-49	Existing	Mfg_CZ3	0.77	2.56
Attic / Ceiling Insulation > R-49	Existing	Multi_CZ1	0.68	2.27
Attic / Ceiling Insulation > R-49	Existing	Multi_CZ2	0.65	2.17
Attic / Ceiling Insulation > R-49	Existing	Multi_CZ3	0.77	2.56
Attic / Ceiling Insulation > R-49	Existing	Single_CZ1	0.68	2.27
Attic / Ceiling Insulation > R-49	Existing	Single_CZ2	0.65	2.17
Attic / Ceiling Insulation > R-49	Existing	Single_CZ3	0.77	2.56
Attic / Ceiling Insulation > R-49	New	Mfg_CZ1	0.65	2.16
Attic / Ceiling Insulation > R-49	New	Mfg_CZ2	0.62	2.06
Attic / Ceiling Insulation > R-49	New	Mfg_CZ3	0.73	2.43
Attic / Ceiling Insulation > R-49	New	Multi_CZ1	0.65	2.16
Attic / Ceiling Insulation > R-49	New	Multi_CZ2	0.62	2.06
Attic / Ceiling Insulation > R-49	New	Multi_CZ3	0.73	2.43
Attic / Ceiling Insulation > R-49	New	Single_CZ1	0.65	2.16
Attic / Ceiling Insulation > R-49	New	Single_CZ2	0.62	2.06
Attic / Ceiling Insulation > R-49	New	Single_CZ3	0.73	2.43
Attic / Ceiling Insulation > R-38	Existing	Mfg_CZ1	0.54	1.79
Attic / Ceiling Insulation > R-38	Existing	Mfg_CZ2	0.51	1.71
Attic / Ceiling Insulation > R-38	Existing	Mfg_CZ3	0.60	2.02
Attic / Ceiling Insulation > R-38	Existing	Multi_CZ1	0.54	1.79
Attic / Ceiling Insulation > R-38	Existing	Multi_CZ2	0.51	1.71
Attic / Ceiling Insulation > R-38	Existing	Multi_CZ3	0.60	2.02
Attic / Ceiling Insulation > R-38	Existing	Single_CZ1	0.54	1.79
Attic / Ceiling Insulation > R-38	Existing	Single_CZ2	0.51	1.71
Attic / Ceiling Insulation > R-38	Existing	Single_CZ3	0.60	2.02
Attic / Ceiling Insulation > R-38	New	Mfg_CZ1	0.51	1.70
Attic / Ceiling Insulation > R-38	New	Mfg_CZ2	0.49	1.62
Attic / Ceiling Insulation > R-38	New	Mfg_CZ3	0.57	1.91
Attic / Ceiling Insulation > R-38	New	Multi_CZ1	0.51	1.70
Attic / Ceiling Insulation > R-38	New	Multi_CZ2	0.49	1.62
Attic / Ceiling Insulation > R-38	New	Multi_CZ3	0.57	1.91
Attic / Ceiling Insulation > R-38	New	Single_CZ1	0.51	1.70
Attic / Ceiling Insulation > R-38	New	Single_CZ2	0.49	1.62
Attic / Ceiling Insulation > R-38	New	Single_CZ3	0.57	1.91
Attic / Ceiling Insulation > R-38	Existing	Mfg_CZ1	0.39	1.31
Attic / Ceiling Insulation > R-38	Existing	Mfg_CZ2	0.38	1.26
Attic / Ceiling Insulation > R-38	Existing	Mfg_CZ3	0.44	1.48
Attic / Ceiling Insulation > R-38	Existing	Multi_CZ1	0.39	1.31
Attic / Ceiling Insulation > R-38	Existing	Multi_CZ2	0.38	1.26
Attic / Ceiling Insulation > R-38	Existing	Multi_CZ3	0.44	1.48
Attic / Ceiling Insulation > R-38	Existing	Single_CZ1	0.39	1.31
Attic / Ceiling Insulation > R-38	Existing	Single_CZ2	0.38	1.26
Attic / Ceiling Insulation > R-38	Existing	Single_CZ3	0.44	1.48
Attic / Ceiling Insulation > R-49	New	Mfg_CZ1	0.37	1.25
Attic / Ceiling Insulation > R-49	New	Mfg_CZ2	0.42	1.41
Attic / Ceiling Insulation > R-49	New	Mfg_CZ3	0.42	1.41
Attic / Ceiling Insulation > R-49	New	Multi_CZ1	0.37	1.25

Residential Non Equipment

Description	Vintage	Segment	TRC Ratio	PAC Ratio
Attic / Ceiling Insulation > R-49	New	Multi_CZ2	0.42	1.41
Attic / Ceiling Insulation > R-49	New	Multi_CZ3	0.42	1.41
Attic / Ceiling Insulation > R-49	New	Single_CZ1	0.37	1.25
Attic / Ceiling Insulation > R-49	New	Single_CZ2	0.42	1.41
Attic / Ceiling Insulation > R-49	New	Single_CZ3	0.42	1.41
R-13 Basement Insulation added to a bas	Existing	Mfg_CZ1	6.65	22.17
R-13 Basement Insulation added to a bas	Existing	Mfg_CZ2	6.36	21.20
R-13 Basement Insulation added to a bas	Existing	Mfg_CZ3	7.49	24.98
R-13 Basement Insulation added to a bas	Existing	Multi_CZ1	6.65	22.17
R-13 Basement Insulation added to a bas	Existing	Multi_CZ2	6.36	21.20
R-13 Basement Insulation added to a bas	Existing	Multi_CZ3	7.49	24.98
R-13 Basement Insulation added to a bas	Existing	Single_CZ1	6.65	22.17
R-13 Basement Insulation added to a bas	Existing	Single_CZ2	6.36	21.20
R-13 Basement Insulation added to a bas	Existing	Single_CZ3	7.49	24.98
R-13 Basement Insulation added to a bas	New	Mfg_CZ1	6.32	21.06
R-13 Basement Insulation added to a bas	New	Mfg_CZ2	6.04	20.14
R-13 Basement Insulation added to a bas	New	Mfg_CZ3	7.12	23.73
R-13 Basement Insulation added to a bas	New	Multi_CZ1	6.32	21.06
R-13 Basement Insulation added to a bas	New	Multi_CZ2	6.04	20.14
R-13 Basement Insulation added to a bas	New	Multi_CZ3	7.12	23.73
R-13 Basement Insulation added to a bas	New	Single_CZ1	6.32	21.06
R-13 Basement Insulation added to a bas	New	Single_CZ2	6.04	20.14
R-13 Basement Insulation added to a bas	New	Single_CZ3	7.12	23.73
Boiler reset controls capable of resetting	Existing	Mfg_CZ1	0.64	2.13
Boiler reset controls capable of resetting	Existing	Mfg_CZ2	0.62	2.07
Boiler reset controls capable of resetting	Existing	Mfg_CZ3	0.64	2.14
Boiler reset controls capable of resetting	Existing	Multi_CZ1	0.57	1.90
Boiler reset controls capable of resetting	Existing	Multi_CZ2	0.55	1.84
Boiler reset controls capable of resetting	Existing	Multi_CZ3	0.57	1.91
Boiler reset controls capable of resetting	Existing	Single_CZ1	0.85	2.85
Boiler reset controls capable of resetting	Existing	Single_CZ2	0.83	2.76
Boiler reset controls capable of resetting	Existing	Single_CZ3	0.86	2.86
Boiler reset controls capable of resetting	New	Mfg_CZ1	0.61	2.03
Boiler reset controls capable of resetting	New	Mfg_CZ2	0.59	1.97
Boiler reset controls capable of resetting	New	Mfg_CZ3	0.61	2.04
Boiler reset controls capable of resetting	New	Multi_CZ1	0.54	1.80
Boiler reset controls capable of resetting	New	Multi_CZ2	0.52	1.75
Boiler reset controls capable of resetting	New	Multi_CZ3	0.54	1.81
Boiler reset controls capable of resetting	New	Single_CZ1	0.81	2.70
Boiler reset controls capable of resetting	New	Single_CZ2	0.79	2.62
Boiler reset controls capable of resetting	New	Single_CZ3	0.81	2.72
Boiler diagnostic testing, repair, and tune	Existing	Mfg_CZ1	0.15	0.50
Boiler diagnostic testing, repair, and tune	Existing	Mfg_CZ2	0.15	0.49
Boiler diagnostic testing, repair, and tune	Existing	Mfg_CZ3	0.15	0.50
Boiler diagnostic testing, repair, and tune	Existing	Multi_CZ1	0.15	0.50
Boiler diagnostic testing, repair, and tune	Existing	Multi_CZ2	0.15	0.49
Boiler diagnostic testing, repair, and tune	Existing	Multi_CZ3	0.15	0.50
Boiler diagnostic testing, repair, and tune	Existing	Single_CZ1	0.15	0.50
Boiler diagnostic testing, repair, and tune	Existing	Single_CZ2	0.15	0.49
Boiler diagnostic testing, repair, and tune	Existing	Single_CZ3	0.15	0.50
Boiler diagnostic testing, repair, and tune	New	Mfg_CZ1	0.14	0.48
Boiler diagnostic testing, repair, and tune	New	Mfg_CZ2	0.14	0.46
Boiler diagnostic testing, repair, and tune	New	Mfg_CZ3	0.14	0.48
Boiler diagnostic testing, repair, and tune	New	Multi_CZ1	0.14	0.48
Boiler diagnostic testing, repair, and tune	New	Multi_CZ2	0.14	0.46
Boiler diagnostic testing, repair, and tune	New	Multi_CZ3	0.14	0.48
Boiler diagnostic testing, repair, and tune	New	Single_CZ1	0.14	0.48
Boiler diagnostic testing, repair, and tune	New	Single_CZ2	0.14	0.46
Boiler diagnostic testing, repair, and tune	New	Single_CZ3	0.14	0.48
Drain Water Heat Recovery Unit, 60% efi	Existing	Mfg_CZ1	0.35	1.15
Drain Water Heat Recovery Unit, 60% efi	Existing	Mfg_CZ2	0.35	1.15
Drain Water Heat Recovery Unit, 60% efi	Existing	Mfg_CZ3	0.35	1.15
Drain Water Heat Recovery Unit, 60% efi	Existing	Multi_CZ1	0.17	0.58
Drain Water Heat Recovery Unit, 60% efi	Existing	Multi_CZ2	0.17	0.58
Drain Water Heat Recovery Unit, 60% efi	Existing	Multi_CZ3	0.17	0.58
Drain Water Heat Recovery Unit, 60% efi	Existing	Single_CZ1	0.35	1.15
Drain Water Heat Recovery Unit, 60% efi	Existing	Single_CZ2	0.35	1.15

Residential Non Equipment

Description	Vintage	Segment	TRC Ratio	PAC Ratio
Drain Water Heat Recovery Unit, 60% eff	Existing	Single_CZ3	0.35	1.15
Drain Water Heat Recovery Unit, 60% eff	New	Mfg_CZ1	0.26	0.86
Drain Water Heat Recovery Unit, 60% eff	New	Mfg_CZ2	0.26	0.86
Drain Water Heat Recovery Unit, 60% eff	New	Mfg_CZ3	0.26	0.86
Drain Water Heat Recovery Unit, 60% eff	New	Multi_CZ1	0.13	0.43
Drain Water Heat Recovery Unit, 60% eff	New	Multi_CZ2	0.13	0.43
Drain Water Heat Recovery Unit, 60% eff	New	Multi_CZ3	0.13	0.43
Drain Water Heat Recovery Unit, 60% eff	New	Single_CZ1	0.26	0.86
Drain Water Heat Recovery Unit, 60% eff	New	Single_CZ2	0.26	0.86
Drain Water Heat Recovery Unit, 60% eff	New	Single_CZ3	0.26	0.86
Seal leaks in ductwork & insulate (variety	Existing	Mfg_CZ1	0.22	0.74
Seal leaks in ductwork & insulate (variety	Existing	Mfg_CZ2	0.21	0.72
Seal leaks in ductwork & insulate (variety	Existing	Mfg_CZ3	0.22	0.74
Seal leaks in ductwork & insulate (variety	Existing	Multi_CZ1	0.32	1.08
Seal leaks in ductwork & insulate (variety	Existing	Multi_CZ2	0.32	1.05
Seal leaks in ductwork & insulate (variety	Existing	Multi_CZ3	0.33	1.09
Seal leaks in ductwork & insulate (variety	Existing	Single_CZ1	0.22	0.75
Seal leaks in ductwork & insulate (variety	Existing	Single_CZ2	0.22	0.73
Seal leaks in ductwork & insulate (variety	Existing	Single_CZ3	0.23	0.75
Seal leaks in ductwork & insulate (variety	New	Mfg_CZ1	0.04	0.15
Seal leaks in ductwork & insulate (variety	New	Mfg_CZ2	0.04	0.14
Seal leaks in ductwork & insulate (variety	New	Mfg_CZ3	0.04	0.15
Seal leaks in ductwork & insulate (variety	New	Multi_CZ1	0.06	0.22
Seal leaks in ductwork & insulate (variety	New	Multi_CZ2	0.06	0.21
Seal leaks in ductwork & insulate (variety	New	Multi_CZ3	0.07	0.22
Seal leaks in ductwork & insulate (variety	New	Single_CZ1	0.04	0.15
Seal leaks in ductwork & insulate (variety	New	Single_CZ2	0.04	0.15
Seal leaks in ductwork & insulate (variety	New	Single_CZ3	0.05	0.15
Efficiency Factor > 0.75, < 295 kWh/yr	Existing	Mfg_CZ1	0.06	0.20
Efficiency Factor > 0.75, < 295 kWh/yr	Existing	Mfg_CZ2	0.06	0.20
Efficiency Factor > 0.75, < 295 kWh/yr	Existing	Mfg_CZ3	0.06	0.20
Efficiency Factor > 0.75, < 295 kWh/yr	Existing	Multi_CZ1	0.05	0.15
Efficiency Factor > 0.75, < 295 kWh/yr	Existing	Multi_CZ2	0.05	0.15
Efficiency Factor > 0.75, < 295 kWh/yr	Existing	Multi_CZ3	0.05	0.15
Efficiency Factor > 0.75, < 295 kWh/yr	Existing	Single_CZ1	0.07	0.23
Efficiency Factor > 0.75, < 295 kWh/yr	Existing	Single_CZ2	0.07	0.23
Efficiency Factor > 0.75, < 295 kWh/yr	Existing	Single_CZ3	0.07	0.23
Efficiency Factor > 0.75, < 295 kWh/yr	New	Mfg_CZ1	0.22	0.75
Efficiency Factor > 0.75, < 295 kWh/yr	New	Mfg_CZ2	0.22	0.75
Efficiency Factor > 0.75, < 295 kWh/yr	New	Mfg_CZ3	0.22	0.75
Efficiency Factor > 0.75, < 295 kWh/yr	New	Multi_CZ1	0.17	0.57
Efficiency Factor > 0.75, < 295 kWh/yr	New	Multi_CZ2	0.17	0.57
Efficiency Factor > 0.75, < 295 kWh/yr	New	Multi_CZ3	0.17	0.57
Efficiency Factor > 0.75, < 295 kWh/yr	New	Single_CZ1	0.25	0.84
Efficiency Factor > 0.75, < 295 kWh/yr	New	Single_CZ2	0.25	0.84
Efficiency Factor > 0.75, < 295 kWh/yr	New	Single_CZ3	0.25	0.84
HERS 75	New	Single_CZ1	0.54	1.81
HERS 75	New	Single_CZ2	0.53	1.76
HERS 75	New	Single_CZ3	0.54	1.82
Door U-Factor <0.21, Energy Star Door	Existing	Mfg_CZ1	0.44	1.47
Door U-Factor <0.21, Energy Star Door	Existing	Mfg_CZ2	0.44	1.47
Door U-Factor <0.21, Energy Star Door	Existing	Mfg_CZ3	0.44	1.47
Door U-Factor <0.21, Energy Star Door	Existing	Multi_CZ1	0.44	1.47
Door U-Factor <0.21, Energy Star Door	Existing	Multi_CZ2	0.44	1.47
Door U-Factor <0.21, Energy Star Door	Existing	Multi_CZ3	0.44	1.47
Door U-Factor <0.21, Energy Star Door	Existing	Single_CZ1	0.44	1.47
Door U-Factor <0.21, Energy Star Door	Existing	Single_CZ2	0.44	1.47
Door U-Factor <0.21, Energy Star Door	Existing	Single_CZ3	0.44	1.47
Door U-Factor <0.21, Energy Star Door	New	Mfg_CZ1	0.44	1.47
Door U-Factor <0.21, Energy Star Door	New	Mfg_CZ2	0.44	1.47
Door U-Factor <0.21, Energy Star Door	New	Mfg_CZ3	0.44	1.47
Door U-Factor <0.21, Energy Star Door	New	Multi_CZ1	0.44	1.47
Door U-Factor <0.21, Energy Star Door	New	Multi_CZ2	0.44	1.47
Door U-Factor <0.21, Energy Star Door	New	Multi_CZ3	0.44	1.47
Door U-Factor <0.21, Energy Star Door	New	Single_CZ1	0.44	1.47
Door U-Factor <0.21, Energy Star Door	New	Single_CZ2	0.44	1.47
Door U-Factor <0.21, Energy Star Door	New	Single_CZ3	0.44	1.47

Residential Non Equipment

Description	Vintage	Segment	TRC Ratio	PAC Ratio
One kitchen aerator at 1.5 gpm, and two	Existing	Mfg_CZ1	1.91	6.35
One kitchen aerator at 1.5 gpm, and two	Existing	Mfg_CZ2	1.91	6.35
One kitchen aerator at 1.5 gpm, and two	Existing	Mfg_CZ3	1.91	6.35
One kitchen aerator at 1.5 gpm, and two	Existing	Multi_CZ1	1.45	4.83
One kitchen aerator at 1.5 gpm, and two	Existing	Multi_CZ2	1.45	4.83
One kitchen aerator at 1.5 gpm, and two	Existing	Multi_CZ3	1.45	4.83
One kitchen aerator at 1.5 gpm, and two	Existing	Single_CZ1	1.08	3.60
One kitchen aerator at 1.5 gpm, and two	Existing	Single_CZ2	1.08	3.60
One kitchen aerator at 1.5 gpm, and two	Existing	Single_CZ3	1.08	3.60
One kitchen aerator at 1.5 gpm, and two	New	Mfg_CZ1	0.73	2.45
One kitchen aerator at 1.5 gpm, and two	New	Mfg_CZ2	0.73	2.45
One kitchen aerator at 1.5 gpm, and two	New	Mfg_CZ3	0.73	2.45
One kitchen aerator at 1.5 gpm, and two	New	Multi_CZ1	0.56	1.86
One kitchen aerator at 1.5 gpm, and two	New	Multi_CZ2	0.56	1.86
One kitchen aerator at 1.5 gpm, and two	New	Multi_CZ3	0.56	1.86
One kitchen aerator at 1.5 gpm, and two	New	Single_CZ1	0.42	1.39
One kitchen aerator at 1.5 gpm, and two	New	Single_CZ2	0.42	1.39
One kitchen aerator at 1.5 gpm, and two	New	Single_CZ3	0.42	1.39
R-30 insulation added to basement or cra	Existing	Mfg_CZ1	0.37	1.22
R-30 insulation added to basement or cra	Existing	Mfg_CZ2	0.35	1.17
R-30 insulation added to basement or cra	Existing	Mfg_CZ3	0.41	1.38
R-30 insulation added to basement or cra	Existing	Multi_CZ1	0.37	1.22
R-30 insulation added to basement or cra	Existing	Multi_CZ2	0.35	1.17
R-30 insulation added to basement or cra	Existing	Multi_CZ3	0.41	1.38
R-30 insulation added to basement or cra	Existing	Single_CZ1	0.37	1.22
R-30 insulation added to basement or cra	Existing	Single_CZ2	0.35	1.17
R-30 insulation added to basement or cra	Existing	Single_CZ3	0.41	1.38
R-30 insulation added to basement or cra	New	Mfg_CZ1	0.39	1.29
R-30 insulation added to basement or cra	New	Mfg_CZ2	0.37	1.23
R-30 insulation added to basement or cra	New	Mfg_CZ3	0.44	1.45
R-30 insulation added to basement or cra	New	Multi_CZ1	0.39	1.29
R-30 insulation added to basement or cra	New	Multi_CZ2	0.37	1.23
R-30 insulation added to basement or cra	New	Multi_CZ3	0.44	1.45
R-30 insulation added to basement or cra	New	Single_CZ1	0.39	1.29
R-30 insulation added to basement or cra	New	Single_CZ2	0.37	1.23
R-30 insulation added to basement or cra	New	Single_CZ3	0.44	1.45
Furnace diagnostic testing, repair, and tu	Existing	Mfg_CZ1	0.39	1.29
Furnace diagnostic testing, repair, and tu	Existing	Mfg_CZ2	0.38	1.26
Furnace diagnostic testing, repair, and tu	Existing	Mfg_CZ3	0.39	1.30
Furnace diagnostic testing, repair, and tu	Existing	Multi_CZ1	0.39	1.29
Furnace diagnostic testing, repair, and tu	Existing	Multi_CZ2	0.34	1.12
Furnace diagnostic testing, repair, and tu	Existing	Multi_CZ3	0.35	1.16
Furnace diagnostic testing, repair, and tu	Existing	Single_CZ1	0.52	1.73
Furnace diagnostic testing, repair, and tu	Existing	Single_CZ2	0.50	1.68
Furnace diagnostic testing, repair, and tu	Existing	Single_CZ3	0.52	1.73
Furnace diagnostic testing, repair, and tu	New	Mfg_CZ1	0.39	1.29
Furnace diagnostic testing, repair, and tu	New	Mfg_CZ2	0.38	1.26
Furnace diagnostic testing, repair, and tu	New	Mfg_CZ3	0.39	1.30
Furnace diagnostic testing, repair, and tu	New	Multi_CZ1	0.39	1.29
Furnace diagnostic testing, repair, and tu	New	Multi_CZ2	0.34	1.12
Furnace diagnostic testing, repair, and tu	New	Multi_CZ3	0.35	1.16
Furnace diagnostic testing, repair, and tu	New	Single_CZ1	0.52	1.73
Furnace diagnostic testing, repair, and tu	New	Single_CZ2	0.50	1.68
Furnace diagnostic testing, repair, and tu	New	Single_CZ3	0.52	1.73
Ventilation system meeting ASHRAE 62.	Existing	Mfg_CZ1	1.06	3.52
Ventilation system meeting ASHRAE 62.	Existing	Mfg_CZ2	1.06	3.52
Ventilation system meeting ASHRAE 62.	Existing	Mfg_CZ3	1.06	3.52
Ventilation system meeting ASHRAE 62.	Existing	Multi_CZ1	1.06	3.52
Ventilation system meeting ASHRAE 62.	Existing	Multi_CZ2	1.06	3.52
Ventilation system meeting ASHRAE 62.	Existing	Multi_CZ3	1.06	3.52
Ventilation system meeting ASHRAE 62.	Existing	Single_CZ1	1.06	3.52
Ventilation system meeting ASHRAE 62.	Existing	Single_CZ2	1.06	3.52
Ventilation system meeting ASHRAE 62.	Existing	Single_CZ3	1.06	3.52
Ventilation system meeting ASHRAE 62.	New	Mfg_CZ1	1.06	3.52
Ventilation system meeting ASHRAE 62.	New	Mfg_CZ2	1.06	3.52
Ventilation system meeting ASHRAE 62.	New	Mfg_CZ3	1.06	3.52
Ventilation system meeting ASHRAE 62.	New	Multi_CZ1	1.06	3.52

Residential Non Equipment

Description	Vintage	Segment	TRC Ratio	PAC Ratio
Ventilation system meeting ASHRAE 62..	New	Multi_CZ2	1.06	3.52
Ventilation system meeting ASHRAE 62..	New	Multi_CZ3	1.06	3.52
Ventilation system meeting ASHRAE 62..	New	Single_CZ1	1.06	3.52
Ventilation system meeting ASHRAE 62..	New	Single_CZ2	1.06	3.52
Ventilation system meeting ASHRAE 62..	New	Single_CZ3	1.06	3.52
Natural Gas Water Heater Tank with ther	Existing	Mfg_CZ1	5.93	19.78
Natural Gas Water Heater Tank with ther	Existing	Mfg_CZ2	5.93	19.78
Natural Gas Water Heater Tank with ther	Existing	Mfg_CZ3	5.93	19.78
Natural Gas Water Heater Tank with ther	Existing	Multi_CZ1	4.51	15.03
Natural Gas Water Heater Tank with ther	Existing	Multi_CZ2	4.51	15.03
Natural Gas Water Heater Tank with ther	Existing	Multi_CZ3	4.51	15.03
Natural Gas Water Heater Tank with ther	Existing	Single_CZ1	5.89	19.62
Natural Gas Water Heater Tank with ther	Existing	Single_CZ2	5.89	19.62
Natural Gas Water Heater Tank with ther	Existing	Single_CZ3	5.89	19.62
Natural Gas Water Heater Tank with ther	New	Mfg_CZ1	2.41	8.04
Natural Gas Water Heater Tank with ther	New	Mfg_CZ2	2.41	8.04
Natural Gas Water Heater Tank with ther	New	Mfg_CZ3	2.41	8.04
Natural Gas Water Heater Tank with ther	New	Multi_CZ1	1.83	6.11
Natural Gas Water Heater Tank with ther	New	Multi_CZ2	1.83	6.11
Natural Gas Water Heater Tank with ther	New	Multi_CZ3	1.83	6.11
Natural Gas Water Heater Tank with ther	New	Single_CZ1	2.39	7.98
Natural Gas Water Heater Tank with ther	New	Single_CZ2	2.39	7.98
Natural Gas Water Heater Tank with ther	New	Single_CZ3	2.39	7.98
Low Flow Showerhead (1.5 GPM max)	Existing	Mfg_CZ1	4.88	16.26
Low Flow Showerhead (1.5 GPM max)	Existing	Mfg_CZ2	4.88	16.26
Low Flow Showerhead (1.5 GPM max)	Existing	Mfg_CZ3	4.88	16.26
Low Flow Showerhead (1.5 GPM max)	Existing	Multi_CZ1	4.37	14.55
Low Flow Showerhead (1.5 GPM max)	Existing	Multi_CZ2	4.37	14.55
Low Flow Showerhead (1.5 GPM max)	Existing	Multi_CZ3	4.37	14.55
Low Flow Showerhead (1.5 GPM max)	Existing	Single_CZ1	3.77	12.57
Low Flow Showerhead (1.5 GPM max)	Existing	Single_CZ2	3.77	12.57
Low Flow Showerhead (1.5 GPM max)	Existing	Single_CZ3	3.77	12.57
Low Flow Showerhead (1.5 GPM max)	New	Mfg_CZ1	2.03	6.77
Low Flow Showerhead (1.5 GPM max)	New	Mfg_CZ2	2.03	6.77
Low Flow Showerhead (1.5 GPM max)	New	Mfg_CZ3	2.03	6.77
Low Flow Showerhead (1.5 GPM max)	New	Multi_CZ1	1.82	6.06
Low Flow Showerhead (1.5 GPM max)	New	Multi_CZ2	1.82	6.06
Low Flow Showerhead (1.5 GPM max)	New	Multi_CZ3	1.82	6.06
Low Flow Showerhead (1.5 GPM max)	New	Single_CZ1	1.57	5.24
Low Flow Showerhead (1.5 GPM max)	New	Single_CZ2	1.57	5.24
Low Flow Showerhead (1.5 GPM max)	New	Single_CZ3	1.57	5.24
Low Flow Showerhead (2.0 GPM max)	Existing	Mfg_CZ1	3.62	12.07
Low Flow Showerhead (2.0 GPM max)	Existing	Mfg_CZ2	3.62	12.07
Low Flow Showerhead (2.0 GPM max)	Existing	Mfg_CZ3	3.62	12.07
Low Flow Showerhead (2.0 GPM max)	Existing	Multi_CZ1	3.24	10.81
Low Flow Showerhead (2.0 GPM max)	Existing	Multi_CZ2	3.24	10.81
Low Flow Showerhead (2.0 GPM max)	Existing	Multi_CZ3	3.24	10.81
Low Flow Showerhead (2.0 GPM max)	Existing	Single_CZ1	2.80	9.33
Low Flow Showerhead (2.0 GPM max)	Existing	Single_CZ2	2.80	9.33
Low Flow Showerhead (2.0 GPM max)	Existing	Single_CZ3	2.80	9.33
Low Flow Showerhead (2.0 GPM max)	New	Mfg_CZ1	0.45	1.51
Low Flow Showerhead (2.0 GPM max)	New	Mfg_CZ2	0.45	1.51
Low Flow Showerhead (2.0 GPM max)	New	Mfg_CZ3	0.45	1.51
Low Flow Showerhead (2.0 GPM max)	New	Multi_CZ1	0.41	1.35
Low Flow Showerhead (2.0 GPM max)	New	Multi_CZ2	0.41	1.35
Low Flow Showerhead (2.0 GPM max)	New	Multi_CZ3	0.41	1.35
Low Flow Showerhead (2.0 GPM max)	New	Single_CZ1	0.35	1.17
Low Flow Showerhead (2.0 GPM max)	New	Single_CZ2	0.35	1.17
Low Flow Showerhead (2.0 GPM max)	New	Single_CZ3	0.35	1.17
Programmable Thermostat	Existing	Mfg_CZ1	0.81	2.70
Programmable Thermostat	Existing	Mfg_CZ2	0.78	2.58
Programmable Thermostat	Existing	Mfg_CZ3	0.91	3.04
Programmable Thermostat	Existing	Multi_CZ1	0.81	2.70
Programmable Thermostat	Existing	Multi_CZ2	0.78	2.58
Programmable Thermostat	Existing	Multi_CZ3	0.91	3.04
Programmable Thermostat	Existing	Single_CZ1	3.17	10.57
Programmable Thermostat	Existing	Single_CZ2	3.03	10.11

Residential Non Equipment

Description	Vintage	Segment	TRC Ratio	PAC Ratio
Programmable Thermostat	Existing	Single_CZ3	3.57	11.91
Programmable Thermostat	New	Mfg_CZ1	1.42	4.72
Programmable Thermostat	New	Mfg_CZ2	1.35	4.51
Programmable Thermostat	New	Mfg_CZ3	1.60	5.32
Programmable Thermostat	New	Multi_CZ1	1.42	4.72
Programmable Thermostat	New	Multi_CZ2	1.35	4.51
Programmable Thermostat	New	Multi_CZ3	1.60	5.32
Programmable Thermostat	New	Single_CZ1	5.54	18.47
Programmable Thermostat	New	Single_CZ2	5.30	17.67
Programmable Thermostat	New	Single_CZ3	6.24	20.81
Comprehensive shell air sealing / infiltrati	Existing	Mfg_CZ1	0.46	1.52
Comprehensive shell air sealing / infiltrati	Existing	Mfg_CZ2	0.44	1.46
Comprehensive shell air sealing / infiltrati	Existing	Mfg_CZ3	0.52	1.72
Comprehensive shell air sealing / infiltrati	Existing	Multi_CZ1	0.46	1.52
Comprehensive shell air sealing / infiltrati	Existing	Multi_CZ2	0.44	1.46
Comprehensive shell air sealing / infiltrati	Existing	Multi_CZ3	0.52	1.72
Comprehensive shell air sealing / infiltrati	Existing	Single_CZ1	0.46	1.52
Comprehensive shell air sealing / infiltrati	Existing	Single_CZ2	0.44	1.46
Comprehensive shell air sealing / infiltrati	Existing	Single_CZ3	0.52	1.72
Comprehensive shell air sealing / infiltrati	New	Mfg_CZ1	0.02	0.07
Comprehensive shell air sealing / infiltrati	New	Mfg_CZ2	0.02	0.07
Comprehensive shell air sealing / infiltrati	New	Mfg_CZ3	0.02	0.08
Comprehensive shell air sealing / infiltrati	New	Multi_CZ1	0.02	0.07
Comprehensive shell air sealing / infiltrati	New	Multi_CZ2	0.02	0.07
Comprehensive shell air sealing / infiltrati	New	Multi_CZ3	0.02	0.08
Comprehensive shell air sealing / infiltrati	New	Single_CZ1	0.02	0.07
Comprehensive shell air sealing / infiltrati	New	Single_CZ2	0.02	0.07
Comprehensive shell air sealing / infiltrati	New	Single_CZ3	0.02	0.08
Residential Energy Star Home [HERS Sc	New	Single_CZ1	0.55	1.84
Residential Energy Star Home [HERS Sc	New	Single_CZ2	0.53	1.78
Residential Energy Star Home [HERS Sc	New	Single_CZ3	0.55	1.84
Insulated hot water pipe for conventional	Existing	Mfg_CZ1	1.88	6.26
Insulated hot water pipe for conventional	Existing	Mfg_CZ2	1.88	6.26
Insulated hot water pipe for conventional	Existing	Mfg_CZ3	1.88	6.26
Insulated hot water pipe for conventional	Existing	Multi_CZ1	1.43	4.76
Insulated hot water pipe for conventional	Existing	Multi_CZ2	1.43	4.76
Insulated hot water pipe for conventional	Existing	Multi_CZ3	1.43	4.76
Insulated hot water pipe for conventional	Existing	Single_CZ1	1.86	6.21
Insulated hot water pipe for conventional	Existing	Single_CZ2	1.86	6.21
Insulated hot water pipe for conventional	Existing	Single_CZ3	1.86	6.21
Insulated hot water pipe for conventional	New	Mfg_CZ1	0.16	0.52
Insulated hot water pipe for conventional	New	Mfg_CZ2	0.16	0.52
Insulated hot water pipe for conventional	New	Mfg_CZ3	0.16	0.52
Insulated hot water pipe for conventional	New	Multi_CZ1	0.12	0.39
Insulated hot water pipe for conventional	New	Multi_CZ2	0.12	0.39
Insulated hot water pipe for conventional	New	Multi_CZ3	0.12	0.39
Insulated hot water pipe for conventional	New	Single_CZ1	0.15	0.51
Insulated hot water pipe for conventional	New	Single_CZ2	0.15	0.51
Insulated hot water pipe for conventional	New	Single_CZ3	0.15	0.51
R-5 Slab Insulation (4ft)	Existing	Mfg_CZ1	0.48	1.61
R-5 Slab Insulation (4ft)	Existing	Mfg_CZ2	0.46	1.54
R-5 Slab Insulation (4ft)	Existing	Mfg_CZ3	0.54	1.81
R-5 Slab Insulation (4ft)	Existing	Multi_CZ1	0.53	1.77
R-5 Slab Insulation (4ft)	Existing	Multi_CZ2	0.51	1.69
R-5 Slab Insulation (4ft)	Existing	Multi_CZ3	0.60	2.00
R-5 Slab Insulation (4ft)	Existing	Single_CZ1	0.38	1.27
R-5 Slab Insulation (4ft)	Existing	Single_CZ2	0.37	1.22
R-5 Slab Insulation (4ft)	Existing	Single_CZ3	0.43	1.43
R-5 Slab Insulation (4ft)	New	Mfg_CZ1	0.68	2.28
R-5 Slab Insulation (4ft)	New	Mfg_CZ2	0.65	2.18
R-5 Slab Insulation (4ft)	New	Mfg_CZ3	0.77	2.57
R-5 Slab Insulation (4ft)	New	Multi_CZ1	0.61	2.03
R-5 Slab Insulation (4ft)	New	Multi_CZ2	0.58	1.94
R-5 Slab Insulation (4ft)	New	Multi_CZ3	0.69	2.29
R-5 Slab Insulation (4ft)	New	Single_CZ1	0.47	1.57
R-5 Slab Insulation (4ft)	New	Single_CZ2	0.45	1.50
R-5 Slab Insulation (4ft)	New	Single_CZ3	0.53	1.76

Residential Non Equipment

Description	Vintage	Segment	TRC Ratio	PAC Ratio
Exterior Wall Insulation > R11	Existing	Mfg_CZ1	1.70	5.67
Exterior Wall Insulation > R11	Existing	Mfg_CZ2	1.63	5.42
Exterior Wall Insulation > R11	Existing	Mfg_CZ3	1.92	6.39
Exterior Wall Insulation > R11	Existing	Multi_CZ1	1.70	5.67
Exterior Wall Insulation > R11	Existing	Multi_CZ2	1.63	5.42
Exterior Wall Insulation > R11	Existing	Multi_CZ3	1.92	6.39
Exterior Wall Insulation > R11	Existing	Single_CZ1	1.70	5.67
Exterior Wall Insulation > R11	Existing	Single_CZ2	1.63	5.42
Exterior Wall Insulation > R11	Existing	Single_CZ3	1.92	6.39
Exterior Wall Insulation > R11	New	Mfg_CZ1	1.62	5.39
Exterior Wall Insulation > R11	New	Mfg_CZ2	1.55	5.15
Exterior Wall Insulation > R11	New	Mfg_CZ3	1.82	6.07
Exterior Wall Insulation > R11	New	Multi_CZ1	1.62	5.39
Exterior Wall Insulation > R11	New	Multi_CZ2	1.55	5.15
Exterior Wall Insulation > R11	New	Multi_CZ3	1.82	6.07
Exterior Wall Insulation > R11	New	Single_CZ1	1.62	5.39
Exterior Wall Insulation > R11	New	Single_CZ2	1.55	5.15
Exterior Wall Insulation > R11	New	Single_CZ3	1.82	6.07
Wall Insulation, R-13	Existing	Mfg_CZ1	1.85	6.17
Wall Insulation, R-13	Existing	Mfg_CZ2	1.77	5.90
Wall Insulation, R-13	Existing	Mfg_CZ3	2.08	6.95
Wall Insulation, R-13	Existing	Multi_CZ1	1.85	6.17
Wall Insulation, R-13	Existing	Multi_CZ2	1.06	3.54
Wall Insulation, R-13	Existing	Multi_CZ3	2.08	6.95
Wall Insulation, R-13	Existing	Single_CZ1	1.85	6.17
Wall Insulation, R-13	Existing	Single_CZ2	2.95	9.83
Wall Insulation, R-13	Existing	Single_CZ3	2.08	6.95
Wall Insulation, R-13	New	Mfg_CZ1	1.76	5.86
Wall Insulation, R-13	New	Mfg_CZ2	1.68	5.60
Wall Insulation, R-13	New	Mfg_CZ3	1.98	6.60
Wall Insulation, R-13	New	Multi_CZ1	1.76	5.86
Wall Insulation, R-13	New	Multi_CZ2	1.01	3.36
Wall Insulation, R-13	New	Multi_CZ3	1.98	6.60
Wall Insulation, R-13	New	Single_CZ1	1.76	5.86
Wall Insulation, R-13	New	Single_CZ2	2.80	9.34
Wall Insulation, R-13	New	Single_CZ3	1.98	6.60
New Windows U<0.3. Model used U-fact	Existing	Mfg_CZ1	0.01	0.03
New Windows U<0.3. Model used U-fact	Existing	Mfg_CZ2	0.01	0.03
New Windows U<0.3. Model used U-fact	Existing	Mfg_CZ3	0.01	0.03
New Windows U<0.3. Model used U-fact	Existing	Multi_CZ1	0.00	0.01
New Windows U<0.3. Model used U-fact	Existing	Multi_CZ2	0.00	0.02
New Windows U<0.3. Model used U-fact	Existing	Multi_CZ3	0.01	0.02
New Windows U<0.3. Model used U-fact	Existing	Single_CZ1	0.01	0.04
New Windows U<0.3. Model used U-fact	Existing	Single_CZ2	0.01	0.05
New Windows U<0.3. Model used U-fact	Existing	Single_CZ3	0.02	0.05
New Windows U<0.3. Model used U-fact	New	Mfg_CZ1	0.04	0.15
New Windows U<0.3. Model used U-fact	New	Mfg_CZ2	0.04	0.13
New Windows U<0.3. Model used U-fact	New	Mfg_CZ3	0.05	0.15
New Windows U<0.3. Model used U-fact	New	Multi_CZ1	0.02	0.07
New Windows U<0.3. Model used U-fact	New	Multi_CZ2	0.02	0.07
New Windows U<0.3. Model used U-fact	New	Multi_CZ3	0.02	0.07
New Windows U<0.3. Model used U-fact	New	Single_CZ1	0.07	0.22
New Windows U<0.3. Model used U-fact	New	Single_CZ2	0.06	0.21
New Windows U<0.3. Model used U-fact	New	Single_CZ3	0.07	0.24
Efficient Equipment and Technologies De	Existing	Mfg_CZ1	0.01	0.04
Efficient Equipment and Technologies De	Existing	Mfg_CZ2	0.02	0.05
Efficient Equipment and Technologies De	Existing	Mfg_CZ3	0.02	0.05
Efficient Equipment and Technologies De	Existing	Multi_CZ1	0.01	0.02
Efficient Equipment and Technologies De	Existing	Multi_CZ2	0.01	0.03
Efficient Equipment and Technologies De	Existing	Multi_CZ3	0.01	0.03
Efficient Equipment and Technologies De	Existing	Single_CZ1	0.02	0.06
Efficient Equipment and Technologies De	Existing	Single_CZ2	0.02	0.07
Efficient Equipment and Technologies De	Existing	Single_CZ3	0.02	0.08

Description	Vintage	Segment	TRC Ratio	PAC Ratio
New High Efficiency Condensing Boiler for Water and Space Heating	Early Retir	Education	0.07	0.23
New High Efficiency Condensing Boiler for Water and Space Heating	Early Retir	Education	0.02	0.08
New High Efficiency Condensing Boiler for Water and Space Heating	New	Education	0.09	0.29
New High Efficiency Condensing Boiler for Water and Space Heating	New	Education	0.03	0.10
New High Efficiency Condensing Boiler for Water and Space Heating	Turnover	Education	0.09	0.29
New High Efficiency Condensing Boiler for Water and Space Heating	Turnover	Education	0.03	0.10
New High Efficiency Condensing Boiler for Water and Space Heating	Early Retir	Grocery	0.09	0.31
New High Efficiency Condensing Boiler for Water and Space Heating	Early Retir	Grocery	0.00	0.01
New High Efficiency Condensing Boiler for Water and Space Heating	New	Grocery	0.12	0.39
New High Efficiency Condensing Boiler for Water and Space Heating	New	Grocery	0.00	0.02
New High Efficiency Condensing Boiler for Water and Space Heating	Turnover	Grocery	0.12	0.39
New High Efficiency Condensing Boiler for Water and Space Heating	Turnover	Grocery	0.00	0.02
New High Efficiency Condensing Boiler for Water and Space Heating	Early Retir	Healthcare	0.03	0.09
New High Efficiency Condensing Boiler for Water and Space Heating	Early Retir	Healthcare	0.02	0.05
New High Efficiency Condensing Boiler for Water and Space Heating	New	Healthcare	0.03	0.11
New High Efficiency Condensing Boiler for Water and Space Heating	New	Healthcare	0.02	0.07
New High Efficiency Condensing Boiler for Water and Space Heating	Turnover	Healthcare	0.03	0.11
New High Efficiency Condensing Boiler for Water and Space Heating	Turnover	Healthcare	0.02	0.07
New High Efficiency Condensing Boiler for Water and Space Heating	Early Retir	Lodging	0.04	0.13
New High Efficiency Condensing Boiler for Water and Space Heating	Early Retir	Lodging	0.04	0.15
New High Efficiency Condensing Boiler for Water and Space Heating	New	Lodging	0.05	0.17
New High Efficiency Condensing Boiler for Water and Space Heating	New	Lodging	0.06	0.19
New High Efficiency Condensing Boiler for Water and Space Heating	Turnover	Lodging	0.05	0.17

Description	Vintage	Segment	TRC Ratio	PAC Ratio
New High Efficiency Condensing Boiler for Water and Space Heating	Turnover	Lodging	0.06	0.19
New High Efficiency Condensing Boiler for Water and Space Heating	Early Retir	Misc.	0.03	0.10
New High Efficiency Condensing Boiler for Water and Space Heating	Early Retir	Misc.	0.00	0.00
New High Efficiency Condensing Boiler for Water and Space Heating	New	Misc.	0.04	0.13
New High Efficiency Condensing Boiler for Water and Space Heating	New	Misc.	0.00	0.00
New High Efficiency Condensing Boiler for Water and Space Heating	Turnover	Misc.	0.04	0.13
New High Efficiency Condensing Boiler for Water and Space Heating	Turnover	Misc.	0.00	0.00
New High Efficiency Condensing Boiler for Water and Space Heating	Early Retir	Office	0.03	0.09
New High Efficiency Condensing Boiler for Water and Space Heating	Early Retir	Office	0.00	0.00
New High Efficiency Condensing Boiler for Water and Space Heating	New	Office	0.03	0.11
New High Efficiency Condensing Boiler for Water and Space Heating	New	Office	0.00	0.01
New High Efficiency Condensing Boiler for Water and Space Heating	Turnover	Office	0.03	0.11
New High Efficiency Condensing Boiler for Water and Space Heating	Turnover	Office	0.00	0.01
New High Efficiency Condensing Boiler for Water and Space Heating	Early Retir	Restaurant	0.03	0.10
New High Efficiency Condensing Boiler for Water and Space Heating	Early Retir	Restaurant	0.03	0.11
New High Efficiency Condensing Boiler for Water and Space Heating	New	Restaurant	0.04	0.13
New High Efficiency Condensing Boiler for Water and Space Heating	New	Restaurant	0.04	0.13
New High Efficiency Condensing Boiler for Water and Space Heating	Turnover	Restaurant	0.04	0.13
New High Efficiency Condensing Boiler for Water and Space Heating	Turnover	Restaurant	0.04	0.13
New High Efficiency Condensing Boiler for Water and Space Heating	Early Retir	Retail	0.03	0.10
New High Efficiency Condensing Boiler for Water and Space Heating	Early Retir	Retail	0.00	0.00
New High Efficiency Condensing Boiler for Water and Space Heating	New	Retail	0.07	0.23
New High Efficiency Condensing Boiler for Water and Space Heating	New	Retail	0.00	0.00

Description	Vintage	Segment	TRC Ratio	PAC Ratio
New High Efficiency Condensing Boiler for Water and Space Heating	Turnover	Retail	0.07	0.23
New High Efficiency Condensing Boiler for Water and Space Heating	Turnover	Retail	0.00	0.00
New High Efficiency Condensing Boiler for Water and Space Heating	Early Retir	Warehous	0.05	0.15
New High Efficiency Condensing Boiler for Water and Space Heating	Early Retir	Warehous	0.00	0.01
New High Efficiency Condensing Boiler for Water and Space Heating	New	Warehous	0.06	0.19
New High Efficiency Condensing Boiler for Water and Space Heating	New	Warehous	0.00	0.01
New High Efficiency Condensing Boiler for Water and Space Heating	Turnover	Warehous	0.06	0.19
New High Efficiency Condensing Boiler for Water and Space Heating	Turnover	Warehous	0.00	0.01
combination convection with steam oven cooking efficiency ≥ 38% and convection mode cooking efficiency ≥ 44%	Early Retir	Education	0.01	0.03
combination convection with steam oven cooking efficiency ≥ 38% and convection mode cooking efficiency ≥ 44%	New	Education	0.06	0.19
combination convection with steam oven cooking efficiency ≥ 38% and convection mode cooking efficiency ≥ 44%	Turnover	Education	0.06	0.19
combination convection with steam oven cooking efficiency ≥ 38% and convection mode cooking efficiency ≥ 44%	Early Retir	Grocery	0.06	0.20
combination convection with steam oven cooking efficiency ≥ 38% and convection mode cooking efficiency ≥ 44%	New	Grocery	0.34	1.12
combination convection with steam oven cooking efficiency ≥ 38% and convection mode cooking efficiency ≥ 44%	Turnover	Grocery	0.34	1.12
combination convection with steam oven cooking efficiency ≥ 38% and convection mode cooking efficiency ≥ 44%	Early Retir	Healthcare	0.01	0.03
combination convection with steam oven cooking efficiency ≥ 38% and convection mode cooking efficiency ≥ 44%	New	Healthcare	0.05	0.16
combination convection with steam oven cooking efficiency ≥ 38% and convection mode cooking efficiency ≥ 44%	Turnover	Healthcare	0.05	0.16
combination convection with steam oven cooking efficiency ≥ 38% and convection mode cooking efficiency ≥ 44%	Early Retir	Lodging	0.01	0.03

Description	Vintage	Segment	TRC Ratio	PAC Ratio
combination convection with steam oven cooking efficiency ≥ 38% and convection mode cooking efficiency ≥ 44%	New	Lodging	0.05	0.18
combination convection with steam oven cooking efficiency ≥ 38% and convection mode cooking efficiency ≥ 44%	Turnover	Lodging	0.05	0.18
combination convection with steam oven cooking efficiency ≥ 38% and convection mode cooking efficiency ≥ 44%	Early Retir	Misc.	0.00	0.01
combination convection with steam oven cooking efficiency ≥ 38% and convection mode cooking efficiency ≥ 44%	New	Misc.	0.01	0.04
combination convection with steam oven cooking efficiency ≥ 38% and convection mode cooking efficiency ≥ 44%	Turnover	Misc.	0.01	0.04
combination convection with steam oven cooking efficiency ≥ 38% and convection mode cooking efficiency ≥ 44%	Early Retir	Office	0.00	0.00
combination convection with steam oven cooking efficiency ≥ 38% and convection mode cooking efficiency ≥ 44%	New	Office	0.00	0.02
combination convection with steam oven cooking efficiency ≥ 38% and convection mode cooking efficiency ≥ 44%	Turnover	Office	0.00	0.02
combination convection with steam oven cooking efficiency ≥ 38% and convection mode cooking efficiency ≥ 44%	Early Retir	Restaurant	0.03	0.11
combination convection with steam oven cooking efficiency ≥ 38% and convection mode cooking efficiency ≥ 44%	New	Restaurant	0.19	0.62
combination convection with steam oven cooking efficiency ≥ 38% and convection mode cooking efficiency ≥ 44%	Turnover	Restaurant	0.19	0.62
combination convection with steam oven cooking efficiency ≥ 38% and convection mode cooking efficiency ≥ 44%	Early Retir	Retail	0.00	0.01
combination convection with steam oven cooking efficiency ≥ 38% and convection mode cooking efficiency ≥ 44%	New	Retail	0.02	0.06
combination convection with steam oven cooking efficiency ≥ 38% and convection mode cooking efficiency ≥ 44%	Turnover	Retail	0.02	0.06
combination convection with steam oven cooking efficiency ≥ 38% and convection mode cooking efficiency ≥ 44%	Early Retir	Warehous	0.00	0.00

Description	Vintage	Segment	TRC Ratio	PAC Ratio
combination convection with steam oven cooking efficiency ≥ 38% and convection mode cooking efficiency ≥ 44%	New	Warehous	0.00	0.00
combination convection with steam oven cooking efficiency ≥ 38% and convection mode cooking efficiency ≥ 44%	Turnover	Warehous	0.00	0.00
Natural gas conveyor oven with a tested baking energy efficiency > 42%	Early Retir	Education	0.01	0.02
Natural gas conveyor oven with a tested baking energy efficiency > 42%	New	Education	0.07	0.23
Natural gas conveyor oven with a tested baking energy efficiency > 42%	Turnover	Education	0.07	0.23
Natural gas conveyor oven with a tested baking energy efficiency > 42%	Early Retir	Grocery	0.03	0.10
Natural gas conveyor oven with a tested baking energy efficiency > 42%	New	Grocery	0.41	1.36
Natural gas conveyor oven with a tested baking energy efficiency > 42%	Turnover	Grocery	0.41	1.36
Natural gas conveyor oven with a tested baking energy efficiency > 42%	Early Retir	Healthcare	0.00	0.01
Natural gas conveyor oven with a tested baking energy efficiency > 42%	New	Healthcare	0.06	0.20
Natural gas conveyor oven with a tested baking energy efficiency > 42%	Turnover	Healthcare	0.06	0.20
Natural gas conveyor oven with a tested baking energy efficiency > 42%	Early Retir	Lodging	0.00	0.02
Natural gas conveyor oven with a tested baking energy efficiency > 42%	New	Lodging	0.07	0.22
Natural gas conveyor oven with a tested baking energy efficiency > 42%	Turnover	Lodging	0.07	0.22
Natural gas conveyor oven with a tested baking energy efficiency > 42%	Early Retir	Misc.	0.00	0.00
Natural gas conveyor oven with a tested baking energy efficiency > 42%	New	Misc.	0.02	0.05
Natural gas conveyor oven with a tested baking energy efficiency > 42%	Turnover	Misc.	0.02	0.05
Natural gas conveyor oven with a tested baking energy efficiency > 42%	Early Retir	Office	0.00	0.00
Natural gas conveyor oven with a tested baking energy efficiency > 42%	New	Office	0.01	0.02
Natural gas conveyor oven with a tested baking energy efficiency > 42%	Turnover	Office	0.01	0.02
Natural gas conveyor oven with a tested baking energy efficiency > 42%	Early Retir	Restaurant	0.02	0.05
Natural gas conveyor oven with a tested baking energy efficiency > 42%	New	Restaurant	0.23	0.76

Description	Vintage	Segment	TRC Ratio	PAC Ratio
Natural gas conveyor oven with a tested baking energy efficiency > 42%	Turnover	Restaurant	0.23	0.76
Natural gas conveyor oven with a tested baking energy efficiency > 42%	Early Retir	Retail	0.00	0.01
Natural gas conveyor oven with a tested baking energy efficiency > 42%	New	Retail	0.02	0.07
Natural gas conveyor oven with a tested baking energy efficiency > 42%	Turnover	Retail	0.02	0.07
Natural gas conveyor oven with a tested baking energy efficiency > 42%	Early Retir	Warehous	0.00	0.00
Natural gas conveyor oven with a tested baking energy efficiency > 42%	New	Warehous	0.00	0.00
Natural gas conveyor oven with a tested baking energy efficiency > 42%	Turnover	Warehous	0.00	0.00
Low Intensity Gas Fired Radiant Heater	Early Retir	Education	3.00	10.00
Low Intensity Gas Fired Radiant Heater	New	Education	9.36	31.19
Low Intensity Gas Fired Radiant Heater	Turnover	Education	9.36	31.19
Low Intensity Gas Fired Radiant Heater	Early Retir	Grocery	2.04	6.81
Low Intensity Gas Fired Radiant Heater	New	Grocery	6.37	21.24
Low Intensity Gas Fired Radiant Heater	Turnover	Grocery	6.37	21.24
Low Intensity Gas Fired Radiant Heater	Early Retir	Healthcare	1.76	5.86
Low Intensity Gas Fired Radiant Heater	New	Healthcare	5.48	18.28
Low Intensity Gas Fired Radiant Heater	Turnover	Healthcare	5.48	18.28
Low Intensity Gas Fired Radiant Heater	Early Retir	Lodging	1.75	5.84
Low Intensity Gas Fired Radiant Heater	New	Lodging	5.46	18.21
Low Intensity Gas Fired Radiant Heater	Turnover	Lodging	5.46	18.21
Low Intensity Gas Fired Radiant Heater	Early Retir	Misc.	0.68	2.25
Low Intensity Gas Fired Radiant Heater	New	Misc.	2.11	7.03
Low Intensity Gas Fired Radiant Heater	Turnover	Misc.	2.11	7.03
Low Intensity Gas Fired Radiant Heater	Early Retir	Office	1.20	4.01
Low Intensity Gas Fired Radiant Heater	New	Office	3.75	12.49
Low Intensity Gas Fired Radiant Heater	Turnover	Office	3.75	12.49
Low Intensity Gas Fired Radiant Heater	Early Retir	Restaurant	0.68	2.26
Low Intensity Gas Fired Radiant Heater	New	Restaurant	2.12	7.05
Low Intensity Gas Fired Radiant Heater	Turnover	Restaurant	2.12	7.05
Low Intensity Gas Fired Radiant Heater	Early Retir	Retail	1.22	4.07
Low Intensity Gas Fired Radiant Heater	New	Retail	3.81	12.69
Low Intensity Gas Fired Radiant Heater	Turnover	Retail	3.81	12.69
Low Intensity Gas Fired Radiant Heater	Early Retir	Warehous	1.01	3.36
Low Intensity Gas Fired Radiant Heater	New	Warehous	3.14	10.47
Low Intensity Gas Fired Radiant Heater	Turnover	Warehous	3.14	10.47
Energy Star Convection Oven with cooking efficiency ≥ 44%	Early Retir	Education	0.11	0.37
Energy Star Convection Oven with cooking efficiency ≥ 44%	New	Education	5.38	17.95

Description	Vintage	Segment	TRC Ratio	PAC Ratio
Energy Star Convection Oven with cooking efficiency ≥ 44%	Turnover	Education	5.38	17.95
Energy Star Convection Oven with cooking efficiency ≥ 44%	Early Retir	Grocery	0.66	2.21
Energy Star Convection Oven with cooking efficiency ≥ 44%	New	Grocery	31.98	106.60
Energy Star Convection Oven with cooking efficiency ≥ 44%	Turnover	Grocery	31.98	106.60
Energy Star Convection Oven with cooking efficiency ≥ 44%	Early Retir	Healthcare	0.09	0.32
Energy Star Convection Oven with cooking efficiency ≥ 44%	New	Healthcare	4.58	15.26
Energy Star Convection Oven with cooking efficiency ≥ 44%	Turnover	Healthcare	4.58	15.26
Energy Star Convection Oven with cooking efficiency ≥ 44%	Early Retir	Lodging	0.11	0.36
Energy Star Convection Oven with cooking efficiency ≥ 44%	New	Lodging	5.20	17.33
Energy Star Convection Oven with cooking efficiency ≥ 44%	Turnover	Lodging	5.20	17.33
Energy Star Convection Oven with cooking efficiency ≥ 44%	Early Retir	Misc.	0.02	0.08
Energy Star Convection Oven with cooking efficiency ≥ 44%	New	Misc.	1.17	3.92
Energy Star Convection Oven with cooking efficiency ≥ 44%	Turnover	Misc.	1.17	3.92
Energy Star Convection Oven with cooking efficiency ≥ 44%	Early Retir	Office	0.01	0.03
Energy Star Convection Oven with cooking efficiency ≥ 44%	New	Office	0.47	1.55
Energy Star Convection Oven with cooking efficiency ≥ 44%	Turnover	Office	0.47	1.55
Energy Star Convection Oven with cooking efficiency ≥ 44%	Early Retir	Restaurant	0.37	1.23
Energy Star Convection Oven with cooking efficiency ≥ 44%	New	Restaurant	17.72	59.06
Energy Star Convection Oven with cooking efficiency ≥ 44%	Turnover	Restaurant	17.72	59.06
Energy Star Convection Oven with cooking efficiency ≥ 44%	Early Retir	Retail	0.04	0.12
Energy Star Convection Oven with cooking efficiency ≥ 44%	New	Retail	1.70	5.68
Energy Star Convection Oven with cooking efficiency ≥ 44%	Turnover	Retail	1.70	5.68
Energy Star Convection Oven with cooking efficiency ≥ 44%	Early Retir	Warehous	0.00	0.00

Description	Vintage	Segment	TRC Ratio	PAC Ratio
Energy Star Convection Oven with cooking efficiency ≥ 44%	New	Warehous	0.00	0.00
Energy Star Convection Oven with cooking efficiency ≥ 44%	Turnover	Warehous	0.00	0.00
natural gas fired ENERGY STAR fryer	Early Retir	Education	0.69	2.31
natural gas fired ENERGY STAR fryer	New	Education	1.16	3.86
natural gas fired ENERGY STAR fryer	Turnover	Education	1.16	3.86
natural gas fired ENERGY STAR fryer	Early Retir	Grocery	1.81	6.02
natural gas fired ENERGY STAR fryer	New	Grocery	3.01	10.04
natural gas fired ENERGY STAR fryer	Turnover	Grocery	3.01	10.04
natural gas fired ENERGY STAR fryer	Early Retir	Healthcare	0.35	1.17
natural gas fired ENERGY STAR fryer	New	Healthcare	0.58	1.95
natural gas fired ENERGY STAR fryer	Turnover	Healthcare	0.58	1.95
natural gas fired ENERGY STAR fryer	Early Retir	Lodging	1.07	3.58
natural gas fired ENERGY STAR fryer	New	Lodging	1.79	5.97
natural gas fired ENERGY STAR fryer	Turnover	Lodging	1.79	5.97
natural gas fired ENERGY STAR fryer	Early Retir	Misc.	0.11	0.37
natural gas fired ENERGY STAR fryer	New	Misc.	0.19	0.62
natural gas fired ENERGY STAR fryer	Turnover	Misc.	0.19	0.62
natural gas fired ENERGY STAR fryer	Early Retir	Office	0.04	0.12
natural gas fired ENERGY STAR fryer	New	Office	0.06	0.21
natural gas fired ENERGY STAR fryer	Turnover	Office	0.06	0.21
natural gas fired ENERGY STAR fryer	Early Retir	Restaurant	1.18	3.95
natural gas fired ENERGY STAR fryer	New	Restaurant	1.98	6.58
natural gas fired ENERGY STAR fryer	Turnover	Restaurant	1.98	6.58
natural gas fired ENERGY STAR fryer	Early Retir	Retail	0.10	0.32
natural gas fired ENERGY STAR fryer	New	Retail	0.16	0.54
natural gas fired ENERGY STAR fryer	Turnover	Retail	0.16	0.54
natural gas fired ENERGY STAR fryer	Early Retir	Warehous	0.00	0.00
natural gas fired ENERGY STAR fryer	New	Warehous	0.00	0.00
natural gas fired ENERGY STAR fryer	Turnover	Warehous	0.00	0.00
natural gas fired ENERGY STAR griddle	Early Retir	Education	0.06	0.20
natural gas fired ENERGY STAR griddle	New	Education	0.72	2.40
natural gas fired ENERGY STAR griddle	Turnover	Education	0.72	2.40
natural gas fired ENERGY STAR griddle	Early Retir	Grocery	0.16	0.53
natural gas fired ENERGY STAR griddle	New	Grocery	1.87	6.24
natural gas fired ENERGY STAR griddle	Turnover	Grocery	1.87	6.24
natural gas fired ENERGY STAR griddle	Early Retir	Healthcare	0.03	0.10
natural gas fired ENERGY STAR griddle	New	Healthcare	0.36	1.21
natural gas fired ENERGY STAR griddle	Turnover	Healthcare	0.36	1.21
natural gas fired ENERGY STAR griddle	Early Retir	Lodging	0.09	0.32
natural gas fired ENERGY STAR griddle	New	Lodging	1.11	3.71
natural gas fired ENERGY STAR griddle	Turnover	Lodging	1.11	3.71
natural gas fired ENERGY STAR griddle	Early Retir	Misc.	0.01	0.03
natural gas fired ENERGY STAR griddle	New	Misc.	0.12	0.39
natural gas fired ENERGY STAR griddle	Turnover	Misc.	0.12	0.39

Description	Vintage	Segment	TRC Ratio	PAC Ratio
natural gas fired ENERGY STAR griddle	Early Retir	Office	0.00	0.01
natural gas fired ENERGY STAR griddle	New	Office	0.04	0.13
natural gas fired ENERGY STAR griddle	Turnover	Office	0.04	0.13
natural gas fired ENERGY STAR griddle	Early Retir	Restaurant	0.09	0.29
natural gas fired ENERGY STAR griddle	New	Restaurant	1.04	3.46
natural gas fired ENERGY STAR griddle	Turnover	Restaurant	1.04	3.46
natural gas fired ENERGY STAR griddle	Early Retir	Retail	0.01	0.03
natural gas fired ENERGY STAR griddle	New	Retail	0.10	0.33
natural gas fired ENERGY STAR griddle	Turnover	Retail	0.10	0.33
natural gas fired ENERGY STAR griddle	Early Retir	Warehous	0.00	0.00
natural gas fired ENERGY STAR griddle	New	Warehous	0.00	0.00
natural gas fired ENERGY STAR griddle	Turnover	Warehous	0.00	0.00
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh	Early Retir	Education	0.07	0.23
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Early Retir	Education	0.07	0.23
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	New	Education	0.09	0.29
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh	New	Education	0.09	0.29
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Turnover	Education	0.09	0.29
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh	Turnover	Education	0.09	0.29
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh	Early Retir	Grocery	0.09	0.31
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Early Retir	Grocery	0.09	0.31
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	New	Grocery	0.12	0.39
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh	New	Grocery	0.12	0.39
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Turnover	Grocery	0.12	0.39
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh	Turnover	Grocery	0.12	0.39
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh	Early Retir	Healthcare	0.03	0.09
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Early Retir	Healthcare	0.03	0.09
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	New	Healthcare	0.03	0.11
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh	New	Healthcare	0.03	0.11
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Turnover	Healthcare	0.03	0.11

Description	Vintage	Segment	TRC Ratio	PAC Ratio
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh	Turnover	Healthcare	0.03	0.11
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh	Early Retir	Lodging	0.04	0.13
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Early Retir	Lodging	0.04	0.13
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	New	Lodging	0.05	0.17
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh	New	Lodging	0.05	0.17
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Turnover	Lodging	0.05	0.17
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh	Turnover	Lodging	0.05	0.17
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh	Early Retir	Misc.	0.03	0.10
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Early Retir	Misc.	0.03	0.10
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	New	Misc.	0.04	0.13
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh	New	Misc.	0.04	0.13
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Turnover	Misc.	0.04	0.13
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh	Turnover	Misc.	0.04	0.13
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh	Early Retir	Office	0.03	0.09
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Early Retir	Office	0.03	0.09
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	New	Office	0.03	0.12
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh	New	Office	0.03	0.12
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Turnover	Office	0.03	0.12
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh	Turnover	Office	0.03	0.12
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh	Early Retir	Restaurant	0.03	0.10
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Early Retir	Restaurant	0.03	0.10
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	New	Restaurant	0.04	0.13
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh	New	Restaurant	0.04	0.13

Description	Vintage	Segment	TRC Ratio	PAC Ratio
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Turnover	Restaurant	0.04	0.13
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh	Turnover	Restaurant	0.04	0.13
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh	Early Retir	Retail	0.06	0.19
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Early Retir	Retail	0.06	0.19
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	New	Retail	0.07	0.24
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh	New	Retail	0.07	0.24
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Turnover	Retail	0.07	0.24
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh	Turnover	Retail	0.07	0.24
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh	Early Retir	Warehous	0.05	0.16
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Early Retir	Warehous	0.05	0.16
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	New	Warehous	0.06	0.19
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh	New	Warehous	0.06	0.19
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Turnover	Warehous	0.06	0.19
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh	Turnover	Warehous	0.06	0.19
New High Efficiency Condensing Furnace 91 AFUE	Early Retir	Education	0.30	1.00
New High Efficiency Condensing Furnace 91 AFUE	New	Education	0.87	2.91
New High Efficiency Condensing Furnace 91 AFUE	Turnover	Education	0.87	2.91
New High Efficiency Condensing Furnace 91 AFUE	Early Retir	Grocery	0.39	1.30
New High Efficiency Condensing Furnace 91 AFUE	New	Grocery	1.13	3.78
New High Efficiency Condensing Furnace 91 AFUE	Turnover	Grocery	1.13	3.78
New High Efficiency Condensing Furnace 91 AFUE	Early Retir	Healthcare	0.25	0.85
New High Efficiency Condensing Furnace 91 AFUE	New	Healthcare	0.74	2.46
New High Efficiency Condensing Furnace 91 AFUE	Turnover	Healthcare	0.74	2.46
New High Efficiency Condensing Furnace 91 AFUE	Early Retir	Lodging	0.20	0.68
New High Efficiency Condensing Furnace 91 AFUE	New	Lodging	0.59	1.97
New High Efficiency Condensing Furnace 91 AFUE	Turnover	Lodging	0.59	1.97
New High Efficiency Condensing Furnace 91 AFUE	Early Retir	Misc.	0.27	0.91
New High Efficiency Condensing Furnace 91 AFUE	New	Misc.	0.79	2.65
New High Efficiency Condensing Furnace 91 AFUE	Turnover	Misc.	0.79	2.65
New High Efficiency Condensing Furnace 91 AFUE	Early Retir	Office	0.22	0.74
New High Efficiency Condensing Furnace 91 AFUE	New	Office	0.65	2.15
New High Efficiency Condensing Furnace 91 AFUE	Turnover	Office	0.65	2.15

Description	Vintage	Segment	TRC Ratio	PAC Ratio
New High Efficiency Condensing Furnace 91 AFUE	Early Retir	Restaurant	0.49	1.65
New High Efficiency Condensing Furnace 91 AFUE	New	Restaurant	1.43	4.78
New High Efficiency Condensing Furnace 91 AFUE	Turnover	Restaurant	1.43	4.78
New High Efficiency Condensing Furnace 91 AFUE	Early Retir	Retail	0.28	0.93
New High Efficiency Condensing Furnace 91 AFUE	New	Retail	0.80	2.68
New High Efficiency Condensing Furnace 91 AFUE	Turnover	Retail	0.80	2.68
New High Efficiency Condensing Furnace 91 AFUE	Early Retir	Warehous	0.16	0.52
New High Efficiency Condensing Furnace 91 AFUE	New	Warehous	0.45	1.50
New High Efficiency Condensing Furnace 91 AFUE	Turnover	Warehous	0.45	1.50
New High Efficiency Condensing Unit Heater 92 AFUE	Early Retir	Education	0.38	1.26
New High Efficiency Condensing Unit Heater 92 AFUE	New	Education	0.35	1.17
New High Efficiency Condensing Unit Heater 92 AFUE	Turnover	Education	0.35	1.17
New High Efficiency Condensing Unit Heater 92 AFUE	Early Retir	Grocery	0.49	1.63
New High Efficiency Condensing Unit Heater 92 AFUE	New	Grocery	0.46	1.52
New High Efficiency Condensing Unit Heater 92 AFUE	Turnover	Grocery	0.46	1.52
New High Efficiency Condensing Unit Heater 92 AFUE	Early Retir	Healthcare	0.32	1.06
New High Efficiency Condensing Unit Heater 92 AFUE	New	Healthcare	0.30	0.99
New High Efficiency Condensing Unit Heater 92 AFUE	Turnover	Healthcare	0.30	0.99
New High Efficiency Condensing Unit Heater 92 AFUE	Early Retir	Lodging	0.25	0.85
New High Efficiency Condensing Unit Heater 92 AFUE	New	Lodging	0.24	0.79
New High Efficiency Condensing Unit Heater 92 AFUE	Turnover	Lodging	0.24	0.79
New High Efficiency Condensing Unit Heater 92 AFUE	Early Retir	Misc.	0.34	1.14
New High Efficiency Condensing Unit Heater 92 AFUE	New	Misc.	0.32	1.06
New High Efficiency Condensing Unit Heater 92 AFUE	Turnover	Misc.	0.32	1.06
New High Efficiency Condensing Unit Heater 92 AFUE	Early Retir	Office	0.28	0.93
New High Efficiency Condensing Unit Heater 92 AFUE	New	Office	0.26	0.86
New High Efficiency Condensing Unit Heater 92 AFUE	Turnover	Office	0.26	0.86

Description	Vintage	Segment	TRC Ratio	PAC Ratio
New High Efficiency Condensing Unit Heater 92 AFUE	Early Retir	Restaurant	0.53	1.78
New High Efficiency Condensing Unit Heater 92 AFUE	New	Restaurant	0.50	1.65
New High Efficiency Condensing Unit Heater 92 AFUE	Turnover	Restaurant	0.50	1.65
New High Efficiency Condensing Unit Heater 92 AFUE	Early Retir	Retail	0.35	1.16
New High Efficiency Condensing Unit Heater 92 AFUE	New	Retail	0.32	1.08
New High Efficiency Condensing Unit Heater 92 AFUE	Turnover	Retail	0.32	1.08
New High Efficiency Condensing Unit Heater 92 AFUE	Early Retir	Warehous	0.19	0.65
New High Efficiency Condensing Unit Heater 92 AFUE	New	Warehous	0.18	0.60
New High Efficiency Condensing Unit Heater 92 AFUE	Turnover	Warehous	0.18	0.60
New High Efficiency Non-Condensing Unit Heater 86 AFUE	Early Retir	Education	0.30	1.01
New High Efficiency Non-Condensing Unit Heater 86 AFUE	New	Education	0.20	0.68
New High Efficiency Non-Condensing Unit Heater 86 AFUE	Turnover	Education	0.20	0.68
New High Efficiency Non-Condensing Unit Heater 86 AFUE	Early Retir	Grocery	0.39	1.31
New High Efficiency Non-Condensing Unit Heater 86 AFUE	New	Grocery	0.26	0.88
New High Efficiency Non-Condensing Unit Heater 86 AFUE	Turnover	Grocery	0.26	0.88
New High Efficiency Non-Condensing Unit Heater 86 AFUE	Early Retir	Healthcare	0.26	0.85
New High Efficiency Non-Condensing Unit Heater 86 AFUE	New	Healthcare	0.17	0.57
New High Efficiency Non-Condensing Unit Heater 86 AFUE	Turnover	Healthcare	0.17	0.57
New High Efficiency Non-Condensing Unit Heater 86 AFUE	Early Retir	Lodging	0.21	0.68
New High Efficiency Non-Condensing Unit Heater 86 AFUE	New	Lodging	0.14	0.46
New High Efficiency Non-Condensing Unit Heater 86 AFUE	Turnover	Lodging	0.14	0.46
New High Efficiency Non-Condensing Unit Heater 86 AFUE	Early Retir	Misc.	0.28	0.92
New High Efficiency Non-Condensing Unit Heater 86 AFUE	New	Misc.	0.18	0.62

Description	Vintage	Segment	TRC Ratio	PAC Ratio
New High Efficiency Non-Condensing Unit Heater 86 AFUE	Turnover	Misc.	0.18	0.62
New High Efficiency Non-Condensing Unit Heater 86 AFUE	Early Retir	Office	0.22	0.75
New High Efficiency Non-Condensing Unit Heater 86 AFUE	New	Office	0.15	0.50
New High Efficiency Non-Condensing Unit Heater 86 AFUE	Turnover	Office	0.15	0.50
New High Efficiency Non-Condensing Unit Heater 86 AFUE	Early Retir	Restaurant	0.43	1.43
New High Efficiency Non-Condensing Unit Heater 86 AFUE	New	Restaurant	0.29	0.96
New High Efficiency Non-Condensing Unit Heater 86 AFUE	Turnover	Restaurant	0.29	0.96
New High Efficiency Non-Condensing Unit Heater 86 AFUE	Early Retir	Retail	0.28	0.93
New High Efficiency Non-Condensing Unit Heater 86 AFUE	New	Retail	0.19	0.62
New High Efficiency Non-Condensing Unit Heater 86 AFUE	Turnover	Retail	0.19	0.62
New High Efficiency Non-Condensing Unit Heater 86 AFUE	Early Retir	Warehous	0.16	0.52
New High Efficiency Non-Condensing Unit Heater 86 AFUE	New	Warehous	0.10	0.35
New High Efficiency Non-Condensing Unit Heater 86 AFUE	Turnover	Warehous	0.10	0.35
ENERGY STAR® qualified with 38% minimum cooking energy efficiency at heavy load (potato) cooking capacity for gas steam cookers.	Early Retir	Education	0.14	0.46
ENERGY STAR® qualified with 38% minimum cooking energy efficiency at heavy load (potato) cooking capacity for gas steam cookers.	New	Education	1.28	4.26
ENERGY STAR® qualified with 38% minimum cooking energy efficiency at heavy load (potato) cooking capacity for gas steam cookers.	Turnover	Education	1.28	4.26
ENERGY STAR® qualified with 38% minimum cooking energy efficiency at heavy load (potato) cooking capacity for gas steam cookers.	Early Retir	Grocery	0.36	1.19
ENERGY STAR® qualified with 38% minimum cooking energy efficiency at heavy load (potato) cooking capacity for gas steam cookers.	New	Grocery	3.32	11.08
ENERGY STAR® qualified with 38% minimum cooking energy efficiency at heavy load (potato) cooking capacity for gas steam cookers.	Turnover	Grocery	3.32	11.08

Description	Vintage	Segment	TRC Ratio	PAC Ratio
ENERGY STAR® qualified with 38% minimum cooking energy efficiency at heavy load (potato) cooking capacity for gas steam cookers.	Early Retir	Healthcare	0.07	0.23
ENERGY STAR® qualified with 38% minimum cooking energy efficiency at heavy load (potato) cooking capacity for gas steam cookers.	New	Healthcare	0.65	2.15
ENERGY STAR® qualified with 38% minimum cooking energy efficiency at heavy load (potato) cooking capacity for gas steam cookers.	Turnover	Healthcare	0.65	2.15
ENERGY STAR® qualified with 38% minimum cooking energy efficiency at heavy load (potato) cooking capacity for gas steam cookers.	Early Retir	Lodging	0.21	0.71
ENERGY STAR® qualified with 38% minimum cooking energy efficiency at heavy load (potato) cooking capacity for gas steam cookers.	New	Lodging	1.98	6.59
ENERGY STAR® qualified with 38% minimum cooking energy efficiency at heavy load (potato) cooking capacity for gas steam cookers.	Turnover	Lodging	1.98	6.59
ENERGY STAR® qualified with 38% minimum cooking energy efficiency at heavy load (potato) cooking capacity for gas steam cookers.	Early Retir	Misc.	0.02	0.07
ENERGY STAR® qualified with 38% minimum cooking energy efficiency at heavy load (potato) cooking capacity for gas steam cookers.	New	Misc.	0.21	0.69
ENERGY STAR® qualified with 38% minimum cooking energy efficiency at heavy load (potato) cooking capacity for gas steam cookers.	Turnover	Misc.	0.21	0.69
ENERGY STAR® qualified with 38% minimum cooking energy efficiency at heavy load (potato) cooking capacity for gas steam cookers.	Early Retir	Office	0.01	0.02
ENERGY STAR® qualified with 38% minimum cooking energy efficiency at heavy load (potato) cooking capacity for gas steam cookers.	New	Office	0.07	0.23
ENERGY STAR® qualified with 38% minimum cooking energy efficiency at heavy load (potato) cooking capacity for gas steam cookers.	Turnover	Office	0.07	0.23
ENERGY STAR® qualified with 38% minimum cooking energy efficiency at heavy load (potato) cooking capacity for gas steam cookers.	Early Retir	Restaurant	0.63	2.11
ENERGY STAR® qualified with 38% minimum cooking energy efficiency at heavy load (potato) cooking capacity for gas steam cookers.	New	Restaurant	5.87	19.55
ENERGY STAR® qualified with 38% minimum cooking energy efficiency at heavy load (potato) cooking capacity for gas steam cookers.	Turnover	Restaurant	5.87	19.55

Description	Vintage	Segment	TRC Ratio	PAC Ratio
ENERGY STAR® qualified with 38% minimum cooking energy efficiency at heavy load (potato) cooking capacity for gas steam cookers.	Early Retir	Retail	0.02	0.06
ENERGY STAR® qualified with 38% minimum cooking energy efficiency at heavy load (potato) cooking capacity for gas steam cookers.	New	Retail	0.18	0.59
ENERGY STAR® qualified with 38% minimum cooking energy efficiency at heavy load (potato) cooking capacity for gas steam cookers.	Turnover	Retail	0.18	0.59
ENERGY STAR® qualified with 38% minimum cooking energy efficiency at heavy load (potato) cooking capacity for gas steam cookers.	Early Retir	Warehous	0.00	0.00
ENERGY STAR® qualified with 38% minimum cooking energy efficiency at heavy load (potato) cooking capacity for gas steam cookers.	New	Warehous	0.00	0.00
ENERGY STAR® qualified with 38% minimum cooking energy efficiency at heavy load (potato) cooking capacity for gas steam cookers.	Turnover	Warehous	0.00	0.00
New High Efficiency Tank Condensing Water Heater, >75,000 kBtuh	Early Retir	Education	0.16	0.55
New High Efficiency Tank Condensing Water Heater, >75,000 kBtuh	New	Education	0.42	1.40
New High Efficiency Tank Condensing Water Heater, >75,000 kBtuh	Turnover	Education	0.42	1.40
New High Efficiency Tank Condensing Water Heater, >75,000 kBtuh	Early Retir	Grocery	0.04	0.12
New High Efficiency Tank Condensing Water Heater, >75,000 kBtuh	New	Grocery	0.09	0.31
New High Efficiency Tank Condensing Water Heater, >75,000 kBtuh	Turnover	Grocery	0.09	0.31
New High Efficiency Tank Condensing Water Heater, >75,000 kBtuh	Early Retir	Healthcare	0.14	0.48
New High Efficiency Tank Condensing Water Heater, >75,000 kBtuh	New	Healthcare	0.37	1.22
New High Efficiency Tank Condensing Water Heater, >75,000 kBtuh	Turnover	Healthcare	0.37	1.22
New High Efficiency Tank Condensing Water Heater, >75,000 kBtuh	Early Retir	Lodging	0.41	1.38
New High Efficiency Tank Condensing Water Heater, >75,000 kBtuh	New	Lodging	1.05	3.50
New High Efficiency Tank Condensing Water Heater, >75,000 kBtuh	Turnover	Lodging	1.05	3.50
New High Efficiency Tank Condensing Water Heater, >75,000 kBtuh	Early Retir	Misc.	0.01	0.03
New High Efficiency Tank Condensing Water Heater, >75,000 kBtuh	New	Misc.	0.02	0.07

Description	Vintage	Segment	TRC Ratio	PAC Ratio
New High Efficiency Tank Condensing Water Heater, >75,000 kBtuh	Turnover	Misc.	0.02	0.07
New High Efficiency Tank Condensing Water Heater, >75,000 kBtuh	Early Retir	Office	0.01	0.05
New High Efficiency Tank Condensing Water Heater, >75,000 kBtuh	New	Office	0.03	0.12
New High Efficiency Tank Condensing Water Heater, >75,000 kBtuh	Turnover	Office	0.03	0.12
New High Efficiency Tank Condensing Water Heater, >75,000 kBtuh	Early Retir	Restaurant	0.48	1.59
New High Efficiency Tank Condensing Water Heater, >75,000 kBtuh	New	Restaurant	1.21	4.04
New High Efficiency Tank Condensing Water Heater, >75,000 kBtuh	Turnover	Restaurant	1.21	4.04
New High Efficiency Tank Condensing Water Heater, >75,000 kBtuh	Early Retir	Retail	0.01	0.03
New High Efficiency Tank Condensing Water Heater, >75,000 kBtuh	New	Retail	0.03	0.09
New High Efficiency Tank Condensing Water Heater, >75,000 kBtuh	Turnover	Retail	0.03	0.09
New High Efficiency Tank Condensing Water Heater, >75,000 kBtuh	Early Retir	Warehous	0.01	0.02
New High Efficiency Tank Condensing Water Heater, >75,000 kBtuh	New	Warehous	0.01	0.05
New High Efficiency Tank Condensing Water Heater, >75,000 kBtuh	Turnover	Warehous	0.01	0.05
New High Efficiency Tankless Water Heater <200,000 Mbtuh, .82 EF	Early Retir	Education	0.42	1.41
New High Efficiency Tankless Water Heater <200,000 Mbtuh, .82 EF	New	Education	0.42	1.41
New High Efficiency Tankless Water Heater <200,000 Mbtuh, .82 EF	Turnover	Education	0.37	1.22
New High Efficiency Tankless Water Heater <200,000 Mbtuh, .82 EF	Early Retir	Grocery	0.09	0.31
New High Efficiency Tankless Water Heater <200,000 Mbtuh, .82 EF	New	Grocery	0.09	0.31
New High Efficiency Tankless Water Heater <200,000 Mbtuh, .82 EF	Turnover	Grocery	0.08	0.27
New High Efficiency Tankless Water Heater <200,000 Mbtuh, .82 EF	Early Retir	Healthcare	0.37	1.23
New High Efficiency Tankless Water Heater <200,000 Mbtuh, .82 EF	New	Healthcare	0.37	1.23
New High Efficiency Tankless Water Heater <200,000 Mbtuh, .82 EF	Turnover	Healthcare	0.32	1.07
New High Efficiency Tankless Water Heater <200,000 Mbtuh, .82 EF	Early Retir	Lodging	1.06	3.54

Description	Vintage	Segment	TRC Ratio	PAC Ratio
New High Efficiency Tankless Water Heater <200,000 Mbtuh, .82 EF	New	Lodging	1.06	3.54
New High Efficiency Tankless Water Heater <200,000 Mbtuh, .82 EF	Turnover	Lodging	0.92	3.06
New High Efficiency Tankless Water Heater <200,000 Mbtuh, .82 EF	Early Retir	Misc.	0.02	0.07
New High Efficiency Tankless Water Heater <200,000 Mbtuh, .82 EF	New	Misc.	0.02	0.07
New High Efficiency Tankless Water Heater <200,000 Mbtuh, .82 EF	Turnover	Misc.	0.02	0.06
New High Efficiency Tankless Water Heater <200,000 Mbtuh, .82 EF	Early Retir	Office	0.04	0.12
New High Efficiency Tankless Water Heater <200,000 Mbtuh, .82 EF	New	Office	0.04	0.12
New High Efficiency Tankless Water Heater <200,000 Mbtuh, .82 EF	Turnover	Office	0.03	0.10
New High Efficiency Tankless Water Heater <200,000 Mbtuh, .82 EF	Early Retir	Restaurant	1.22	4.08
New High Efficiency Tankless Water Heater <200,000 Mbtuh, .82 EF	New	Restaurant	1.22	4.08
New High Efficiency Tankless Water Heater <200,000 Mbtuh, .82 EF	Turnover	Restaurant	1.06	3.53
New High Efficiency Tankless Water Heater <200,000 Mbtuh, .82 EF	Early Retir	Retail	0.03	0.09
New High Efficiency Tankless Water Heater <200,000 Mbtuh, .82 EF	New	Retail	0.03	0.09
New High Efficiency Tankless Water Heater <200,000 Mbtuh, .82 EF	Turnover	Retail	0.02	0.08
New High Efficiency Tankless Water Heater <200,000 Mbtuh, .82 EF	Early Retir	Warehous	0.01	0.05
New High Efficiency Tankless Water Heater <200,000 Mbtuh, .82 EF	New	Warehous	0.01	0.05
New High Efficiency Tankless Water Heater <200,000 Mbtuh, .82 EF	Turnover	Warehous	0.01	0.04
New High Efficiency Tank Water Heater	Early Retir	Education	0.24	0.81
New High Efficiency Tank Water Heater	New	Education	0.28	0.92
New High Efficiency Tank Water Heater, EF=.7	Turnover	Education	0.28	0.92
New High Efficiency Tank Water Heater	Early Retir	Grocery	0.05	0.18
New High Efficiency Tank Water Heater	New	Grocery	0.06	0.21
New High Efficiency Tank Water Heater, EF=.8	Turnover	Grocery	0.06	0.21
New High Efficiency Tank Water Heater	Early Retir	Healthcare	0.21	0.71
New High Efficiency Tank Water Heater	New	Healthcare	0.24	0.80
New High Efficiency Tank Water Heater, EF=.9	Turnover	Healthcare	0.24	0.80
New High Efficiency Tank Water Heater	Early Retir	Lodging	0.61	2.04
New High Efficiency Tank Water Heater	New	Lodging	0.69	2.30
New High Efficiency Tank Water Heater, EF=.11	Turnover	Lodging	0.69	2.30

Description	Vintage	Segment	TRC Ratio	PAC Ratio
New High Efficiency Tank Water Heater	Early Retir	Misc.	0.01	0.04
New High Efficiency Tank Water Heater	New	Misc.	0.01	0.05
New High Efficiency Tank Water Heater, EF=.12	Turnover	Misc.	0.01	0.05
New High Efficiency Tank Water Heater	Early Retir	Office	0.02	0.07
New High Efficiency Tank Water Heater	New	Office	0.02	0.08
New High Efficiency Tank Water Heater, EF=.10	Turnover	Office	0.02	0.08
New High Efficiency Tank Water Heater	Early Retir	Restaurant	0.71	2.35
New High Efficiency Tank Water Heater	New	Restaurant	0.80	2.66
New High Efficiency Tank Water Heater, EF=.13	Turnover	Restaurant	0.80	2.66
New High Efficiency Tank Water Heater	Early Retir	Retail	0.02	0.05
New High Efficiency Tank Water Heater	New	Retail	0.02	0.06
New High Efficiency Tank Water Heater, EF=.14	Turnover	Retail	0.02	0.06
New High Efficiency Tank Water Heater	Early Retir	Warehous	0.01	0.03
New High Efficiency Tank Water Heater	New	Warehous	0.01	0.03
New High Efficiency Tank Water Heater, EF=.15	Turnover	Warehous	0.01	0.03
1 32SF Solar Collector, Glazed. Thermodynamics G32 (<2012)	Early Retir	Education	0.38	1.28
1 32SF Solar Collector, Glazed. Thermodynamics G32 (<2012)	New	Education	0.38	1.28
1 32SF Solar Collector, Glazed. Thermodynamics G32 (<2012)	Turnover	Education	0.38	1.28
1 32SF Solar Collector, Glazed. Thermodynamics G32 (<2012)	Early Retir	Grocery	0.04	0.15
1 32SF Solar Collector, Glazed. Thermodynamics G32 (<2012)	New	Grocery	0.04	0.15
1 32SF Solar Collector, Glazed. Thermodynamics G32 (<2012)	Turnover	Grocery	0.04	0.15
1 32SF Solar Collector, Glazed. Thermodynamics G32 (<2012)	Early Retir	Healthcare	0.23	0.78
1 32SF Solar Collector, Glazed. Thermodynamics G32 (<2012)	New	Healthcare	0.23	0.78
1 32SF Solar Collector, Glazed. Thermodynamics G32 (<2012)	Turnover	Healthcare	0.23	0.78
1 32SF Solar Collector, Glazed. Thermodynamics G32 (<2012)	Early Retir	Lodging	0.83	2.77
1 32SF Solar Collector, Glazed. Thermodynamics G32 (<2012)	New	Lodging	0.83	2.77
1 32SF Solar Collector, Glazed. Thermodynamics G32 (<2012)	Turnover	Lodging	0.83	2.77
1 32SF Solar Collector, Glazed. Thermodynamics G32 (<2012)	Early Retir	Misc.	0.00	0.02
1 32SF Solar Collector, Glazed. Thermodynamics G32 (<2012)	New	Misc.	0.00	0.02
1 32SF Solar Collector, Glazed. Thermodynamics G32 (<2012)	Turnover	Misc.	0.00	0.02

Description	Vintage	Segment	TRC Ratio	PAC Ratio
1 32SF Solar Collector, Glazed. Thermodynamics G32 (<2012)	Early Retir	Office	0.02	0.06
1 32SF Solar Collector, Glazed. Thermodynamics G32 (<2012)	New	Office	0.02	0.06
1 32SF Solar Collector, Glazed. Thermodynamics G32 (<2012)	Turnover	Office	0.02	0.06
1 32SF Solar Collector, Glazed. Thermodynamics G32 (<2012)	Early Retir	Restaurant	0.17	0.57
1 32SF Solar Collector, Glazed. Thermodynamics G32 (<2012)	New	Restaurant	0.17	0.57
1 32SF Solar Collector, Glazed. Thermodynamics G32 (<2012)	Turnover	Restaurant	0.17	0.57
1 32SF Solar Collector, Glazed. Thermodynamics G32 (<2012)	Early Retir	Retail	0.01	0.04
1 32SF Solar Collector, Glazed. Thermodynamics G32 (<2012)	New	Retail	0.01	0.04
1 32SF Solar Collector, Glazed. Thermodynamics G32 (<2012)	Turnover	Retail	0.01	0.04
1 32SF Solar Collector, Glazed. Thermodynamics G32 (<2012)	Early Retir	Warehous	0.01	0.03
1 32SF Solar Collector, Glazed. Thermodynamics G32 (<2012)	New	Warehous	0.01	0.03
1 32SF Solar Collector, Glazed. Thermodynamics G32 (<2012)	Turnover	Warehous	0.01	0.03
Heat Pump Water Heater, 1.55 COP	Early Retir	Education	0.25	0.82
Heat Pump Water Heater, 1.55 COP	Early Retir	Grocery	0.05	0.18
Heat Pump Water Heater, 1.55 COP	Early Retir	Healthcare	0.22	0.72
Heat Pump Water Heater, 1.55 COP	Early Retir	Office	0.02	0.07
Heat Pump Water Heater, 1.55 COP	Early Retir	Lodging	0.62	2.06
Heat Pump Water Heater, 1.55 COP	Early Retir	Misc.	0.01	0.04
Heat Pump Water Heater, 1.55 COP	Early Retir	Restaurant	0.71	2.37
Heat Pump Water Heater, 1.55 COP	Early Retir	Retail	0.02	0.05
Heat Pump Water Heater, 1.55 COP	Early Retir	Warehous	0.01	0.03
Heat Pump Water Heater, 1.55 COP	New	Education	0.27	0.89
Heat Pump Water Heater, 1.55 COP	New	Grocery	0.06	0.20
Heat Pump Water Heater, 1.55 COP	New	Healthcare	0.23	0.78
Heat Pump Water Heater, 1.55 COP	New	Office	0.02	0.07
Heat Pump Water Heater, 1.55 COP	New	Lodging	0.67	2.23
Heat Pump Water Heater, 1.55 COP	New	Misc.	0.01	0.04
Heat Pump Water Heater, 1.55 COP	New	Restaurant	0.77	2.58
Heat Pump Water Heater, 1.55 COP	New	Retail	0.02	0.06
Heat Pump Water Heater, 1.55 COP	New	Warehous	0.01	0.03
Heat Pump Water Heater, 1.55 COP	Turnover	Education	0.27	0.89
Heat Pump Water Heater, 1.55 COP	Turnover	Grocery	0.06	0.20
Heat Pump Water Heater, 1.55 COP	Turnover	Healthcare	0.23	0.78
Heat Pump Water Heater, 1.55 COP	Turnover	Office	0.02	0.07

Description	Vintage	Segment	TRC Ratio	PAC Ratio
Heat Pump Water Heater, 1.55 COP	Turnover	Lodging	0.67	2.23
Heat Pump Water Heater, 1.55 COP	Turnover	Misc.	0.01	0.04
Heat Pump Water Heater, 1.55 COP	Turnover	Restaurant	0.77	2.58
Heat Pump Water Heater, 1.55 COP	Turnover	Retail	0.02	0.06
Heat Pump Water Heater, 1.55 COP	Turnover	Warehous	0.01	0.03
Natural Gas Heat Pump, 1.2 mimimum seasonal performance factor	Early Retir	Education	0.11	0.37
Natural Gas Heat Pump, 1.2 mimimum seasonal performance factor	New	Education	0.15	0.50
Natural Gas Heat Pump, 1.2 mimimum seasonal performance factor	Turnover	Education	0.15	0.50
Natural Gas Heat Pump, 1.2 mimimum seasonal performance factor	Early Retir	Grocery	0.15	0.51
Natural Gas Heat Pump, 1.2 mimimum seasonal performance factor	New	Grocery	0.20	0.68
Natural Gas Heat Pump, 1.2 mimimum seasonal performance factor	Turnover	Grocery	0.20	0.68
Natural Gas Heat Pump, 1.2 mimimum seasonal performance factor	Early Retir	Healthcare	0.04	0.15
Natural Gas Heat Pump, 1.2 mimimum seasonal performance factor	New	Healthcare	0.06	0.19
Natural Gas Heat Pump, 1.2 mimimum seasonal performance factor	Turnover	Healthcare	0.06	0.19
Natural Gas Heat Pump, 1.2 mimimum seasonal performance factor	Early Retir	Office	0.05	0.15
Natural Gas Heat Pump, 1.2 mimimum seasonal performance factor	New	Office	0.06	0.20
Natural Gas Heat Pump, 1.2 mimimum seasonal performance factor	Turnover	Office	0.06	0.20
Natural Gas Heat Pump, 1.2 mimimum seasonal performance factor	Early Retir	Lodging	0.07	0.22
Natural Gas Heat Pump, 1.2 mimimum seasonal performance factor	New	Lodging	0.09	0.29
Natural Gas Heat Pump, 1.2 mimimum seasonal performance factor	Turnover	Lodging	0.09	0.29
Natural Gas Heat Pump, 1.2 mimimum seasonal performance factor	Early Retir	Misc.	0.05	0.17
Natural Gas Heat Pump, 1.2 mimimum seasonal performance factor	New	Misc.	0.07	0.22
Natural Gas Heat Pump, 1.2 mimimum seasonal performance factor	Turnover	Misc.	0.07	0.22
Natural Gas Heat Pump, 1.2 mimimum seasonal performance factor	Early Retir	Restaurant	0.05	0.17
Natural Gas Heat Pump, 1.2 mimimum seasonal performance factor	New	Restaurant	0.07	0.23

Description	Vintage	Segment	TRC Ratio	PAC Ratio
Natural Gas Heat Pump, 1.2 mimimum seasonal performance factor	Turnover	Restaurant	0.07	0.23
Natural Gas Heat Pump, 1.2 mimimum seasonal performance factor	Early Retir	Retail	0.09	0.31
Natural Gas Heat Pump, 1.2 mimimum seasonal performance factor	New	Retail	0.12	0.41
Natural Gas Heat Pump, 1.2 mimimum seasonal performance factor	Turnover	Retail	0.12	0.41
Natural Gas Heat Pump, 1.2 mimimum seasonal performance factor	Early Retir	Warehous	0.08	0.25
Natural Gas Heat Pump, 1.2 mimimum seasonal performance factor	New	Warehous	0.10	0.33
Natural Gas Heat Pump, 1.2 mimimum seasonal performance factor	Turnover	Warehous	0.10	0.33

Description	Vintage	Segment	TRC Ratio	PAC Ratio
Insulated Boiler Pipes, up to 2" diameter. 1" R-4 insulation or better. Costs/savings are per 1' length of piping.	Existing	Education	1.07	3.56
Insulated Boiler Pipes, up to 2" diameter. 1" R-4 insulation or better. Costs/savings are per 1' length of piping.	New	Education	1.07	3.56
Insulated Boiler Pipes, up to 2" diameter. 1" R-4 insulation or better. Costs/savings are per 1' length of piping.	Existing	Grocery	1.46	4.85
Insulated Boiler Pipes, up to 2" diameter. 1" R-4 insulation or better. Costs/savings are per 1' length of piping.	New	Grocery	1.46	4.85
Insulated Boiler Pipes, up to 2" diameter. 1" R-4 insulation or better. Costs/savings are per 1' length of piping.	Existing	Healthcare	0.42	1.39
Insulated Boiler Pipes, up to 2" diameter. 1" R-4 insulation or better. Costs/savings are per 1' length of piping.	New	Healthcare	0.42	1.39
Insulated Boiler Pipes, up to 2" diameter. 1" R-4 insulation or better. Costs/savings are per 1' length of piping.	Existing	Lodging	0.62	2.08
Insulated Boiler Pipes, up to 2" diameter. 1" R-4 insulation or better. Costs/savings are per 1' length of piping.	New	Lodging	0.62	2.08
Insulated Boiler Pipes, up to 2" diameter. 1" R-4 insulation or better. Costs/savings are per 1' length of piping.	Existing	Misc.	0.48	1.61
Insulated Boiler Pipes, up to 2" diameter. 1" R-4 insulation or better. Costs/savings are per 1' length of piping.	New	Misc.	0.48	1.61
Insulated Boiler Pipes, up to 2" diameter. 1" R-4 insulation or better. Costs/savings are per 1' length of piping.	Existing	Office	0.43	1.43
Insulated Boiler Pipes, up to 2" diameter. 1" R-4 insulation or better. Costs/savings are per 1' length of piping.	New	Office	0.43	1.43
Insulated Boiler Pipes, up to 2" diameter. 1" R-4 insulation or better. Costs/savings are per 1' length of piping.	Existing	Restaurant	0.48	1.61
Insulated Boiler Pipes, up to 2" diameter. 1" R-4 insulation or better. Costs/savings are per 1' length of piping.	New	Restaurant	0.48	1.61
Insulated Boiler Pipes, up to 2" diameter. 1" R-4 insulation or better. Costs/savings are per 1' length of piping.	Existing	Retail	0.87	2.90

Description	Vintage	Segment	TRC Ratio	PAC Ratio
Insulated Boiler Pipes, up to 2" diameter. 1" R-4 insulation or better. Costs/savings are per 1' length of piping.	New	Retail	0.87	2.90
Insulated Boiler Pipes, up to 2" diameter. 1" R-4 insulation or better. Costs/savings are per 1' length of piping.	Existing	Warehous	0.72	2.39
Insulated Boiler Pipes, up to 2" diameter. 1" R-4 insulation or better. Costs/savings are per 1' length of piping.	New	Warehous	0.72	2.39
Condensing, integrated water heater/boiler with an AFUE of>=90%, with Power Burner	Existing	Education	0.18	0.59
Condensing, integrated water heater/boiler with an AFUE of>=90%, with Power Burner	New	Education	0.18	0.59
Condensing, integrated water heater/boiler with an AFUE of>=90%, with Power Burner	Existing	Grocery	0.24	0.80
Condensing, integrated water heater/boiler with an AFUE of>=90%, with Power Burner	New	Grocery	0.24	0.80
Condensing, integrated water heater/boiler with an AFUE of>=90%, with Power Burner	Existing	Healthcare	0.07	0.23
Condensing, integrated water heater/boiler with an AFUE of>=90%, with Power Burner	New	Healthcare	0.07	0.23
Condensing, integrated water heater/boiler with an AFUE of>=90%, with Power Burner	Existing	Lodging	0.10	0.34
Condensing, integrated water heater/boiler with an AFUE of>=90%, with Power Burner	New	Lodging	0.10	0.34
Condensing, integrated water heater/boiler with an AFUE of>=90%, with Power Burner	Existing	Misc.	0.08	0.26
Condensing, integrated water heater/boiler with an AFUE of>=90%, with Power Burner	New	Misc.	0.08	0.26
Condensing, integrated water heater/boiler with an AFUE of>=90%, with Power Burner	Existing	Office	0.07	0.24
Condensing, integrated water heater/boiler with an AFUE of>=90%, with Power Burner	New	Office	0.07	0.24

Description	Vintage	Segment	TRC Ratio	PAC Ratio
Condensing, integrated water heater/boiler with an AFUE of>=90%, with Power Burner	Existing	Restaurant	0.08	0.27
Condensing, integrated water heater/boiler with an AFUE of>=90%, with Power Burner	New	Restaurant	0.08	0.27
Condensing, integrated water heater/boiler with an AFUE of>=90%, with Power Burner	Existing	Retail	0.14	0.48
Condensing, integrated water heater/boiler with an AFUE of>=90%, with Power Burner	New	Retail	0.14	0.48
Condensing, integrated water heater/boiler with an AFUE of>=90%, with Power Burner	Existing	Warehous	0.12	0.39
Condensing, integrated water heater/boiler with an AFUE of>=90%, with Power Burner	New	Warehous	0.12	0.39
Boiler Repair and Maintenance is performed	Existing	Education	0.04	0.14
Boiler Repair and Maintenance is performed	New	Education	0.04	0.14
Boiler Repair and Maintenance is performed	Existing	Grocery	0.06	0.20
Boiler Repair and Maintenance is performed	New	Grocery	0.06	0.20
Boiler Repair and Maintenance is performed	Existing	Healthcare	0.02	0.06
Boiler Repair and Maintenance is performed	New	Healthcare	0.02	0.06
Boiler Repair and Maintenance is performed	Existing	Lodging	0.03	0.08
Boiler Repair and Maintenance is performed	New	Lodging	0.03	0.08
Boiler Repair and Maintenance is performed	Existing	Misc.	0.02	0.07
Boiler Repair and Maintenance is performed	New	Misc.	0.02	0.07
Boiler Repair and Maintenance is performed	Existing	Office	0.02	0.06
Boiler Repair and Maintenance is performed	New	Office	0.02	0.06
Boiler Repair and Maintenance is performed	Existing	Restaurant	0.02	0.07
Boiler Repair and Maintenance is performed	New	Restaurant	0.02	0.07

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Description	Vintage	Segment	TRC Ratio	PAC Ratio
Boiler Repair and Maintenance is performed	Existing	Retail	0.04	0.12
Boiler Repair and Maintenance is performed	New	Retail	0.04	0.12
Boiler Repair and Maintenance is performed	Existing	Warehous	0.03	0.10
Boiler Repair and Maintenance is performed	New	Warehous	0.03	0.10
Standard boiler with retrofitted single-stage boiler stack economizer, used to transfer heat from exhaust gases to prehead boiler feedwater.. Measure is sometimes referred to as boiler heat exchanger or feedwater heat exchanger.	Existing	Education	0.15	0.49
Standard boiler with retrofitted single-stage boiler stack economizer, used to transfer heat from exhaust gases to prehead boiler feedwater.. Measure is sometimes referred to as boiler heat exchanger or feedwater heat exchanger.	New	Education	0.13	0.43
Standard boiler with retrofitted single-stage boiler stack economizer, used to transfer heat from exhaust gases to prehead boiler feedwater.. Measure is sometimes referred to as boiler heat exchanger or feedwater heat exchanger.	Existing	Grocery	0.20	0.67
Standard boiler with retrofitted single-stage boiler stack economizer, used to transfer heat from exhaust gases to prehead boiler feedwater.. Measure is sometimes referred to as boiler heat exchanger or feedwater heat exchanger.	New	Grocery	0.18	0.59
Standard boiler with retrofitted single-stage boiler stack economizer, used to transfer heat from exhaust gases to prehead boiler feedwater.. Measure is sometimes referred to as boiler heat exchanger or feedwater heat exchanger.	Existing	Healthcare	0.06	0.19
Standard boiler with retrofitted single-stage boiler stack economizer, used to transfer heat from exhaust gases to prehead boiler feedwater.. Measure is sometimes referred to as boiler heat exchanger or feedwater heat exchanger.	New	Healthcare	0.05	0.17

Description	Vintage	Segment	TRC Ratio	PAC Ratio
Standard boiler with retrofitted single-stage boiler stack economizer, used to transfer heat from exhaust gases to prehead boiler feedwater.. Measure is sometimes referred to as boiler heat exchanger or feedwater heat exchanger.	Existing	Lodging	0.09	0.29
Standard boiler with retrofitted single-stage boiler stack economizer, used to transfer heat from exhaust gases to prehead boiler feedwater.. Measure is sometimes referred to as boiler heat exchanger or feedwater heat exchanger.	New	Lodging	0.08	0.25
Standard boiler with retrofitted single-stage boiler stack economizer, used to transfer heat from exhaust gases to prehead boiler feedwater.. Measure is sometimes referred to as boiler heat exchanger or feedwater heat exchanger.	Existing	Misc.	0.07	0.22
Standard boiler with retrofitted single-stage boiler stack economizer, used to transfer heat from exhaust gases to prehead boiler feedwater.. Measure is sometimes referred to as boiler heat exchanger or feedwater heat exchanger.	New	Misc.	0.06	0.20
Standard boiler with retrofitted single-stage boiler stack economizer, used to transfer heat from exhaust gases to prehead boiler feedwater.. Measure is sometimes referred to as boiler heat exchanger or feedwater heat exchanger.	Existing	Office	0.06	0.20
Standard boiler with retrofitted single-stage boiler stack economizer, used to transfer heat from exhaust gases to prehead boiler feedwater.. Measure is sometimes referred to as boiler heat exchanger or feedwater heat exchanger.	New	Office	0.05	0.17
Standard boiler with retrofitted single-stage boiler stack economizer, used to transfer heat from exhaust gases to prehead boiler feedwater.. Measure is sometimes referred to as boiler heat exchanger or feedwater heat exchanger.	Existing	Restaurant	0.07	0.22

Description	Vintage	Segment	TRC Ratio	PAC Ratio
Standard boiler with retrofitted single-stage boiler stack economizer, used to transfer heat from exhaust gases to prehead boiler feedwater.. Measure is sometimes referred to as boiler heat exchanger or feedwater heat exchanger.	New	Restaurant	0.06	0.20
Standard boiler with retrofitted single-stage boiler stack economizer, used to transfer heat from exhaust gases to prehead boiler feedwater.. Measure is sometimes referred to as boiler heat exchanger or feedwater heat exchanger.	Existing	Retail	0.12	0.40
Standard boiler with retrofitted single-stage boiler stack economizer, used to transfer heat from exhaust gases to prehead boiler feedwater.. Measure is sometimes referred to as boiler heat exchanger or feedwater heat exchanger.	New	Retail	0.11	0.35
Standard boiler with retrofitted single-stage boiler stack economizer, used to transfer heat from exhaust gases to prehead boiler feedwater.. Measure is sometimes referred to as boiler heat exchanger or feedwater heat exchanger.	Existing	Warehous	0.10	0.33
Standard boiler with retrofitted single-stage boiler stack economizer, used to transfer heat from exhaust gases to prehead boiler feedwater.. Measure is sometimes referred to as boiler heat exchanger or feedwater heat exchanger.	New	Warehous	0.09	0.29
Replace Leaking Steam Trap	Existing	Education	1.31	4.37
Replace Leaking Steam Trap	New	Education	1.19	3.96
Replace Leaking Steam Trap	Existing	Grocery	1.78	5.95
Replace Leaking Steam Trap	New	Grocery	1.62	5.39
Replace Leaking Steam Trap	Existing	Healthcare	0.51	1.71
Replace Leaking Steam Trap	New	Healthcare	0.46	1.55
Replace Leaking Steam Trap	Existing	Lodging	0.76	2.55
Replace Leaking Steam Trap	New	Lodging	0.69	2.31
Replace Leaking Steam Trap	Existing	Misc.	0.30	0.98
Replace Leaking Steam Trap	New	Misc.	0.27	0.89
Replace Leaking Steam Trap	Existing	Office	1.05	3.50
Replace Leaking Steam Trap	New	Office	0.95	3.17
Replace Leaking Steam Trap	Existing	Restaurant	0.59	1.97
Replace Leaking Steam Trap	New	Restaurant	0.54	1.79
Replace Leaking Steam Trap	Existing	Retail	1.07	3.55
Replace Leaking Steam Trap	New	Retail	0.97	3.22

Description	Vintage	Segment	TRC Ratio	PAC Ratio
Replace Leaking Steam Trap	Existing	Warehous	0.88	2.93
Replace Leaking Steam Trap	New	Warehous	0.80	2.66
New boiler vent damper installed for atmospheric fired boilers only	Existing	Education	0.16	0.53
New boiler vent damper installed for atmospheric fired boilers only	New	Education	0.16	0.53
New boiler vent damper installed for atmospheric fired boilers only	Existing	Grocery	0.21	0.72
New boiler vent damper installed for atmospheric fired boilers only	New	Grocery	0.21	0.72
New boiler vent damper installed for atmospheric fired boilers only	Existing	Healthcare	0.06	0.21
New boiler vent damper installed for atmospheric fired boilers only	New	Healthcare	0.06	0.21
New boiler vent damper installed for atmospheric fired boilers only	Existing	Lodging	0.09	0.31
New boiler vent damper installed for atmospheric fired boilers only	New	Lodging	0.09	0.31
New boiler vent damper installed for atmospheric fired boilers only	Existing	Misc.	0.07	0.24
New boiler vent damper installed for atmospheric fired boilers only	New	Misc.	0.07	0.24
New boiler vent damper installed for atmospheric fired boilers only	Existing	Office	0.06	0.21
New boiler vent damper installed for atmospheric fired boilers only	New	Office	0.06	0.21
New boiler vent damper installed for atmospheric fired boilers only	Existing	Restaurant	0.07	0.24
New boiler vent damper installed for atmospheric fired boilers only	New	Restaurant	0.07	0.24
New boiler vent damper installed for atmospheric fired boilers only	Existing	Retail	0.13	0.43
New boiler vent damper installed for atmospheric fired boilers only	New	Retail	0.13	0.43
New boiler vent damper installed for atmospheric fired boilers only	Existing	Warehous	0.11	0.35
New boiler vent damper installed for atmospheric fired boilers only	New	Warehous	0.11	0.35
Standard steam boiler with blowdown heat recovery.	Existing	Education	0.02	0.07
Standard steam boiler with blowdown heat recovery.	New	Education	0.02	0.07
Standard steam boiler with blowdown heat recovery.	Existing	Grocery	0.01	0.04
Standard steam boiler with blowdown heat recovery.	New	Grocery	0.01	0.04

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Description	Vintage	Segment	TRC Ratio	PAC Ratio
Standard steam boiler with blowdown heat recovery.	Existing	Healthcare	0.01	0.04
Standard steam boiler with blowdown heat recovery.	New	Healthcare	0.01	0.04
Standard steam boiler with blowdown heat recovery.	Existing	Lodging	0.01	0.04
Standard steam boiler with blowdown heat recovery.	New	Lodging	0.01	0.04
Standard steam boiler with blowdown heat recovery.	Existing	Misc.	0.00	0.01
Standard steam boiler with blowdown heat recovery.	New	Misc.	0.00	0.01
Standard steam boiler with blowdown heat recovery.	Existing	Office	0.01	0.03
Standard steam boiler with blowdown heat recovery.	New	Office	0.01	0.03
Standard steam boiler with blowdown heat recovery.	Existing	Restaurant	0.00	0.01
Standard steam boiler with blowdown heat recovery.	New	Restaurant	0.00	0.01
Standard steam boiler with blowdown heat recovery.	Existing	Retail	0.01	0.03
Standard steam boiler with blowdown heat recovery.	New	Retail	0.01	0.03
Standard steam boiler with blowdown heat recovery.	Existing	Warehous	0.01	0.02
Standard steam boiler with blowdown heat recovery.	New	Warehous	0.01	0.02
Installation of a demand controlled ventilation system to adjust OA quantities in response to measured CO2 levels	Existing	Education	2.52	8.40
Installation of a demand controlled ventilation system to adjust OA quantities in response to measured CO2 levels	New	Education	2.23	7.42
Installation of a demand controlled ventilation system to adjust OA quantities in response to measured CO2 levels	Existing	Grocery	1.72	5.72
Installation of a demand controlled ventilation system to adjust OA quantities in response to measured CO2 levels	New	Grocery	1.52	5.06

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Description	Vintage	Segment	TRC Ratio	PAC Ratio
Installation of a demand controlled ventilation system to adjust OA quantities in response to measured CO2 levels	Existing	Healthcare	1.48	4.92
Installation of a demand controlled ventilation system to adjust OA quantities in response to measured CO2 levels	New	Healthcare	1.30	4.35
Installation of a demand controlled ventilation system to adjust OA quantities in response to measured CO2 levels	Existing	Lodging	1.47	4.90
Installation of a demand controlled ventilation system to adjust OA quantities in response to measured CO2 levels	New	Lodging	1.30	4.33
Installation of a demand controlled ventilation system to adjust OA quantities in response to measured CO2 levels	Existing	Misc.	0.57	1.89
Installation of a demand controlled ventilation system to adjust OA quantities in response to measured CO2 levels	New	Misc.	0.50	1.67
Installation of a demand controlled ventilation system to adjust OA quantities in response to measured CO2 levels	Existing	Office	1.01	3.36
Installation of a demand controlled ventilation system to adjust OA quantities in response to measured CO2 levels	New	Office	0.89	2.97
Installation of a demand controlled ventilation system to adjust OA quantities in response to measured CO2 levels	Existing	Restaurant	0.57	1.90
Installation of a demand controlled ventilation system to adjust OA quantities in response to measured CO2 levels	New	Restaurant	0.50	1.68
Installation of a demand controlled ventilation system to adjust OA quantities in response to measured CO2 levels	Existing	Retail	1.03	3.42

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Description	Vintage	Segment	TRC Ratio	PAC Ratio
Installation of a demand controlled ventilation system to adjust OA quantities in response to measured CO2 levels	New	Retail	0.91	3.02
Installation of a demand controlled ventilation system to adjust OA quantities in response to measured CO2 levels	Existing	Warehous	0.85	2.82
Installation of a demand controlled ventilation system to adjust OA quantities in response to measured CO2 levels	New	Warehous	0.75	2.49
Standard water heater with drainwater heat recovery installed.	Existing	Education	1.47	4.89
Standard water heater with drainwater heat recovery installed.	New	Education	1.64	5.46
Standard water heater with drainwater heat recovery installed.	Existing	Grocery	0.27	0.91
Standard water heater with drainwater heat recovery installed.	New	Grocery	0.31	1.02
Standard water heater with drainwater heat recovery installed.	Existing	Healthcare	1.00	3.35
Standard water heater with drainwater heat recovery installed.	New	Healthcare	1.12	3.74
Standard water heater with drainwater heat recovery installed.	Existing	Lodging	3.38	11.27
Standard water heater with drainwater heat recovery installed.	New	Lodging	3.78	12.60
Standard water heater with drainwater heat recovery installed.	Existing	Misc.	0.06	0.22
Standard water heater with drainwater heat recovery installed.	New	Misc.	0.07	0.24
Standard water heater with drainwater heat recovery installed.	Existing	Office	0.10	0.34
Standard water heater with drainwater heat recovery installed.	New	Office	0.11	0.38
Standard water heater with drainwater heat recovery installed.	Existing	Restaurant	2.61	8.71
Standard water heater with drainwater heat recovery installed.	New	Restaurant	2.92	9.74
Standard water heater with drainwater heat recovery installed.	Existing	Retail	0.08	0.27
Standard water heater with drainwater heat recovery installed.	New	Retail	0.09	0.30
Standard water heater with drainwater heat recovery installed.	Existing	Warehous	0.13	0.42

Description	Vintage	Segment	TRC Ratio	PAC Ratio
Standard water heater with drainwater heat recovery installed.	New	Warehous	0.14	0.47
Duct Losses to 5%	Existing	Education	0.17	0.55
Duct Losses to 5%	New	Education	0.17	0.55
Duct Losses to 5%	Existing	Grocery	0.22	0.72
Duct Losses to 5%	New	Grocery	0.22	0.72
Duct Losses to 5%	Existing	Healthcare	0.14	0.47
Duct Losses to 5%	New	Healthcare	0.14	0.47
Duct Losses to 5%	Existing	Lodging	0.11	0.37
Duct Losses to 5%	New	Lodging	0.11	0.37
Duct Losses to 5%	Existing	Misc.	0.15	0.50
Duct Losses to 5%	New	Misc.	0.15	0.50
Duct Losses to 5%	Existing	Office	0.12	0.41
Duct Losses to 5%	New	Office	0.12	0.41
Duct Losses to 5%	Existing	Restaurant	0.27	0.91
Duct Losses to 5%	New	Restaurant	0.27	0.91
Duct Losses to 5%	Existing	Retail	0.15	0.51
Duct Losses to 5%	New	Retail	0.15	0.51
Duct Losses to 5%	Existing	Warehous	0.09	0.29
Duct Losses to 5%	New	Warehous	0.09	0.29
2.0 gpm	Existing	Education	9.34	31.14
2.0 gpm	New	Education	4.98	16.61
2.0 gpm	Existing	Grocery	8.18	27.27
2.0 gpm	New	Grocery	4.36	14.55
2.0 gpm	Existing	Healthcare	8.48	28.28
2.0 gpm	New	Healthcare	4.52	15.08
2.0 gpm	Existing	Lodging	24.20	80.67
2.0 gpm	New	Lodging	12.91	43.03
2.0 gpm	Existing	Misc.	1.69	5.65
2.0 gpm	New	Misc.	0.90	3.01
2.0 gpm	Existing	Office	1.26	4.20
2.0 gpm	New	Office	0.67	2.24
2.0 gpm	Existing	Restaurant	62.04	206.81
2.0 gpm	New	Restaurant	33.09	110.30
2.0 gpm	Existing	Retail	3.83	12.77
2.0 gpm	New	Retail	2.04	6.81
2.0 gpm	Existing	Warehous	2.97	9.89
2.0 gpm	New	Warehous	1.58	5.28
R-30 insulation added to floor	Existing	Education	0.04	0.13
R-30 insulation added to floor	New	Education	0.04	0.13
R-30 insulation added to floor	Existing	Grocery	0.04	0.13
R-30 insulation added to floor	New	Grocery	0.04	0.13
R-30 insulation added to floor	Existing	Healthcare	0.03	0.11
R-30 insulation added to floor	New	Healthcare	0.03	0.11
R-30 insulation added to floor	Existing	Lodging	0.02	0.08
R-30 insulation added to floor	New	Lodging	0.02	0.08

Description	Vintage	Segment	TRC Ratio	PAC Ratio
R-30 insulation added to floor	Existing	Misc.	0.03	0.11
R-30 insulation added to floor	New	Misc.	0.03	0.11
R-30 insulation added to floor	Existing	Office	0.03	0.09
R-30 insulation added to floor	New	Office	0.03	0.09
R-30 insulation added to floor	Existing	Restaurant	0.06	0.19
R-30 insulation added to floor	New	Restaurant	0.06	0.19
R-30 insulation added to floor	Existing	Retail	0.03	0.09
R-30 insulation added to floor	New	Retail	0.03	0.09
R-30 insulation added to floor	Existing	Warehous	0.01	0.04
R-30 insulation added to floor	New	Warehous	0.01	0.04
Installation of heat recovery devices	Existing	Education	0.08	0.26
Installation of heat recovery devices	New	Education	0.08	0.26
Installation of heat recovery devices	Existing	Grocery	0.10	0.33
Installation of heat recovery devices	New	Grocery	0.10	0.33
Installation of heat recovery devices	Existing	Healthcare	0.07	0.22
Installation of heat recovery devices	New	Healthcare	0.07	0.22
Installation of heat recovery devices	Existing	Lodging	0.05	0.17
Installation of heat recovery devices	New	Lodging	0.05	0.17
Installation of heat recovery devices	Existing	Misc.	0.07	0.23
Installation of heat recovery devices	New	Misc.	0.07	0.23
Installation of heat recovery devices	Existing	Office	0.06	0.19
Installation of heat recovery devices	New	Office	0.06	0.19
Installation of heat recovery devices	Existing	Restaurant	0.13	0.42
Installation of heat recovery devices	New	Restaurant	0.13	0.42
Installation of heat recovery devices	Existing	Retail	0.07	0.24
Installation of heat recovery devices	New	Retail	0.07	0.24
Installation of heat recovery devices	Existing	Warehous	0.04	0.13
Installation of heat recovery devices	New	Warehous	0.04	0.13
High Efficiency Commercial Gas Clothes Washer, 2.2 MEF, 3.3-4.3 cubic feet capacity	Existing	Education	1.63	5.44
High Efficiency Commercial Gas Clothes Washer, 2.2 MEF, 3.3-4.3 cubic feet capacity	New	Education	12.20	40.68
High Efficiency Commercial Gas Clothes Washer, 2.2 MEF, 3.3-4.3 cubic feet capacity	Existing	Grocery	0.19	0.64
High Efficiency Commercial Gas Clothes Washer, 2.2 MEF, 3.3-4.3 cubic feet capacity	New	Grocery	1.43	4.75
High Efficiency Commercial Gas Clothes Washer, 2.2 MEF, 3.3-4.3 cubic feet capacity	Existing	Healthcare	0.99	3.29
High Efficiency Commercial Gas Clothes Washer, 2.2 MEF, 3.3-4.3 cubic feet capacity	New	Healthcare	7.39	24.63

Commercial Non Equipment

Description	Vintage	Segment	TRC Ratio	PAC Ratio
High Efficiency Commercial Gas Clothes Washer, 2.2 MEF, 3.3-4.3 cubic feet capacity	Existing	Lodging	3.52	11.75
High Efficiency Commercial Gas Clothes Washer, 2.2 MEF, 3.3-4.3 cubic feet capacity	New	Lodging	26.35	87.84
High Efficiency Commercial Gas Clothes Washer, 2.2 MEF, 3.3-4.3 cubic feet capacity	Existing	Misc.	0.02	0.07
High Efficiency Commercial Gas Clothes Washer, 2.2 MEF, 3.3-4.3 cubic feet capacity	New	Misc.	0.15	0.49
High Efficiency Commercial Gas Clothes Washer, 2.2 MEF, 3.3-4.3 cubic feet capacity	Existing	Office	0.07	0.24
High Efficiency Commercial Gas Clothes Washer, 2.2 MEF, 3.3-4.3 cubic feet capacity	New	Office	0.55	1.83
High Efficiency Commercial Gas Clothes Washer, 2.2 MEF, 3.3-4.3 cubic feet capacity	Existing	Restaurant	0.72	2.41
High Efficiency Commercial Gas Clothes Washer, 2.2 MEF, 3.3-4.3 cubic feet capacity	New	Restaurant	5.40	18.01
High Efficiency Commercial Gas Clothes Washer, 2.2 MEF, 3.3-4.3 cubic feet capacity	Existing	Retail	0.04	0.15
High Efficiency Commercial Gas Clothes Washer, 2.2 MEF, 3.3-4.3 cubic feet capacity	New	Retail	0.33	1.11
High Efficiency Commercial Gas Clothes Washer, 2.2 MEF, 3.3-4.3 cubic feet capacity	Existing	Warehous	0.03	0.12
High Efficiency Commercial Gas Clothes Washer, 2.2 MEF, 3.3-4.3 cubic feet capacity	New	Warehous	0.26	0.86
1.0" of Insulation, assuming R-4 (WA State Code)	Existing	Education	4.50	15.00
1.0" of Insulation, assuming R-4 (WA State Code)	New	Education	0.00	0.00
1.0" of Insulation, assuming R-4 (WA State Code)	Existing	Grocery	5.84	19.48
1.0" of Insulation, assuming R-4 (WA State Code)	New	Grocery	0.00	0.00
1.0" of Insulation, assuming R-4 (WA State Code)	Existing	Healthcare	3.80	12.68

Description	Vintage	Segment	TRC Ratio	PAC Ratio
1.0" of Insulation, assuming R-4 (WA State Code)	New	Healthcare	0.00	0.00
1.0" of Insulation, assuming R-4 (WA State Code)	Existing	Lodging	3.04	10.15
1.0" of Insulation, assuming R-4 (WA State Code)	New	Lodging	0.00	0.00
1.0" of Insulation, assuming R-4 (WA State Code)	Existing	Misc.	4.10	13.66
1.0" of Insulation, assuming R-4 (WA State Code)	New	Misc.	0.00	0.00
1.0" of Insulation, assuming R-4 (WA State Code)	Existing	Office	3.33	11.11
1.0" of Insulation, assuming R-4 (WA State Code)	New	Office	0.00	0.00
1.0" of Insulation, assuming R-4 (WA State Code)	Existing	Restaurant	7.39	24.65
1.0" of Insulation, assuming R-4 (WA State Code)	New	Restaurant	0.00	0.00
1.0" of Insulation, assuming R-4 (WA State Code)	Existing	Retail	4.15	13.83
1.0" of Insulation, assuming R-4 (WA State Code)	New	Retail	0.00	0.00
1.0" of Insulation, assuming R-4 (WA State Code)	Existing	Warehous	2.33	7.75
1.0" of Insulation, assuming R-4 (WA State Code)	New	Warehous	0.00	0.00
Adding controls to vary the boiler entering water temperature relative to heating load as a function of the outdoor air temperature to save energy.	Existing	Education	0.25	0.82
Adding controls to vary the boiler entering water temperature relative to heating load as a function of the outdoor air temperature to save energy.	New	Education	0.25	0.82
Adding controls to vary the boiler entering water temperature relative to heating load as a function of the outdoor air temperature to save energy.	Existing	Grocery	0.32	1.06
Adding controls to vary the boiler entering water temperature relative to heating load as a function of the outdoor air temperature to save energy.	New	Grocery	0.32	1.06
Adding controls to vary the boiler entering water temperature relative to heating load as a function of the outdoor air temperature to save energy.	Existing	Healthcare	0.21	0.69

Description	Vintage	Segment	TRC Ratio	PAC Ratio
Adding controls to vary the boiler entering water temperature relative to heating load as a function of the outdoor air temperature to save energy.	New	Healthcare	0.21	0.69
Adding controls to vary the boiler entering water temperature relative to heating load as a function of the outdoor air temperature to save energy.	Existing	Lodging	0.17	0.55
Adding controls to vary the boiler entering water temperature relative to heating load as a function of the outdoor air temperature to save energy.	New	Lodging	0.17	0.55
Adding controls to vary the boiler entering water temperature relative to heating load as a function of the outdoor air temperature to save energy.	Existing	Misc.	0.22	0.74
Adding controls to vary the boiler entering water temperature relative to heating load as a function of the outdoor air temperature to save energy.	New	Misc.	0.22	0.74
Adding controls to vary the boiler entering water temperature relative to heating load as a function of the outdoor air temperature to save energy.	Existing	Office	0.18	0.60
Adding controls to vary the boiler entering water temperature relative to heating load as a function of the outdoor air temperature to save energy.	New	Office	0.18	0.60
Adding controls to vary the boiler entering water temperature relative to heating load as a function of the outdoor air temperature to save energy.	Existing	Restaurant	0.36	1.20
Adding controls to vary the boiler entering water temperature relative to heating load as a function of the outdoor air temperature to save energy.	New	Restaurant	0.36	1.20
Adding controls to vary the boiler entering water temperature relative to heating load as a function of the outdoor air temperature to save energy.	Existing	Retail	0.23	0.75
Adding controls to vary the boiler entering water temperature relative to heating load as a function of the outdoor air temperature to save energy.	New	Retail	0.23	0.75

Description	Vintage	Segment	TRC Ratio	PAC Ratio
Adding controls to vary the boiler entering water temperature relative to heating load as a function of the outdoor air temperature to save energy.	Existing	Warehous	0.13	0.42
Adding controls to vary the boiler entering water temperature relative to heating load as a function of the outdoor air temperature to save energy.	New	Warehous	0.13	0.42
Setback hot water temperature to 110 oF	Existing	Education	23.55	78.50
Setback hot water temperature to 110 oF	New	Education	23.55	78.50
Setback hot water temperature to 110 oF	Existing	Grocery	2.75	9.17
Setback hot water temperature to 110 oF	New	Grocery	2.75	9.17
Setback hot water temperature to 110 oF	Existing	Healthcare	14.26	47.52
Setback hot water temperature to 110 oF	New	Healthcare	14.26	47.52
Setback hot water temperature to 110 oF	Existing	Lodging	50.85	169.49
Setback hot water temperature to 110 oF	New	Lodging	50.85	169.49
Setback hot water temperature to 110 oF	Existing	Misc.	0.28	0.95
Setback hot water temperature to 110 oF	New	Misc.	0.28	0.95
Setback hot water temperature to 110 oF	Existing	Office	1.06	3.53
Setback hot water temperature to 110 oF	New	Office	1.06	3.53
Setback hot water temperature to 110 oF	Existing	Restaurant	10.43	34.76
Setback hot water temperature to 110 oF	New	Restaurant	10.43	34.76
Setback hot water temperature to 110 oF	Existing	Retail	0.64	2.15
Setback hot water temperature to 110 oF	New	Retail	0.64	2.15
Setback hot water temperature to 110 oF	Existing	Warehous	0.50	1.66
Setback hot water temperature to 110 oF	New	Warehous	0.50	1.66

Description	Vintage	Segment	TRC Ratio	PAC Ratio
Averages for the installation of the following measures, Programmable Thermostats, EMS or DDS systems	Existing	Education	0.22	0.73
Averages for the installation of the following measures, Programmable Thermostats, EMS or DDS systems	New	Education	0.22	0.73
Averages for the installation of the following measures, Programmable Thermostats, EMS or DDS systems	Existing	Grocery	0.15	0.50
Averages for the installation of the following measures, Programmable Thermostats, EMS or DDS systems	New	Grocery	0.15	0.50
Averages for the installation of the following measures, Programmable Thermostats, EMS or DDS systems	Existing	Healthcare	0.13	0.43
Averages for the installation of the following measures, Programmable Thermostats, EMS or DDS systems	New	Healthcare	0.13	0.43
Averages for the installation of the following measures, Programmable Thermostats, EMS or DDS systems	Existing	Lodging	0.13	0.43
Averages for the installation of the following measures, Programmable Thermostats, EMS or DDS systems	New	Lodging	0.13	0.43
Averages for the installation of the following measures, Programmable Thermostats, EMS or DDS systems	Existing	Misc.	0.05	0.17
Averages for the installation of the following measures, Programmable Thermostats, EMS or DDS systems	New	Misc.	0.05	0.17
Averages for the installation of the following measures, Programmable Thermostats, EMS or DDS systems	Existing	Office	0.09	0.29
Averages for the installation of the following measures, Programmable Thermostats, EMS or DDS systems	New	Office	0.09	0.29
Averages for the installation of the following measures, Programmable Thermostats, EMS or DDS systems	Existing	Restaurant	0.05	0.17
Averages for the installation of the following measures, Programmable Thermostats, EMS or DDS systems	New	Restaurant	0.05	0.17
Averages for the installation of the following measures, Programmable Thermostats, EMS or DDS systems	Existing	Retail	0.09	0.30

Description	Vintage	Segment	TRC Ratio	PAC Ratio
Averages for the installation of the following measures, Programmable Thermostats, EMS or DDS systems	New	Retail	0.09	0.30
Averages for the installation of the following measures, Programmable Thermostats, EMS or DDS systems	Existing	Warehous	0.07	0.25
Averages for the installation of the following measures, Programmable Thermostats, EMS or DDS systems	New	Warehous	0.07	0.25
HVAC System Commissioning	Existing	Education	0.07	0.24
HVAC System Commissioning	New	Education	0.07	0.24
HVAC System Commissioning	Existing	Grocery	0.05	0.16
HVAC System Commissioning	New	Grocery	0.05	0.16
HVAC System Commissioning	Existing	Healthcare	0.04	0.14
HVAC System Commissioning	New	Healthcare	0.04	0.14
HVAC System Commissioning	Existing	Lodging	0.04	0.14
HVAC System Commissioning	New	Lodging	0.04	0.14
HVAC System Commissioning	Existing	Misc.	0.02	0.05
HVAC System Commissioning	New	Misc.	0.02	0.05
HVAC System Commissioning	Existing	Office	0.03	0.10
HVAC System Commissioning	New	Office	0.03	0.10
HVAC System Commissioning	Existing	Restaurant	0.02	0.05
HVAC System Commissioning	New	Restaurant	0.02	0.05
HVAC System Commissioning	Existing	Retail	0.03	0.10
HVAC System Commissioning	New	Retail	0.03	0.10
HVAC System Commissioning	Existing	Warehous	0.02	0.08
HVAC System Commissioning	New	Warehous	0.02	0.08
2.0 gpm	Existing	Education	4.87	16.24
2.0 gpm	New	Education	8.99	29.97
2.0 gpm	Existing	Grocery	4.55	15.17
2.0 gpm	New	Grocery	8.40	28.01
2.0 gpm	Existing	Healthcare	2.36	7.86
2.0 gpm	New	Healthcare	4.36	14.52
2.0 gpm	Existing	Lodging	3.37	11.22
2.0 gpm	New	Lodging	6.21	20.71
2.0 gpm	Existing	Misc.	0.47	1.57
2.0 gpm	New	Misc.	0.87	2.90
2.0 gpm	Existing	Office	1.75	5.84
2.0 gpm	New	Office	3.23	10.78
2.0 gpm	Existing	Restaurant	17.26	57.52
2.0 gpm	New	Restaurant	31.86	106.18
2.0 gpm	Existing	Retail	1.07	3.55
2.0 gpm	New	Retail	1.97	6.56
2.0 gpm	Existing	Warehous	0.83	2.75
2.0 gpm	New	Warehous	1.52	5.08
1.06 gpm	Existing	Education	14.34	47.79

Description	Vintage	Segment	TRC Ratio	PAC Ratio
1.06 gpm	New	Education	29.06	96.86
1.06 gpm	Existing	Grocery	1.67	5.58
1.06 gpm	New	Grocery	3.39	11.31
1.06 gpm	Existing	Healthcare	8.68	28.93
1.06 gpm	New	Healthcare	17.59	58.64
1.06 gpm	Existing	Lodging	30.95	103.18
1.06 gpm	New	Lodging	62.74	209.15
1.06 gpm	Existing	Misc.	0.35	1.16
1.06 gpm	New	Misc.	0.70	2.34
1.06 gpm	Existing	Office	1.29	4.30
1.06 gpm	New	Office	2.61	8.71
1.06 gpm	Existing	Restaurant	6.35	21.16
1.06 gpm	New	Restaurant	12.87	42.89
1.06 gpm	Existing	Retail	0.78	2.61
1.06 gpm	New	Retail	1.59	5.30
1.06 gpm	Existing	Warehous	0.61	2.02
1.06 gpm	New	Warehous	1.23	4.10
Low-temp Door-Type Energy Star Dishwasher	Existing	Education	0.54	1.79
Low-temp Door-Type Energy Star Dishwasher	New	Education	1.62	5.41
Low-temp Door-Type Energy Star Dishwasher	Existing	Grocery	0.06	0.21
Low-temp Door-Type Energy Star Dishwasher	New	Grocery	0.19	0.63
Low-temp Door-Type Energy Star Dishwasher	Existing	Healthcare	0.32	1.08
Low-temp Door-Type Energy Star Dishwasher	New	Healthcare	0.98	3.27
Low-temp Door-Type Energy Star Dishwasher	Existing	Lodging	1.16	3.86
Low-temp Door-Type Energy Star Dishwasher	New	Lodging	3.50	11.68
Low-temp Door-Type Energy Star Dishwasher	Existing	Misc.	0.01	0.04
Low-temp Door-Type Energy Star Dishwasher	New	Misc.	0.04	0.13
Low-temp Door-Type Energy Star Dishwasher	Existing	Office	0.05	0.16
Low-temp Door-Type Energy Star Dishwasher	New	Office	0.15	0.49
Low-temp Door-Type Energy Star Dishwasher	Existing	Restaurant	0.24	0.79
Low-temp Door-Type Energy Star Dishwasher	New	Restaurant	0.72	2.39

Commercial Non Equipment

Description	Vintage	Segment	TRC Ratio	PAC Ratio
Low-temp Door-Type Energy Star Dishwasher	Existing	Retail	0.03	0.10
Low-temp Door-Type Energy Star Dishwasher	New	Retail	0.09	0.30
Low-temp Door-Type Energy Star Dishwasher	Existing	Warehous	0.02	0.08
Low-temp Door-Type Energy Star Dishwasher	New	Warehous	0.07	0.23
Motion Faucet Controls	Existing	Education	0.14	0.47
12 s flow duration	New	Education	2.31	7.69
Motion Faucet Controls	Existing	Grocery	0.12	0.41
12 s flow duration	New	Grocery	2.02	6.73
Motion Faucet Controls	Existing	Healthcare	0.26	0.86
12 s flow duration	New	Healthcare	4.19	13.96
Motion Faucet Controls	Existing	Lodging	2.29	7.63
12 s flow duration	New	Lodging	37.35	124.49
Motion Faucet Controls	Existing	Misc.	0.03	0.09
12 s flow duration	New	Misc.	0.42	1.39
Motion Faucet Controls	Existing	Office	0.02	0.06
12 s flow duration	New	Office	0.31	1.04
Motion Faucet Controls	Existing	Restaurant	0.94	3.13
12 s flow duration	New	Restaurant	15.32	51.06
Motion Faucet Controls	Existing	Retail	0.06	0.19
12 s flow duration	New	Retail	0.95	3.15
Motion Faucet Controls	Existing	Warehous	0.04	0.15
12 s flow duration	New	Warehous	0.73	2.44
Multi-tank Conveyor Dishwasher - Energy Star	Existing	Education	0.28	0.93
Multi-tank Conveyor Dishwasher - Energy Star	New	Education	4.63	15.42
Multi-tank Conveyor Dishwasher - Energy Star	Existing	Grocery	0.03	0.11
Multi-tank Conveyor Dishwasher - Energy Star	New	Grocery	0.54	1.80
Multi-tank Conveyor Dishwasher - Energy Star	Existing	Healthcare	0.17	0.56
Multi-tank Conveyor Dishwasher - Energy Star	New	Healthcare	2.80	9.34
Multi-tank Conveyor Dishwasher - Energy Star	Existing	Lodging	0.60	2.00
Multi-tank Conveyor Dishwasher - Energy Star	New	Lodging	9.99	33.30
Multi-tank Conveyor Dishwasher - Energy Star	Existing	Misc.	0.01	0.02
Multi-tank Conveyor Dishwasher - Energy Star	New	Misc.	0.11	0.37

Description	Vintage	Segment	TRC Ratio	PAC Ratio
Multi-tank Conveyor Dishwasher - Energy Star	Existing	Office	0.02	0.08
Multi-tank Conveyor Dishwasher - Energy Star	New	Office	0.42	1.39
Multi-tank Conveyor Dishwasher - Energy Star	Existing	Restaurant	0.12	0.41
Multi-tank Conveyor Dishwasher - Energy Star	New	Restaurant	2.05	6.83
Multi-tank Conveyor Dishwasher - Energy Star	Existing	Retail	0.02	0.05
Multi-tank Conveyor Dishwasher - Energy Star	New	Retail	0.25	0.84
Multi-tank Conveyor Dishwasher - Energy Star	Existing	Warehous	0.01	0.04
Multi-tank Conveyor Dishwasher - Energy Star	New	Warehous	0.20	0.65
Washer Machine with ozone injection system, allowing use of cold water	Existing	Education	0.08	0.28
Washer Machine with ozone injection system, allowing use of cold water	New	Education	0.08	0.28
Washer Machine with ozone injection system, allowing use of cold water	Existing	Grocery	0.01	0.03
Washer Machine with ozone injection system, allowing use of cold water	New	Grocery	0.01	0.03
Washer Machine with ozone injection system, allowing use of cold water	Existing	Healthcare	0.05	0.17
Washer Machine with ozone injection system, allowing use of cold water	New	Healthcare	0.05	0.17
Washer Machine with ozone injection system, allowing use of cold water	Existing	Lodging	0.18	0.61
Washer Machine with ozone injection system, allowing use of cold water	New	Lodging	0.18	0.61
Washer Machine with ozone injection system, allowing use of cold water	Existing	Misc.	0.00	0.00
Washer Machine with ozone injection system, allowing use of cold water	New	Misc.	0.00	0.00
Washer Machine with ozone injection system, allowing use of cold water	Existing	Office	0.00	0.01
Washer Machine with ozone injection system, allowing use of cold water	New	Office	0.00	0.01
Washer Machine with ozone injection system, allowing use of cold water	Existing	Restaurant	0.04	0.12
Washer Machine with ozone injection system, allowing use of cold water	New	Restaurant	0.04	0.12
Washer Machine with ozone injection system, allowing use of cold water	Existing	Retail	0.00	0.01

Description	Vintage	Segment	TRC Ratio	PAC Ratio
Washer Machine with ozone injection system, allowing use of cold water	New	Retail	0.00	0.01
Washer Machine with ozone injection system, allowing use of cold water	Existing	Warehous	0.00	0.01
Washer Machine with ozone injection system, allowing use of cold water	New	Warehous	0.00	0.01
Standard Swimming Pool Cover	Existing	Education	0.43	1.42
Standard Swimming Pool Cover	New	Education	0.43	1.42
Standard Swimming Pool Cover	Existing	Grocery	0.03	0.11
Standard Swimming Pool Cover	New	Grocery	0.03	0.11
Standard Swimming Pool Cover	Existing	Healthcare	0.10	0.32
Standard Swimming Pool Cover	New	Healthcare	0.10	0.32
Standard Swimming Pool Cover	Existing	Lodging	0.11	0.36
Standard Swimming Pool Cover	New	Lodging	0.11	0.36
Standard Swimming Pool Cover	Existing	Misc.	0.02	0.07
Standard Swimming Pool Cover	New	Misc.	0.02	0.07
Standard Swimming Pool Cover	Existing	Office	0.04	0.13
Standard Swimming Pool Cover	New	Office	0.04	0.13
Standard Swimming Pool Cover	Existing	Restaurant	0.01	0.02
Standard Swimming Pool Cover	New	Restaurant	0.01	0.02
Standard Swimming Pool Cover	Existing	Retail	0.01	0.03
Standard Swimming Pool Cover	New	Retail	0.01	0.03
Standard Swimming Pool Cover	Existing	Warehous	0.02	0.07
Standard Swimming Pool Cover	New	Warehous	0.02	0.07
79 sf collector area, pool is storage volume	Existing	Education	1.31	4.35
79 sf collector area, pool is storage volume	New	Education	1.31	4.35
79 sf collector area, pool is storage volume	Existing	Grocery	0.10	0.33
79 sf collector area, pool is storage volume	New	Grocery	0.10	0.33
79 sf collector area, pool is storage volume	Existing	Healthcare	0.29	0.97
79 sf collector area, pool is storage volume	New	Healthcare	0.29	0.97
79 sf collector area, pool is storage volume	Existing	Lodging	0.33	1.10
79 sf collector area, pool is storage volume	New	Lodging	0.33	1.10
79 sf collector area, pool is storage volume	Existing	Misc.	0.07	0.22
79 sf collector area, pool is storage volume	New	Misc.	0.07	0.22
79 sf collector area, pool is storage volume	Existing	Office	0.12	0.39

Description	Vintage	Segment	TRC Ratio	PAC Ratio
79 sf collector area, pool is storage volume	New	Office	0.12	0.39
79 sf collector area, pool is storage volume	Existing	Restaurant	0.02	0.06
79 sf collector area, pool is storage volume	New	Restaurant	0.02	0.06
79 sf collector area, pool is storage volume	Existing	Retail	0.03	0.10
79 sf collector area, pool is storage volume	New	Retail	0.03	0.10
79 sf collector area, pool is storage volume	Existing	Warehous	0.06	0.21
79 sf collector area, pool is storage volume	New	Warehous	0.06	0.21
Timeclock control added to existing DHW circulation pump	Existing	Education	1.04	3.48
Timeclock control added to existing DHW circulation pump	New	Education	3.76	12.54
Timeclock control added to existing DHW circulation pump	Existing	Grocery	0.17	0.57
Timeclock control added to existing DHW circulation pump	New	Grocery	0.62	2.06
Timeclock control added to existing DHW circulation pump	Existing	Healthcare	0.67	2.24
Timeclock control added to existing DHW circulation pump	New	Healthcare	2.42	8.06
Timeclock control added to existing DHW circulation pump	Existing	Lodging	1.92	6.41
Timeclock control added to existing DHW circulation pump	New	Lodging	6.93	23.10
Timeclock control added to existing DHW circulation pump	Existing	Misc.	0.04	0.13
Timeclock control added to existing DHW circulation pump	New	Misc.	0.14	0.45
Timeclock control added to existing DHW circulation pump	Existing	Office	0.06	0.21
Timeclock control added to existing DHW circulation pump	New	Office	0.23	0.77
Timeclock control added to existing DHW circulation pump	Existing	Restaurant	1.39	4.62
Timeclock control added to existing DHW circulation pump	New	Restaurant	5.00	16.65
Timeclock control added to existing DHW circulation pump	Existing	Retail	0.05	0.16
Timeclock control added to existing DHW circulation pump	New	Retail	0.17	0.57

Description	Vintage	Segment	TRC Ratio	PAC Ratio
Timeclock control added to existing DHW circulation pump	Existing	Warehous	0.07	0.22
Timeclock control added to existing DHW circulation pump	New	Warehous	0.24	0.80
Desuperheater installed on refrigeration system, providing free DHW	Existing	Education	0.42	1.39
Desuperheater installed on refrigeration system, providing free DHW	New	Education	0.42	1.39
Desuperheater installed on refrigeration system, providing free DHW	Existing	Grocery	0.05	0.16
Desuperheater installed on refrigeration system, providing free DHW	New	Grocery	0.05	0.16
Desuperheater installed on refrigeration system, providing free DHW	Existing	Healthcare	0.25	0.84
Desuperheater installed on refrigeration system, providing free DHW	New	Healthcare	0.25	0.84
Desuperheater installed on refrigeration system, providing free DHW	Existing	Lodging	0.90	3.01
Desuperheater installed on refrigeration system, providing free DHW	New	Lodging	0.90	3.01
Desuperheater installed on refrigeration system, providing free DHW	Existing	Misc.	0.01	0.02
Desuperheater installed on refrigeration system, providing free DHW	New	Misc.	0.01	0.02
Desuperheater installed on refrigeration system, providing free DHW	Existing	Office	0.02	0.06
Desuperheater installed on refrigeration system, providing free DHW	New	Office	0.02	0.06
Desuperheater installed on refrigeration system, providing free DHW	Existing	Restaurant	0.19	0.62
Desuperheater installed on refrigeration system, providing free DHW	New	Restaurant	0.19	0.62
Desuperheater installed on refrigeration system, providing free DHW	Existing	Retail	0.01	0.04
Desuperheater installed on refrigeration system, providing free DHW	New	Retail	0.01	0.04
Desuperheater installed on refrigeration system, providing free DHW	Existing	Warehous	0.01	0.03
Desuperheater installed on refrigeration system, providing free DHW	New	Warehous	0.01	0.03
Add roof insulation to minimum R-30	Existing	Education	0.82	2.75
Add roof insulation to minimum R-30	New	Education	0.82	2.75
Add roof insulation to minimum R-30	Existing	Grocery	0.83	2.78
Add roof insulation to minimum R-30	New	Grocery	0.83	2.78
Add roof insulation to minimum R-30	Existing	Healthcare	0.70	2.32
Add roof insulation to minimum R-30	New	Healthcare	0.70	2.32

Description	Vintage	Segment	TRC Ratio	PAC Ratio
Add roof insulation to minimum R-30	Existing	Lodging	0.53	1.76
Add roof insulation to minimum R-30	New	Lodging	0.53	1.76
Add roof insulation to minimum R-30	Existing	Misc.	0.71	2.36
Add roof insulation to minimum R-30	New	Misc.	0.71	2.36
Add roof insulation to minimum R-30	Existing	Office	0.61	2.03
Add roof insulation to minimum R-30	New	Office	0.61	2.03
Add roof insulation to minimum R-30	Existing	Restaurant	1.20	4.01
Add roof insulation to minimum R-30	New	Restaurant	1.20	4.01
Add roof insulation to minimum R-30	Existing	Retail	0.59	1.97
Add roof insulation to minimum R-30	New	Retail	0.59	1.97
Add roof insulation to minimum R-30	Existing	Warehous	0.26	0.87
Add roof insulation to minimum R-30	New	Warehous	0.26	0.87
Add roof insulation to minimum R-45	Existing	Education	0.55	1.83
Add roof insulation to minimum R-45	New	Education	0.01	0.03
Add roof insulation to minimum R-45	Existing	Grocery	0.56	1.85
Add roof insulation to minimum R-45	New	Grocery	0.01	0.03
Add roof insulation to minimum R-45	Existing	Healthcare	0.46	1.55
Add roof insulation to minimum R-45	New	Healthcare	0.01	0.03
Add roof insulation to minimum R-45	Existing	Lodging	0.35	1.17
Add roof insulation to minimum R-45	New	Lodging	0.01	0.02
Add roof insulation to minimum R-45	Existing	Misc.	0.47	1.58
Add roof insulation to minimum R-45	New	Misc.	0.01	0.03
Add roof insulation to minimum R-45	Existing	Office	0.41	1.36
Add roof insulation to minimum R-45	New	Office	0.01	0.02
Add roof insulation to minimum R-45	Existing	Restaurant	0.80	2.67
Add roof insulation to minimum R-45	New	Restaurant	0.01	0.05
Add roof insulation to minimum R-45	Existing	Retail	0.39	1.31
Add roof insulation to minimum R-45	New	Retail	0.01	0.02
Add roof insulation to minimum R-45	Existing	Warehous	0.17	0.58
Add roof insulation to minimum R-45	New	Warehous	0.00	0.01
SolarWall 26ga	Existing	Education	0.17	0.56
SolarWall 26ga	New	Education	0.17	0.56
SolarWall 26ga	Existing	Grocery	0.16	0.53
SolarWall 26ga	New	Grocery	0.16	0.53
SolarWall 26ga	Existing	Healthcare	0.12	0.39
SolarWall 26ga	New	Healthcare	0.12	0.39
SolarWall 26ga	Existing	Lodging	0.11	0.35
SolarWall 26ga	New	Lodging	0.11	0.35
SolarWall 26ga	Existing	Misc.	0.08	0.25
SolarWall 26ga	New	Misc.	0.08	0.25
SolarWall 26ga	Existing	Office	0.09	0.30
SolarWall 26ga	New	Office	0.09	0.30
SolarWall 26ga	Existing	Restaurant	0.10	0.34
SolarWall 26ga	New	Restaurant	0.10	0.34
SolarWall 26ga	Existing	Retail	0.10	0.34
SolarWall 26ga	New	Retail	0.10	0.34

Description	Vintage	Segment	TRC Ratio	PAC Ratio
SolarWall 26ga	Existing	Warehous	0.07	0.23
SolarWall 26ga	New	Warehous	0.07	0.23
Assess and add or replace main line air vents. Assess and replace radiator vents. Upgrade boiler control system to averaging system with indoor and outdoor sensors.	Existing	Education	0.29	0.96
Assess and add or replace main line air vents. Assess and replace radiator vents. Upgrade boiler control system to averaging system with indoor and outdoor sensors.	New	Education	0.29	0.96
Assess and add or replace main line air vents. Assess and replace radiator vents. Upgrade boiler control system to averaging system with indoor and outdoor sensors.	Existing	Grocery	0.20	0.66
Assess and add or replace main line air vents. Assess and replace radiator vents. Upgrade boiler control system to averaging system with indoor and outdoor sensors.	New	Grocery	0.20	0.66
Assess and add or replace main line air vents. Assess and replace radiator vents. Upgrade boiler control system to averaging system with indoor and outdoor sensors.	Existing	Healthcare	0.17	0.56
Assess and add or replace main line air vents. Assess and replace radiator vents. Upgrade boiler control system to averaging system with indoor and outdoor sensors.	New	Healthcare	0.17	0.56
Assess and add or replace main line air vents. Assess and replace radiator vents. Upgrade boiler control system to averaging system with indoor and outdoor sensors.	Existing	Lodging	0.17	0.56
Assess and add or replace main line air vents. Assess and replace radiator vents. Upgrade boiler control system to averaging system with indoor and outdoor sensors.	New	Lodging	0.17	0.56

Commercial Non Equipment

Description	Vintage	Segment	TRC Ratio	PAC Ratio
Assess and add or replace main line air vents. Assess and replace radiator vents. Upgrade boiler control system to averaging system with indoor and outdoor sensors.	Existing	Misc.	0.07	0.22
Assess and add or replace main line air vents. Assess and replace radiator vents. Upgrade boiler control system to averaging system with indoor and outdoor sensors.	New	Misc.	0.07	0.22
Assess and add or replace main line air vents. Assess and replace radiator vents. Upgrade boiler control system to averaging system with indoor and outdoor sensors.	Existing	Office	0.12	0.39
Assess and add or replace main line air vents. Assess and replace radiator vents. Upgrade boiler control system to averaging system with indoor and outdoor sensors.	New	Office	0.12	0.39
Assess and add or replace main line air vents. Assess and replace radiator vents. Upgrade boiler control system to averaging system with indoor and outdoor sensors.	Existing	Restaurant	0.07	0.22
Assess and add or replace main line air vents. Assess and replace radiator vents. Upgrade boiler control system to averaging system with indoor and outdoor sensors.	New	Restaurant	0.07	0.22
Assess and add or replace main line air vents. Assess and replace radiator vents. Upgrade boiler control system to averaging system with indoor and outdoor sensors.	Existing	Retail	0.12	0.39
Assess and add or replace main line air vents. Assess and replace radiator vents. Upgrade boiler control system to averaging system with indoor and outdoor sensors.	New	Retail	0.12	0.39
Assess and add or replace main line air vents. Assess and replace radiator vents. Upgrade boiler control system to averaging system with indoor and outdoor sensors.	Existing	Warehous	0.10	0.32

Description	Vintage	Segment	TRC Ratio	PAC Ratio
Assess and add or replace main line air vents. Assess and replace radiator vents. Upgrade boiler control system to averaging system with indoor and outdoor sensors.	New	Warehous	0.10	0.32
Conversion to VAV System	Existing	Education	0.28	0.92
Conversion to VAV System	New	Education	0.28	0.92
Conversion to VAV System	Existing	Grocery	0.36	1.20
Conversion to VAV System	New	Grocery	0.36	1.20
Conversion to VAV System	Existing	Healthcare	0.23	0.78
Conversion to VAV System	New	Healthcare	0.23	0.78
Conversion to VAV System	Existing	Lodging	0.19	0.62
Conversion to VAV System	New	Lodging	0.19	0.62
Conversion to VAV System	Existing	Misc.	0.25	0.84
Conversion to VAV System	New	Misc.	0.25	0.84
Conversion to VAV System	Existing	Office	0.20	0.68
Conversion to VAV System	New	Office	0.20	0.68
Conversion to VAV System	Existing	Restaurant	0.45	1.51
Conversion to VAV System	New	Restaurant	0.45	1.51
Conversion to VAV System	Existing	Retail	0.25	0.85
Conversion to VAV System	New	Retail	0.25	0.85
Conversion to VAV System	Existing	Warehous	0.14	0.48
Conversion to VAV System	New	Warehous	0.14	0.48
Exterior Wall Insulation > R19	Existing	Education	1.02	3.39
Exterior Wall Insulation > R19	New	Education	0.10	0.32
Exterior Wall Insulation > R19	Existing	Grocery	0.96	3.19
Exterior Wall Insulation > R19	New	Grocery	0.09	0.30
Exterior Wall Insulation > R19	Existing	Healthcare	0.71	2.38
Exterior Wall Insulation > R19	New	Healthcare	0.07	0.23
Exterior Wall Insulation > R19	Existing	Lodging	0.64	2.13
Exterior Wall Insulation > R19	New	Lodging	0.06	0.20
Exterior Wall Insulation > R19	Existing	Misc.	0.46	1.53
Exterior Wall Insulation > R19	New	Misc.	0.04	0.15
Exterior Wall Insulation > R19	Existing	Office	0.55	1.84
Exterior Wall Insulation > R19	New	Office	0.05	0.18
Exterior Wall Insulation > R19	Existing	Restaurant	0.62	2.06
Exterior Wall Insulation > R19	New	Restaurant	0.06	0.20
Exterior Wall Insulation > R19	Existing	Retail	0.62	2.07
Exterior Wall Insulation > R19	New	Retail	0.06	0.20
Exterior Wall Insulation > R19	Existing	Warehous	0.42	1.41
Exterior Wall Insulation > R19	New	Warehous	0.04	0.13
Exterior Wall Insulation > R11	Existing	Education	0.94	3.14
Exterior Wall Insulation > R11	New	Education	0.94	3.14
Exterior Wall Insulation > R11	Existing	Grocery	0.88	2.95
Exterior Wall Insulation > R11	New	Grocery	0.88	2.95
Exterior Wall Insulation > R11	Existing	Healthcare	0.66	2.21

Description	Vintage	Segment	TRC Ratio	PAC Ratio
Exterior Wall Insulation > R11	New	Healthcare	0.66	2.21
Exterior Wall Insulation > R11	Existing	Lodging	0.59	1.97
Exterior Wall Insulation > R11	New	Lodging	0.59	1.97
Exterior Wall Insulation > R11	Existing	Misc.	0.43	1.42
Exterior Wall Insulation > R11	New	Misc.	0.43	1.42
Exterior Wall Insulation > R11	Existing	Office	0.51	1.71
Exterior Wall Insulation > R11	New	Office	0.51	1.71
Exterior Wall Insulation > R11	Existing	Restaurant	0.57	1.91
Exterior Wall Insulation > R11	New	Restaurant	0.57	1.91
Exterior Wall Insulation > R11	Existing	Retail	0.58	1.92
Exterior Wall Insulation > R11	New	Retail	0.58	1.92
Exterior Wall Insulation > R11	Existing	Warehous	0.39	1.31
Exterior Wall Insulation > R11	New	Warehous	0.39	1.31
Add Argon to Vinyl Lowe	Existing	Education	1.01	3.36
Add Argon to Vinyl Lowe	New	Education	0.82	2.74
Add Argon to Vinyl Lowe	Existing	Grocery	1.31	4.37
Add Argon to Vinyl Lowe	New	Grocery	1.07	3.56
Add Argon to Vinyl Lowe	Existing	Healthcare	0.85	2.84
Add Argon to Vinyl Lowe	New	Healthcare	0.69	2.31
Add Argon to Vinyl Lowe	Existing	Lodging	0.68	2.27
Add Argon to Vinyl Lowe	New	Lodging	0.56	1.85
Add Argon to Vinyl Lowe	Existing	Misc.	0.92	3.06
Add Argon to Vinyl Lowe	New	Misc.	0.75	2.49
Add Argon to Vinyl Lowe	Existing	Office	0.75	2.49
Add Argon to Vinyl Lowe	New	Office	0.61	2.03
Add Argon to Vinyl Lowe	Existing	Restaurant	1.66	5.52
Add Argon to Vinyl Lowe	New	Restaurant	1.35	4.50
Add Argon to Vinyl Lowe	Existing	Retail	0.93	3.10
Add Argon to Vinyl Lowe	New	Retail	0.76	2.52
Add Argon to Vinyl Lowe	Existing	Warehous	0.52	1.74
Add Argon to Vinyl Lowe	New	Warehous	0.42	1.41
Add Low E and Argon to Vinyl Tint	Existing	Education	33.59	111.98
Add Low E and Argon to Vinyl Tint	New	Education	33.59	111.98
Add Low E and Argon to Vinyl Tint	Existing	Grocery	25.87	86.24
Add Low E and Argon to Vinyl Tint	New	Grocery	25.87	86.24
Add Low E and Argon to Vinyl Tint	Existing	Healthcare	39.76	132.52
Add Low E and Argon to Vinyl Tint	New	Healthcare	39.76	132.52
Add Low E and Argon to Vinyl Tint	Existing	Lodging	49.66	165.54
Add Low E and Argon to Vinyl Tint	New	Lodging	49.66	165.54
Add Low E and Argon to Vinyl Tint	Existing	Misc.	36.89	122.96
Add Low E and Argon to Vinyl Tint	New	Misc.	36.89	122.96
Add Low E and Argon to Vinyl Tint	Existing	Office	45.38	151.27
Add Low E and Argon to Vinyl Tint	New	Office	45.38	151.27
Add Low E and Argon to Vinyl Tint	Existing	Restaurant	20.45	68.18
Add Low E and Argon to Vinyl Tint	New	Restaurant	20.45	68.18
Add Low E and Argon to Vinyl Tint	Existing	Retail	36.45	121.51

Description	Vintage	Segment	TRC Ratio	PAC Ratio
Add Low E and Argon to Vinyl Tint	New	Retail	36.45	121.51
Add Low E and Argon to Vinyl Tint	Existing	Warehous	65.03	216.76
Add Low E and Argon to Vinyl Tint	New	Warehous	65.03	216.76
Add Low E to Vinyl Tint	Existing	Education	1.40	4.66
Add Low E to Vinyl Tint	New	Education	1.07	3.57
Add Low E to Vinyl Tint	Existing	Grocery	1.81	6.05
Add Low E to Vinyl Tint	New	Grocery	1.39	4.64
Add Low E to Vinyl Tint	Existing	Healthcare	1.18	3.94
Add Low E to Vinyl Tint	New	Healthcare	0.91	3.02
Add Low E to Vinyl Tint	Existing	Lodging	0.95	3.15
Add Low E to Vinyl Tint	New	Lodging	0.73	2.42
Add Low E to Vinyl Tint	Existing	Misc.	1.27	4.24
Add Low E to Vinyl Tint	New	Misc.	0.98	3.25
Add Low E to Vinyl Tint	Existing	Office	1.03	3.45
Add Low E to Vinyl Tint	New	Office	0.79	2.65
Add Low E to Vinyl Tint	Existing	Restaurant	2.29	7.65
Add Low E to Vinyl Tint	New	Restaurant	1.76	5.87
Add Low E to Vinyl Tint	Existing	Retail	1.29	4.29
Add Low E to Vinyl Tint	New	Retail	0.99	3.29
Add Low E to Vinyl Tint	Existing	Warehous	0.72	2.41
Add Low E to Vinyl Tint	New	Warehous	0.55	1.85
Non-Tinted AL Code to Class 36	Existing	Education	0.39	1.30
Non-Tinted AL Code to Class 36	New	Education	0.37	1.23
Non-Tinted AL Code to Class 36	Existing	Grocery	0.51	1.69
Non-Tinted AL Code to Class 36	New	Grocery	0.48	1.60
Non-Tinted AL Code to Class 36	Existing	Healthcare	0.33	1.10
Non-Tinted AL Code to Class 36	New	Healthcare	0.31	1.04
Non-Tinted AL Code to Class 36	Existing	Lodging	0.26	0.88
Non-Tinted AL Code to Class 36	New	Lodging	0.25	0.83
Non-Tinted AL Code to Class 36	Existing	Misc.	0.36	1.19
Non-Tinted AL Code to Class 36	New	Misc.	0.34	1.12
Non-Tinted AL Code to Class 36	Existing	Office	0.29	0.96
Non-Tinted AL Code to Class 36	New	Office	0.27	0.91
Non-Tinted AL Code to Class 36	Existing	Restaurant	0.64	2.14
Non-Tinted AL Code to Class 36	New	Restaurant	0.61	2.03
Non-Tinted AL Code to Class 36	Existing	Retail	0.36	1.20
Non-Tinted AL Code to Class 36	New	Retail	0.34	1.14
Non-Tinted AL Code to Class 36	Existing	Warehous	0.20	0.67
Non-Tinted AL Code to Class 36	New	Warehous	0.19	0.64
Non-Tinted AL Code to Class 40	Existing	Education	0.63	2.12
Non-Tinted AL Code to Class 40	New	Education	0.61	2.03
Non-Tinted AL Code to Class 40	Existing	Grocery	0.82	2.75
Non-Tinted AL Code to Class 40	New	Grocery	0.79	2.64
Non-Tinted AL Code to Class 40	Existing	Healthcare	0.54	1.79
Non-Tinted AL Code to Class 40	New	Healthcare	0.51	1.72
Non-Tinted AL Code to Class 40	Existing	Lodging	0.43	1.43

Description	Vintage	Segment	TRC Ratio	PAC Ratio
Non-Tinted AL Code to Class 40	New	Lodging	0.41	1.37
Non-Tinted AL Code to Class 40	Existing	Misc.	0.58	1.93
Non-Tinted AL Code to Class 40	New	Misc.	0.55	1.85
Non-Tinted AL Code to Class 40	Existing	Office	0.47	1.57
Non-Tinted AL Code to Class 40	New	Office	0.45	1.50
Non-Tinted AL Code to Class 40	Existing	Restaurant	1.04	3.47
Non-Tinted AL Code to Class 40	New	Restaurant	1.00	3.33
Non-Tinted AL Code to Class 40	Existing	Retail	0.58	1.95
Non-Tinted AL Code to Class 40	New	Retail	0.56	1.87
Non-Tinted AL Code to Class 40	Existing	Warehous	0.33	1.09
Non-Tinted AL Code to Class 40	New	Warehous	0.31	1.05
Non-Tinted AL Code to Class 45	Existing	Education	0.35	1.17
Non-Tinted AL Code to Class 45	New	Education	0.33	1.10
Non-Tinted AL Code to Class 45	Existing	Grocery	0.46	1.52
Non-Tinted AL Code to Class 45	New	Grocery	0.43	1.43
Non-Tinted AL Code to Class 45	Existing	Healthcare	0.30	0.99
Non-Tinted AL Code to Class 45	New	Healthcare	0.28	0.93
Non-Tinted AL Code to Class 45	Existing	Lodging	0.24	0.79
Non-Tinted AL Code to Class 45	New	Lodging	0.22	0.75
Non-Tinted AL Code to Class 45	Existing	Misc.	0.32	1.07
Non-Tinted AL Code to Class 45	New	Misc.	0.30	1.00
Non-Tinted AL Code to Class 45	Existing	Office	0.26	0.87
Non-Tinted AL Code to Class 45	New	Office	0.24	0.82
Non-Tinted AL Code to Class 45	Existing	Restaurant	0.58	1.92
Non-Tinted AL Code to Class 45	New	Restaurant	0.54	1.81
Non-Tinted AL Code to Class 45	Existing	Retail	0.32	1.08
Non-Tinted AL Code to Class 45	New	Retail	0.30	1.02
Non-Tinted AL Code to Class 45	Existing	Warehous	0.18	0.60
Non-Tinted AL Code to Class 45	New	Warehous	0.17	0.57
Tinted AL Code to Class 36	Existing	Education	0.34	1.12
Tinted AL Code to Class 36	New	Education	0.27	0.90
Tinted AL Code to Class 36	Existing	Grocery	0.44	1.45
Tinted AL Code to Class 36	New	Grocery	0.35	1.17
Tinted AL Code to Class 36	Existing	Healthcare	0.28	0.95
Tinted AL Code to Class 36	New	Healthcare	0.23	0.76
Tinted AL Code to Class 36	Existing	Lodging	0.23	0.76
Tinted AL Code to Class 36	New	Lodging	0.18	0.61
Tinted AL Code to Class 36	Existing	Misc.	0.31	1.02
Tinted AL Code to Class 36	New	Misc.	0.25	0.82
Tinted AL Code to Class 36	Existing	Office	0.25	0.83
Tinted AL Code to Class 36	New	Office	0.20	0.67
Tinted AL Code to Class 36	Existing	Restaurant	0.55	1.84
Tinted AL Code to Class 36	New	Restaurant	0.44	1.48
Tinted AL Code to Class 36	Existing	Retail	0.31	1.03
Tinted AL Code to Class 36	New	Retail	0.25	0.83
Tinted AL Code to Class 36	Existing	Warehous	0.17	0.58

Description	Vintage	Segment	TRC Ratio	PAC Ratio
Tinted AL Code to Class 36	New	Warehous	0.14	0.47
Tinted AL Code to Class 45	Existing	Education	0.07	0.24
Tinted AL Code to Class 45	New	Education	0.00	0.00
Tinted AL Code to Class 45	Existing	Grocery	0.09	0.31
Tinted AL Code to Class 45	New	Grocery	0.00	0.00
Tinted AL Code to Class 45	Existing	Healthcare	0.06	0.20
Tinted AL Code to Class 45	New	Healthcare	0.00	0.00
Tinted AL Code to Class 45	Existing	Lodging	0.05	0.16
Tinted AL Code to Class 45	New	Lodging	0.00	0.00
Tinted AL Code to Class 45	Existing	Misc.	0.07	0.22
Tinted AL Code to Class 45	New	Misc.	0.00	0.00
Tinted AL Code to Class 45	Existing	Office	0.05	0.18
Tinted AL Code to Class 45	New	Office	0.00	0.00
Tinted AL Code to Class 45	Existing	Restaurant	0.12	0.40
Tinted AL Code to Class 45	New	Restaurant	0.00	0.00
Tinted AL Code to Class 45	Existing	Retail	0.07	0.22
Tinted AL Code to Class 45	New	Retail	0.00	0.00
Tinted AL Code to Class 45	Existing	Warehous	0.04	0.13
Tinted AL Code to Class 45	New	Warehous	0.00	0.00
Engineered, opmimized design for 6,000 cfm "listed" hood 20ftx4.5 ft	New	Education	0.11	0.37
Engineered, opmimized design for 6,000 cfm "listed" hood 20ftx4.5 ft	Existing	Education	0.11	0.37
Engineered, opmimized design for 6,000 cfm "listed" hood 20ftx4.5 ft	New	Grocery	0.14	0.48
Engineered, opmimized design for 6,000 cfm "listed" hood 20ftx4.5 ft	Existing	Grocery	0.14	0.48
Engineered, opmimized design for 6,000 cfm "listed" hood 20ftx4.5 ft	New	Healthcare	0.09	0.31
Engineered, opmimized design for 6,000 cfm "listed" hood 20ftx4.5 ft	Existing	Healthcare	0.09	0.31
Engineered, opmimized design for 6,000 cfm "listed" hood 20ftx4.5 ft	New	Office	0.08	0.27
Engineered, opmimized design for 6,000 cfm "listed" hood 20ftx4.5 ft	Existing	Office	0.08	0.27
Engineered, opmimized design for 6,000 cfm "listed" hood 20ftx4.5 ft	New	Lodging	0.07	0.25
Engineered, opmimized design for 6,000 cfm "listed" hood 20ftx4.5 ft	Existing	Lodging	0.07	0.25
Engineered, opmimized design for 6,000 cfm "listed" hood 20ftx4.5 ft	New	Misc.	0.10	0.33
Engineered, opmimized design for 6,000 cfm "listed" hood 20ftx4.5 ft	Existing	Misc.	0.10	0.33
Engineered, opmimized design for 6,000 cfm "listed" hood 20ftx4.5 ft	New	Restaurant	0.18	0.60

Description	Vintage	Segment	TRC Ratio	PAC Ratio
Engineered, opmimized design for 6,000 cfm "listed" hood 20ftx4.5 ft	Existing	Restaurant	0.18	0.60
Engineered, opmimized design for 6,000 cfm "listed" hood 20ftx4.5 ft	New	Retail	0.10	0.34
Engineered, opmimized design for 6,000 cfm "listed" hood 20ftx4.5 ft	Existing	Retail	0.10	0.34
Engineered, opmimized design for 6,000 cfm "listed" hood 20ftx4.5 ft	New	Warehous	0.06	0.19
Engineered, opmimized design for 6,000 cfm "listed" hood 20ftx4.5 ft	Existing	Warehous	0.06	0.19

Description	Vintage	Segment	TRC Ratio	PAC Ratio
New High Efficiency Condensing Boiler for Water and Space Heating	Early Retirement	PaperMfg	0.05	0.15
New High Efficiency Condensing Boiler for Water and Space Heating	Early Retirement	FoodMfg	0.05	0.15
New High Efficiency Condensing Boiler for Water and Space Heating	Early Retirement	LumberWood	0.05	0.15
New High Efficiency Condensing Boiler for Water and Space Heating	Early Retirement	MetalsFab	0.05	0.15
New High Efficiency Condensing Boiler for Water and Space Heating	Early Retirement	PaperMfg	0.05	0.15
New High Efficiency Condensing Boiler for Water and Space Heating	Early Retirement	FoodMfg	0.05	0.15
New High Efficiency Condensing Boiler for Water and Space Heating	Early Retirement	Other	0.05	0.15
New High Efficiency Condensing Boiler for Water and Space Heating	Early Retirement	MetalsFab	0.05	0.15
New High Efficiency Condensing Boiler for Water and Space Heating	Early Retirement	StoneClayGlass	0.05	0.15
New High Efficiency Condensing Boiler for Water and Space Heating	Early Retirement	LumberWood	0.05	0.15
New High Efficiency Condensing Boiler for Water and Space Heating	Early Retirement	Other	0.05	0.15
New High Efficiency Condensing Boiler for Water and Space Heating	Early Retirement	StoneClayGlass	0.05	0.15
New High Efficiency Condensing Boiler for Water and Space Heating	Turnover	PaperMfg	0.06	0.19
New High Efficiency Condensing Boiler for Water and Space Heating	Turnover	FoodMfg	0.06	0.19
New High Efficiency Condensing Boiler for Water and Space Heating	Turnover	LumberWood	0.06	0.19
New High Efficiency Condensing Boiler for Water and Space Heating	Turnover	MetalsFab	0.06	0.19
New High Efficiency Condensing Boiler for Water and Space Heating	Turnover	PaperMfg	0.06	0.19
New High Efficiency Condensing Boiler for Water and Space Heating	Turnover	FoodMfg	0.06	0.19
New High Efficiency Condensing Boiler for Water and Space Heating	Turnover	Other	0.06	0.19
New High Efficiency Condensing Boiler for Water and Space Heating	Turnover	MetalsFab	0.06	0.19
New High Efficiency Condensing Boiler for Water and Space Heating	Turnover	StoneClayGlass	0.06	0.19
New High Efficiency Condensing Boiler for Water and Space Heating	Turnover	LumberWood	0.06	0.19
New High Efficiency Condensing Boiler for Water and Space Heating	Turnover	Other	0.06	0.19

Description	Vintage	Segment	TRC Ratio	PAC Ratio
New High Efficiency Condensing Boiler for Water and Space Heating	Turnover	StoneClayGlass	0.06	0.19
Low Intensity Gas Fired Radiant Heater	Early Retirement	FoodMfg	1.01	3.36
Low Intensity Gas Fired Radiant Heater	Early Retirement	PaperMfg	1.01	3.36
Low Intensity Gas Fired Radiant Heater	Early Retirement	MetalsFab	1.01	3.36
Low Intensity Gas Fired Radiant Heater	Early Retirement	LumberWood	1.01	3.36
Low Intensity Gas Fired Radiant Heater	Early Retirement	StoneClayGlass	1.01	3.36
Low Intensity Gas Fired Radiant Heater	Early Retirement	Other	1.01	3.36
Low Intensity Gas Fired Radiant Heater	Turnover	FoodMfg	3.14	10.47
Low Intensity Gas Fired Radiant Heater	Turnover	PaperMfg	3.14	10.47
Low Intensity Gas Fired Radiant Heater	Turnover	MetalsFab	3.14	10.47
Low Intensity Gas Fired Radiant Heater	Turnover	LumberWood	3.14	10.47
Low Intensity Gas Fired Radiant Heater	Turnover	StoneClayGlass	3.14	10.47
Low Intensity Gas Fired Radiant Heater	Turnover	Other	3.14	10.47
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Early Retirement	FoodMfg	0.05	0.16
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Early Retirement	FoodMfg	0.05	0.16
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Early Retirement	PaperMfg	0.05	0.16
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Early Retirement	PaperMfg	0.05	0.16
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Early Retirement	StoneClayGlass	0.05	0.16
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Early Retirement	StoneClayGlass	0.05	0.16

Description	Vintage	Segment	TRC Ratio	PAC Ratio
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Early Retirement	FoodMfg	0.05	0.16
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Early Retirement	FoodMfg	0.05	0.16
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Early Retirement	MetalsFab	0.05	0.16
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Early Retirement	MetalsFab	0.05	0.16
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Early Retirement	Other	0.05	0.16
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Early Retirement	Other	0.05	0.16
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Early Retirement	LumberWood	0.05	0.16
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Early Retirement	LumberWood	0.05	0.16
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Early Retirement	PaperMfg	0.05	0.16
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Early Retirement	PaperMfg	0.05	0.16
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Early Retirement	MetalsFab	0.05	0.16
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Early Retirement	MetalsFab	0.05	0.16
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Early Retirement	LumberWood	0.05	0.16
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Early Retirement	LumberWood	0.05	0.16
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Early Retirement	StoneClayGlass	0.05	0.16

Description	Vintage	Segment	TRC Ratio	PAC Ratio
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Early Retirement	StoneClayGlass	0.05	0.16
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Early Retirement	Other	0.05	0.16
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Early Retirement	Other	0.05	0.16
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Turnover	FoodMfg	0.06	0.19
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Turnover	FoodMfg	0.06	0.19
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Turnover	PaperMfg	0.06	0.19
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Turnover	PaperMfg	0.06	0.19
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Turnover	StoneClayGlass	0.06	0.19
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Turnover	StoneClayGlass	0.06	0.19
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Turnover	FoodMfg	0.06	0.19
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Turnover	FoodMfg	0.06	0.19
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Turnover	MetalsFab	0.06	0.19
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Turnover	MetalsFab	0.06	0.19
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Turnover	Other	0.06	0.19
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Turnover	Other	0.06	0.19

Description	Vintage	Segment	TRC Ratio	PAC Ratio
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Turnover	LumberWood	0.06	0.19
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Turnover	LumberWood	0.06	0.19
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Turnover	PaperMfg	0.06	0.19
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Turnover	PaperMfg	0.06	0.19
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Turnover	MetalsFab	0.06	0.19
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Turnover	MetalsFab	0.06	0.19
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Turnover	LumberWood	0.06	0.19
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Turnover	LumberWood	0.06	0.19
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Turnover	StoneClayGlass	0.06	0.19
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Turnover	StoneClayGlass	0.06	0.19
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Turnover	Other	0.06	0.19
New High Efficiency Condensing Boiler Input Capacity >300 kBtuh and Thermal Efficiency >=90%	Turnover	Other	0.06	0.19
New High Efficiency Condensing Unit Heater 92 AFUE	Early Retirement	FoodMfg	0.19	0.65
New High Efficiency Condensing Unit Heater 92 AFUE	Early Retirement	PaperMfg	0.19	0.65
New High Efficiency Condensing Unit Heater 92 AFUE	Early Retirement	MetalsFab	0.19	0.65
New High Efficiency Condensing Unit Heater 92 AFUE	Early Retirement	LumberWood	0.19	0.65
New High Efficiency Condensing Unit Heater 92 AFUE	Early Retirement	StoneClayGlass	0.19	0.65

Description	Vintage	Segment	TRC Ratio	PAC Ratio
New High Efficiency Condensing Unit Heater 92 AFUE	Early Retirement	Other	0.19	0.65
New High Efficiency Condensing Unit Heater 92 AFUE	Turnover	FoodMfg	0.18	0.60
New High Efficiency Condensing Unit Heater 92 AFUE	Turnover	PaperMfg	0.18	0.60
New High Efficiency Condensing Unit Heater 92 AFUE	Turnover	MetalsFab	0.18	0.60
New High Efficiency Condensing Unit Heater 92 AFUE	Turnover	LumberWood	0.18	0.60
New High Efficiency Condensing Unit Heater 92 AFUE	Turnover	StoneClayGlass	0.18	0.60
New High Efficiency Condensing Unit Heater 92 AFUE	Turnover	Other	0.18	0.60
New High Efficiency Non-Condensing Unit Heater 86 AFUE	Early Retirement	FoodMfg	0.16	0.52
New High Efficiency Non-Condensing Unit Heater 86 AFUE	Early Retirement	PaperMfg	0.16	0.52
New High Efficiency Non-Condensing Unit Heater 86 AFUE	Early Retirement	MetalsFab	0.16	0.52
New High Efficiency Non-Condensing Unit Heater 86 AFUE	Early Retirement	LumberWood	0.16	0.52
New High Efficiency Non-Condensing Unit Heater 86 AFUE	Early Retirement	StoneClayGlass	0.16	0.52
New High Efficiency Non-Condensing Unit Heater 86 AFUE	Early Retirement	Other	0.16	0.52
New High Efficiency Non-Condensing Unit Heater 86 AFUE	Turnover	FoodMfg	0.10	0.35
New High Efficiency Non-Condensing Unit Heater 86 AFUE	Turnover	PaperMfg	0.10	0.35
New High Efficiency Non-Condensing Unit Heater 86 AFUE	Turnover	MetalsFab	0.10	0.35
New High Efficiency Non-Condensing Unit Heater 86 AFUE	Turnover	LumberWood	0.10	0.35
New High Efficiency Non-Condensing Unit Heater 86 AFUE	Turnover	StoneClayGlass	0.10	0.35
New High Efficiency Non-Condensing Unit Heater 86 AFUE	Turnover	Other	0.10	0.35
New High Efficiency Furnace 91 AFUE	Early Retirement	FoodMfg	0.16	0.52
New High Efficiency Furnace 91 AFUE	Early Retirement	PaperMfg	0.16	0.52
New High Efficiency Furnace 91 AFUE	Early Retirement	StoneClayGlass	0.16	0.52
New High Efficiency Condensing Furnace 91 AFUE	Early Retirement	FoodMfg	0.16	0.52

Description	Vintage	Segment	TRC Ratio	PAC Ratio
New High Efficiency Furnace 91 AFUE	Early Retirement	MetalsFab	0.16	0.52
New High Efficiency Furnace 91 AFUE	Early Retirement	Other	0.16	0.52
New High Efficiency Furnace 91 AFUE	Early Retirement	LumberWood	0.16	0.52
New High Efficiency Condensing Furnace 91 AFUE	Early Retirement	PaperMfg	0.16	0.52
New High Efficiency Condensing Furnace 91 AFUE	Early Retirement	MetalsFab	0.16	0.52
New High Efficiency Condensing Furnace 91 AFUE	Early Retirement	LumberWood	0.16	0.52
New High Efficiency Condensing Furnace 91 AFUE	Early Retirement	StoneClayGlass	0.16	0.52
New High Efficiency Condensing Furnace 91 AFUE	Early Retirement	Other	0.16	0.52
New High Efficiency Furnace 91 AFUE	Turnover	FoodMfg	0.45	1.50
New High Efficiency Furnace 91 AFUE	Turnover	PaperMfg	0.45	1.50
New High Efficiency Furnace 91 AFUE	Turnover	StoneClayGlass	0.45	1.50
New High Efficiency Condensing Furnace 91 AFUE	Turnover	FoodMfg	0.45	1.50
New High Efficiency Furnace 91 AFUE	Turnover	MetalsFab	0.45	1.50
New High Efficiency Furnace 91 AFUE	Turnover	Other	0.45	1.50
New High Efficiency Furnace 91 AFUE	Turnover	LumberWood	0.45	1.50
New High Efficiency Condensing Furnace 91 AFUE	Turnover	PaperMfg	0.45	1.50
New High Efficiency Condensing Furnace 91 AFUE	Turnover	MetalsFab	0.45	1.50
New High Efficiency Condensing Furnace 91 AFUE	Turnover	LumberWood	0.45	1.50
New High Efficiency Condensing Furnace 91 AFUE	Turnover	StoneClayGlass	0.45	1.50
New High Efficiency Condensing Furnace 91 AFUE	Turnover	Other	0.45	1.50

Description	Segment	TRC Ratio	PAC Ratio
Condensing, integrated water heater/boiler with an AFUE of>=90%, with Power Burner	FoodMfg	0.12	0.39
Condensing, integrated water heater/boiler with an AFUE of>=90%, with Power Burner	PaperMfg	0.12	0.39
Condensing, integrated water heater/boiler with an AFUE of>=90%, with Power Burner	StoneClayGlass	0.12	0.39
Condensing, integrated water heater/boiler with an AFUE of>=90%, with Power Burner	MetalsFab	0.12	0.39
Condensing, integrated water heater/boiler with an AFUE of>=90%, with Power Burner	Other	0.12	0.39
Condensing, integrated water heater/boiler with an AFUE of>=90%, with Power Burner	LumberWood	0.12	0.39
Boiler Repair and Maintenance is performed	FoodMfg	0.03	0.10
Boiler Repair and Maintenance is performed	PaperMfg	0.03	0.10
Boiler Repair and Maintenance is performed	MetalsFab	0.03	0.10
Boiler Repair and Maintenance is performed	LumberWood	0.03	0.10
Boiler Repair and Maintenance is performed	StoneClayGlass	0.03	0.10
Boiler Repair and Maintenance is performed	Other	0.03	0.10
Standard boiler with retrofitted single-stage boiler stack economizer, used to transfer heat from exhaust gases to prehead boiler feedwater.. Measure is sometimes referred to as boiler heat exchanger or feedwater heat exchanger.	FoodMfg	0.10	0.33
Standard boiler with retrofitted single-stage boiler stack economizer, used to transfer heat from exhaust gases to prehead boiler feedwater.. Measure is sometimes referred to as boiler heat exchanger or feedwater heat exchanger.	PaperMfg	0.10	0.33
Standard boiler with retrofitted single-stage boiler stack economizer, used to transfer heat from exhaust gases to prehead boiler feedwater.. Measure is sometimes referred to as boiler heat exchanger or feedwater heat exchanger.	MetalsFab	0.10	0.33
Standard boiler with retrofitted single-stage boiler stack economizer, used to transfer heat from exhaust gases to prehead boiler feedwater.. Measure is sometimes referred to as boiler heat exchanger or feedwater heat exchanger.	LumberWood	0.10	0.33

Description	Segment	TRC Ratio	PAC Ratio
Standard boiler with retrofitted single-stage boiler stack economizer, used to transfer heat from exhaust gases to prehead boiler feedwater.. Measure is sometimes referred to as boiler heat exchanger or feedwater heat exchanger.	StoneClayGlass	0.10	0.33
Standard boiler with retrofitted single-stage boiler stack economizer, used to transfer heat from exhaust gases to prehead boiler feedwater.. Measure is sometimes referred to as boiler heat exchanger or feedwater heat exchanger.	Other	0.10	0.33
Replace Leaking Steam Trap	FoodMfg	0.08	0.27
Replace Leaking Steam Trap	PaperMfg	0.08	0.27
Replace Leaking Steam Trap	MetalsFab	0.08	0.27
Replace Leaking Steam Trap	LumberWood	0.08	0.27
Replace Leaking Steam Trap	StoneClayGlass	0.08	0.27
Replace Leaking Steam Trap	Other	0.08	0.27
New boiler vent damper installed	FoodMfg	0.11	0.35
New boiler vent damper installed	PaperMfg	0.11	0.35
New boiler vent damper installed	MetalsFab	0.11	0.35
New boiler vent damper installed	LumberWood	0.11	0.35
New boiler vent damper installed	StoneClayGlass	0.11	0.35
New boiler vent damper installed	Other	0.11	0.35
Installation of a demand controlled ventilation system to adjust OA quantities in response to measured CO2 levels	FoodMfg	0.85	2.82
Installation of a demand controlled ventilation system to adjust OA quantities in response to measured CO2 levels	PaperMfg	0.85	2.82
Installation of a demand controlled ventilation system to adjust OA quantities in response to measured CO2 levels	MetalsFab	0.85	2.82
Installation of a demand controlled ventilation system to adjust OA quantities in response to measured CO2 levels	LumberWood	0.85	2.82
Installation of a demand controlled ventilation system to adjust OA quantities in response to measured CO2 levels	StoneClayGlass	0.85	2.82
Installation of a demand controlled ventilation system to adjust OA quantities in response to measured CO2 levels	Other	0.85	2.82
Duct Losses to 5%	FoodMfg	0.09	0.29
Duct Losses to 5%	PaperMfg	0.09	0.29
Duct Losses to 5%	MetalsFab	0.09	0.29
Duct Losses to 5%	LumberWood	0.09	0.29

Description	Segment	TRC Ratio	PAC Ratio
Duct Losses to 5%	StoneClayGlass	0.09	0.29
Duct Losses to 5%	Other	0.09	0.29
Averages for the installation of the following measures, Programmable Thermostats, EMS or DDS systems	FoodMfg	0.07	0.25
Averages for the installation of the following measures, Programmable Thermostats, EMS or DDS systems	PaperMfg	0.07	0.25
Averages for the installation of the following measures, Programmable Thermostats, EMS or DDS systems	MetalsFab	0.07	0.25
Averages for the installation of the following measures, Programmable Thermostats, EMS or DDS systems	LumberWood	0.07	0.25
Averages for the installation of the following measures, Programmable Thermostats, EMS or DDS systems	StoneClayGlass	0.07	0.25
Averages for the installation of the following measures, Programmable Thermostats, EMS or DDS systems	Other	0.07	0.25
HVAC System Commissioning	FoodMfg	0.23	0.78
HVAC System Commissioning	PaperMfg	0.23	0.78
HVAC System Commissioning	MetalsFab	0.23	0.78
HVAC System Commissioning	LumberWood	0.23	0.78
HVAC System Commissioning	StoneClayGlass	0.23	0.78
HVAC System Commissioning	Other	0.23	0.78
Improved process heating bundled control measures to control fuel/air mixture for optimum combustion of input fuels	FoodMfg	10.55	35.16
Improved process heating bundled control measures to control fuel/air mixture for optimum combustion of input fuels	PaperMfg	10.55	35.16
Improved process heating bundled control measures to control fuel/air mixture for optimum combustion of input fuels	StoneClayGlass	10.55	35.16
Improved process heating bundled control measures to control fuel/air mixture for optimum combustion of input fuels	MetalsFab	10.55	35.16
Improved process heating bundled control measures to control fuel/air mixture for optimum combustion of input fuels	Other	10.55	35.16
Improved process heating bundled control measures to control fuel/air mixture for optimum combustion of input fuels	LumberWood	10.55	35.16

Description	Segment	TRC Ratio	PAC Ratio
Improve efficiency through maintaining optimum flame temperatures, monitoring levels of oxygen in flue gas, etc	FoodMfg	13.09	43.62
Improve efficiency through maintaining optimum flame temperatures, monitoring levels of oxygen in flue gas, etc	PaperMfg	13.09	43.63
Improve efficiency through maintaining optimum flame temperatures, monitoring levels of oxygen in flue gas, etc	StoneClayGlass	13.08	43.61
Improve efficiency through maintaining optimum flame temperatures, monitoring levels of oxygen in flue gas, etc	MetalsFab	13.09	43.62
Improve efficiency through maintaining optimum flame temperatures, monitoring levels of oxygen in flue gas, etc	Other	13.08	43.61
Improve efficiency through maintaining optimum flame temperatures, monitoring levels of oxygen in flue gas, etc	LumberWood	13.09	43.62
Desuperheater installed on refrigeration system, providing preheated water to boiler system	FoodMfg	0.01	0.03
Desuperheater installed on refrigeration system, providing preheated water to boiler system	PaperMfg	0.01	0.03
Desuperheater installed on refrigeration system, providing preheated water to boiler system	StoneClayGlass	0.01	0.03
Desuperheater installed on refrigeration system, providing preheated water to boiler system	MetalsFab	0.01	0.03
Desuperheater installed on refrigeration system, providing preheated water to boiler system	Other	0.01	0.03
Desuperheater installed on refrigeration system, providing preheated water to boiler system	LumberWood	0.01	0.03
Add roof insulation to minimum R-30	FoodMfg	0.26	0.87
Add roof insulation to minimum R-30	PaperMfg	0.26	0.87
Add roof insulation to minimum R-30	MetalsFab	0.26	0.87
Add roof insulation to minimum R-30	LumberWood	0.26	0.87
Add roof insulation to minimum R-30	StoneClayGlass	0.26	0.87
Add roof insulation to minimum R-30	Other	0.26	0.87
Add roof insulation to minimum R-45	FoodMfg	0.17	0.58
Add roof insulation to minimum R-45	PaperMfg	0.17	0.58
Add roof insulation to minimum R-45	MetalsFab	0.17	0.58
Add roof insulation to minimum R-45	LumberWood	0.17	0.58

Description	Segment	TRC Ratio	PAC Ratio
Add roof insulation to minimum R-45	StoneClayGlass	0.17	0.58
Add roof insulation to minimum R-45	Other	0.17	0.58
Improve efficiency through maintaining optimum flame temperatures, monitoring levels of oxygen in flue gas, boiler insulation, waste heat recover, burner efficiency improvements, etc.	FoodMfg	0.29	0.97
Improve efficiency through maintaining optimum flame temperatures, monitoring levels of oxygen in flue gas, boiler insulation, waste heat recover, burner efficiency improvements, etc.	PaperMfg	0.29	0.97
Improve efficiency through maintaining optimum flame temperatures, monitoring levels of oxygen in flue gas, boiler insulation, waste heat recover, burner efficiency improvements, etc.	MetalsFab	0.29	0.97
Improve efficiency through maintaining optimum flame temperatures, monitoring levels of oxygen in flue gas, boiler insulation, waste heat recover, burner efficiency improvements, etc.	LumberWood	0.29	0.97
Improve efficiency through maintaining optimum flame temperatures, monitoring levels of oxygen in flue gas, boiler insulation, waste heat recover, burner efficiency improvements, etc.	StoneClayGlass	0.29	0.97
Improve efficiency through maintaining optimum flame temperatures, monitoring levels of oxygen in flue gas, boiler insulation, waste heat recover, burner efficiency improvements, etc.	Other	0.29	0.97
Assess and add or replace main line air vents. Assess and replace radiator vents. Upgrade boiler control system to averaging system with indoor and outdoor sensors.	FoodMfg	0.10	0.32
Assess and add or replace main line air vents. Assess and replace radiator vents. Upgrade boiler control system to averaging system with indoor and outdoor sensors.	PaperMfg	0.10	0.32
Assess and add or replace main line air vents. Assess and replace radiator vents. Upgrade boiler control system to averaging system with indoor and outdoor sensors.	MetalsFab	0.10	0.32

Description	Segment	TRC Ratio	PAC Ratio
Assess and add or replace main line air vents. Assess and replace radiator vents. Upgrade boiler control system to averaging system with indoor and outdoor sensors.	LumberWood	0.10	0.32
Assess and add or replace main line air vents. Assess and replace radiator vents. Upgrade boiler control system to averaging system with indoor and outdoor sensors.	StoneClayGlass	0.10	0.32
Assess and add or replace main line air vents. Assess and replace radiator vents. Upgrade boiler control system to averaging system with indoor and outdoor sensors.	Other	0.10	0.32
Exterior Wall Insulation > R11	FoodMfg	0.39	1.31
Exterior Wall Insulation > R11	PaperMfg	0.39	1.31
Exterior Wall Insulation > R11	MetalsFab	0.39	1.31
Exterior Wall Insulation > R11	LumberWood	0.39	1.31
Exterior Wall Insulation > R11	StoneClayGlass	0.39	1.31
Exterior Wall Insulation > R11	Other	0.39	1.31
Exterior Wall Insulation > R11	FoodMfg	0.42	1.41
Exterior Wall Insulation > R11	PaperMfg	0.42	1.41
Exterior Wall Insulation > R11	MetalsFab	0.42	1.41
Exterior Wall Insulation > R11	LumberWood	0.42	1.41
Exterior Wall Insulation > R11	StoneClayGlass	0.42	1.41
Exterior Wall Insulation > R11	Other	0.42	1.41
Standard steam boiler with blowdown heat recovery.	FoodMfg	0.01	0.02
Standard steam boiler with blowdown heat recovery.	PaperMfg	0.01	0.02
Standard steam boiler with blowdown heat recovery.	MetalsFab	0.01	0.02
Standard steam boiler with blowdown heat recovery.	LumberWood	0.01	0.02
Standard steam boiler with blowdown heat recovery.	StoneClayGlass	0.01	0.02
Standard steam boiler with blowdown heat recovery.	Other	0.01	0.02
Add Argon to Vinyl Lowe	FoodMfg	0.52	1.74
Add Argon to Vinyl Lowe	PaperMfg	0.52	1.74
Add Argon to Vinyl Lowe	MetalsFab	0.52	1.74
Add Argon to Vinyl Lowe	LumberWood	0.52	1.74
Add Argon to Vinyl Lowe	StoneClayGlass	0.52	1.74
Add Argon to Vinyl Lowe	Other	0.52	1.74
Add Low E and Argon to Vinyl Tint	FoodMfg	6.97	23.22
Add Low E and Argon to Vinyl Tint	PaperMfg	6.97	23.22
Add Low E and Argon to Vinyl Tint	MetalsFab	6.97	23.22
Add Low E and Argon to Vinyl Tint	LumberWood	6.97	23.22

Description	Segment	TRC Ratio	PAC Ratio
Add Low E and Argon to Vinyl Tint	StoneClayGlass	6.97	23.22
Add Low E and Argon to Vinyl Tint	Other	6.97	23.22
Add Low E to Vinyl Tint	FoodMfg	0.72	2.41
Add Low E to Vinyl Tint	PaperMfg	0.72	2.41
Add Low E to Vinyl Tint	MetalsFab	0.72	2.41
Add Low E to Vinyl Tint	LumberWood	0.72	2.41
Add Low E to Vinyl Tint	StoneClayGlass	0.72	2.41
Add Low E to Vinyl Tint	Other	0.72	2.41
Non-Tinted AL Code to Class 36	FoodMfg	0.20	0.67
Non-Tinted AL Code to Class 36	PaperMfg	0.20	0.67
Non-Tinted AL Code to Class 36	MetalsFab	0.20	0.67
Non-Tinted AL Code to Class 36	LumberWood	0.20	0.67
Non-Tinted AL Code to Class 36	StoneClayGlass	0.20	0.67
Non-Tinted AL Code to Class 36	Other	0.20	0.67
Non-Tinted AL Code to Class 40	FoodMfg	0.33	1.09
Non-Tinted AL Code to Class 40	PaperMfg	0.33	1.09
Non-Tinted AL Code to Class 40	MetalsFab	0.33	1.09
Non-Tinted AL Code to Class 40	LumberWood	0.33	1.09
Non-Tinted AL Code to Class 40	StoneClayGlass	0.33	1.09
Non-Tinted AL Code to Class 40	Other	0.33	1.09
Non-Tinted AL Code to Class 40	FoodMfg	0.18	0.60
Non-Tinted AL Code to Class 40	PaperMfg	0.18	0.60
Non-Tinted AL Code to Class 40	MetalsFab	0.18	0.60
Non-Tinted AL Code to Class 40	LumberWood	0.18	0.60
Non-Tinted AL Code to Class 40	StoneClayGlass	0.18	0.60
Non-Tinted AL Code to Class 40	Other	0.18	0.60
Tinted AL Code to Class 36	FoodMfg	0.17	0.58
Tinted AL Code to Class 36	PaperMfg	0.17	0.58
Tinted AL Code to Class 36	MetalsFab	0.17	0.58
Tinted AL Code to Class 36	LumberWood	0.17	0.58
Tinted AL Code to Class 36	StoneClayGlass	0.17	0.58
Tinted AL Code to Class 36	Other	0.17	0.58
Tinted AL Code to Class 45	FoodMfg	0.04	0.13
Tinted AL Code to Class 45	PaperMfg	0.04	0.13
Tinted AL Code to Class 45	MetalsFab	0.04	0.13
Tinted AL Code to Class 45	LumberWood	0.04	0.13
Tinted AL Code to Class 45	StoneClayGlass	0.04	0.13
Tinted AL Code to Class 45	Other	0.04	0.13