

Table 5a: Residential Economics by Measure -- Upstate -- Reference Avoided Costs

#	Measure Name	Measure ID4 (e.g., Bldg type)	Measure ID5 (e.g., End Use)	Measure ID6 (e.g., Market: Retrofit, NC, ROB)	Total Resource BCR	TRC Levelized Cost per Saved Therm (\$/Therm)
133	base door to insulated door	MF	MF_Envelope	NC	9,999.000	\$0.00
134	base hatch to insulated hatch	MF	MF_Envelope	NC	5.578	\$0.11
135	programmable t-stat	MF	HVAC	NC	3.189	\$0.26
136	smart air sealing	MF	MF_Envelope	RENO	4.716	\$0.16
137	base door to insulated door	MF	MF_Envelope	RENO	9,999.000	\$0.00
138	base hatch to insulated hatch	MF	MF_Envelope	RENO	5.510	\$0.13
139	programmable t-stat	MF	HVAC	RENO	3.152	\$0.28
140	LI base to condensing gas furnace	LI SF	LI HVAC	RET	1.142	\$2.78
141	LI attic R-11 to R-49	LI SF	LI SF_Envelope	RET	1.040	\$0.00
142	LI wall R-4 to R-15	LI SF	LI SF_Envelope	RET	2.474	\$0.36
143	LI wall R-4 to R-19	LI SF	LI SF_Envelope	RET	2.589	\$0.34
144	LI wall R-4 to R-21	LI SF	LI SF_Envelope	RET	2.618	\$0.33
145	LI smart air sealing	LI SF	LI SF_Envelope	RET	3.912	\$0.19
146	LI R-19 bsm/crawl ceiling insulation	LI SF	LI SF_Envelope	RET	1.460	\$0.67
147	LI base hatch to insulated hatch	LI SF	LI SF_Envelope	RET	1.401	\$0.71
148	LI low-flow devices	LI SF	LI DHW	RET	5.248	\$0.17
149	LI seal/balance ducts	LI SF	LI HVAC	RET	3.319	\$0.20
150	LI tank temp turn down	LI SF	LI DHW	RET	1.801	\$0.48
151	LI tub/pool cover	LI SF	LI pools/spas	RET	6.729	\$0.13
152	LI attic R-11 to R-49	LI MF	LI MF_Envelope	RET	1.022	\$1.00
153	LI wall R-4 to R-15	LI MF	LI MF_Envelope	RET	2.430	\$0.38
154	LI wall R-4 to R-19	LI MF	LI MF_Envelope	RET	2.543	\$0.36
155	LI wall R-4 to R-21	LI MF	LI MF_Envelope	RET	2.572	\$0.35
156	LI smart air sealing	LI MF	LI MF_Envelope	RET	4.716	\$0.16
157	LI R-19 bsm/crawl ceiling insulation	LI MF	LI MF_Envelope	RET	1.435	\$0.69
158	LI base hatch to insulated hatch	LI MF	LI MF_Envelope	RET	1.378	\$0.72
159	LI low-flow devices	LI MF	LI DHW	RET	5.292	\$0.16
160	LI seal/balance ducts	LI MF	LI HVAC	RET	1.274	\$0.78
161	LI tank temp turn down	LI MF	LI DHW	RET	1.801	\$0.48
162	SF storage tank to on-demand	SF	DHW	NC	1.228	\$2.68
163	SF storage tank to on-demand	SF	DHW	RR	1.228	\$2.68
164	MF storage tank to on-demand	MF	DHW	NC	1.156	\$2.85
165	MF storage tank to on-demand	MF	DHW	RR	1.156	\$2.85

Added Cost Effective Measures -- Upstate -- High Avoided Costs

#	Measure Name	Measure ID4 (e.g., Bldg type)	Measure ID5 (e.g., End Use)	Measure ID6 (e.g., Market: Retrofit, NC, ROB)	Total Resource BCR	TRC Levelized Cost per Saved Therm (\$/Therm)
	Cooling system chilled water reset	Multifamily	Cooling	New construction	1.1615	\$0.80
	Cooling system water side economizer	Multifamily	Cooling	New construction	1.0919	\$0.76
	Improved roof insulation	Multifamily	Space Heating	New construction	1.0917	\$1.37
	Improved roof insulation	Multifamily	Space Heating	Renovation	1.0917	\$1.37

Subtracted Cost Effective Measures -- Upstate -- Low Avoided Costs

#	Measure Name	Measure ID4 (e.g., Bldg type)	Measure ID5 (e.g., End Use)	Measure ID6 (e.g., Market: Retrofit, NC, ROB)	Total Resource BCR	TRC Levelized Cost per Saved Therm (\$/Therm)
2	Graywater heat exchanger/GFX	Multifamily	Water Heating	New construction	0.883	\$0.74
16	Improved heating system high efficiency unit - Tier 1	Multifamily	Space Heating	Retrofit	0.590	\$3.81
19	Improved heating system condensing unit - Tier 2	Multifamily	Space Heating	Retrofit	4.853	\$0.46
37	Integrated Design - High Performance (50% > codes) Tier 2	Multifamily	Total	New construction	0.402	\$3.17
48	attic R-11 to R-49	SF	SF_Envelope	RENO	0.803	\$0.98
54	base to condensing gas furnace	SF	HVAC	RET	0.856	\$2.70
55	attic R-11 to R-49	SF	SF_Envelope	RET	0.803	\$0.98
68	GFX DHW heat recovery	SF	DHW	NC	0.768	\$0.85
69	GFX DHW heat recovery	SF	DHW	RENO	0.768	\$0.85

Table 5a: Residential Economics by Measure -- Upstate -- Reference Avoided Costs

#	Measure Name	Measure ID4 (e.g., Bldg type)	Measure ID5 (e.g., End Use)	Measure ID6 (e.g., Market: Retrofit, NC, ROB)	Total Resource BCR	TRC Levelized Cost per Saved Therm (\$/Therm)
72	base DG window to low-e	SF	SF_Envelope	RR	0.870	\$0.91
84	base DG window to low-e	SF	SF_Envelope	NC	0.997	\$0.77
92	base DG window to low-e	SF	SF_Envelope	RENO	0.870	\$0.91
105	attic R-11 to R-49	MF	MF_Envelope	RET	0.784	\$1.00
118	GFX DHW heat recovery	MF	DHW	NC	0.819	\$0.80
119	GFX DHW heat recovery	MF	DHW	RENO	0.819	\$0.80
124	seal/balance ducts	MF	HVAC	RET	0.990	\$0.67
125	seal/balance ducts	MF	HVAC	RR	0.990	\$0.67
140	LI base to condensing gas furnace	LI SF	LI HVAC	RET	0.856	\$2.70
141	LI attic R-11 to R-49	LI SF	LI SF_Envelope	RET	0.803	\$0.00
152	LI attic R-11 to R-49	LI MF	LI MF_Envelope	RET	0.784	\$1.00
160	LI seal/balance ducts	LI MF	LI HVAC	RET	0.990	\$0.67
162	SF storage tank to on-demand	SF	DHW	NC	0.921	\$2.68
163	SF storage tank to on-demand	SF	DHW	RR	0.921	\$2.68
164	MF storage tank to on-demand	MF	DHW	NC	0.867	\$2.85
165	MF storage tank to on-demand	MF	DHW	RR	0.867	\$2.85

Table 5b: Residential Economics by Measure -- Downstate -- Reference Avoided Costs

#	Measure Name	Measure ID4 (e.g., Bldg type)	Measure ID5 (e.g., End Use)	Measure ID6 (e.g., Market: Retrofit, NC, ROB)	Total Resource BCR	TRC Levelized Cost per Saved Therm (\$/Therm)
1	Faucet aerator	Multifamily	Water Heating	Retrofit	10.4	(\$3.38)
2	Graywater heat exchanger/GFX	Multifamily	Water Heating	Retrofit	1.7	\$1.44
3	Graywater heat exchanger/GFX	Multifamily	Water Heating	New construction	1.3	\$0.74
4	Graywater heat exchanger/GFX	Multifamily	Water Heating	Remodel/Replacement	1.7	\$0.58
5	Low-flow shower heads	Multifamily	Water Heating	Retrofit	9,999.0	(\$2.44)
6	Low-flow shower heads	Multifamily	Water Heating	New construction	6.3	(\$0.76)
7	Low-flow shower heads	Multifamily	Water Heating	Remodel/Replacement	8.1	(\$0.84)
8	Pipe insulation - water heating	Multifamily	Water Heating	Retrofit	30.3	\$0.07
9	Pipe insulation - water heating	Multifamily	Water Heating	New construction	23.6	\$0.04
10	Pipe insulation - water heating	Multifamily	Water Heating	Renovation	23.6	\$0.04
11	Tank insulation	Multifamily	Water Heating	Retrofit	2.2	\$0.94
12	Tank insulation	Multifamily	Water Heating	New construction	1.7	\$0.56
13	Tank insulation	Multifamily	Water Heating	Remodel/Replacement	2.2	\$0.43
14	Air Sealing	Multifamily	Space Heating	Retrofit	3.6	\$1.12
15	Air Sealing	Multifamily	Space Heating	New construction	2.9	\$0.55
16	Air Sealing	Multifamily	Space Heating	Renovation	2.9	\$0.55
17	Improved heating system high efficiency unit - Tier 1	Multifamily	Space Heating	New construction	4.4	\$0.37
18	Improved heating system high efficiency unit - Tier 1	Multifamily	Space Heating	Remodel/Replacement	5.4	\$0.30
19	Improved heating system condensing unit - Tier 2	Multifamily	Space Heating	New construction	3.8	\$0.42
20	Improved heating system condensing unit - Tier 2	Multifamily	Space Heating	Remodel/Replacement	4.8	\$0.34
21	Programmable Thermostat	Multifamily	Space Heating	Retrofit	2.9	\$1.23
22	Programmable Thermostat	Multifamily	Space Heating	Renovation	2.7	\$0.60
23	Programmable Thermostat	Multifamily	Space Heating	Remodel/Replacement	3.5	\$0.47
24	Outdoor Air Reset	Multifamily	Space Heating	Retrofit	2.2	\$1.57
25	Outdoor Air Reset	Multifamily	Space Heating	New construction	1.7	\$0.98
26	Outdoor Air Reset	Multifamily	Space Heating	Remodel/Replacement	2.2	\$0.76
27	High Performance Glazing double pane, low-E, low conductivity frame - Tier 1	Multifamily	Space Heating	New construction	10.1	\$0.16
28	High Performance Glazing double pane, low-E, low conductivity frame - Tier 1	Multifamily	Space Heating	Renovation	10.1	\$0.16
29	High Performance Glazing triple pane, low-E, low conductivity frame - Tier 2	Multifamily	Space Heating	New construction	1.6	\$0.97
30	High Performance Glazing triple pane, low-E, low conductivity frame - Tier 2	Multifamily	Space Heating	Renovation	1.6	\$0.97
31	Improved roof insulation	Multifamily	Space Heating	New construction	1.0	\$1.53
32	Improved roof insulation	Multifamily	Space Heating	Renovation	1.0	\$1.53
33	Sensible Heat Recovery	Multifamily	Space Heating	Retrofit	6.1	\$0.72
34	Sensible Heat Recovery	Multifamily	Space Heating	New construction	5.5	\$0.36
35	Sensible Heat Recovery	Multifamily	Space Heating	Remodel/Replacement	6.8	\$0.31
36	Pipe insulation - space heating	Multifamily	Space Heating	Retrofit	74.4	\$0.05
37	Pipe insulation - space heating	Multifamily	Space Heating	New construction	59.9	\$0.03
38	Pipe insulation - space heating	Multifamily	Space Heating	Renovation	59.9	\$0.03
39	Energy Star washer	Multifamily	Water Heating	New construction	1.9	(\$2.51)
40	Energy Star washer	Multifamily	Water Heating	Remodel/Replacement	2.3	(\$3.09)
41	Swimming pool/spa covers	Multifamily	Miscellaneous	Retrofit	4.6	\$0.37
42	Swimming pool/spa covers	Multifamily	Miscellaneous	New construction	4.3	\$0.23
43	Swimming pool/spa covers	Multifamily	Miscellaneous	Remodel/Replacement	4.5	\$0.22
44	Commissioning	Multifamily	Total	New construction	4.3	(\$2.09)
45	Commissioning	Multifamily	Total	Renovation	4.3	(\$2.09)
46	Commissioning	Multifamily	Total	Remodel/Replacement	5.5	(\$2.34)
47	Retrocommissioning	Multifamily	Total	Retrofit	7.0	(\$1.92)
48	Integrated Design - High Performance (30% > codes) - Tier 1	Multifamily	Total	New construction	2.4	(\$0.03)
49	Integrated Design - High Performance (50% > codes) Tier 2	Multifamily	Total	New construction	2.4	(\$0.03)
50	Steam trap Maintenance	Multifamily	Space Heating	Retrofit	3.7	\$0.44
51	Oxygen Trim	Multifamily	Space Heating	Retrofit	51.6	\$0.07
52	Oxygen Trim	Multifamily	Space Heating	New construction	68.3	\$0.02
53	Oxygen Trim	Multifamily	Space Heating	Remodel/Replacement	59.5	\$0.03
54	base to Energy Star clothes washer	SF	SF_ClothesWash	NC	1.4	(\$0.36)
55	base to Energy Star clothes washer	SF	SF_ClothesWash	RENO	1.4	(\$0.36)
56	base to Energy Star clothes washer	SF	SF_ClothesWash	RR	1.4	(\$0.36)
57	.59 EF to .63 EF gas DHW	SF	DHW	NC	2.1	\$0.45
58	.59 EF to .63 EF gas DHW	SF	DHW	RENO	2.1	\$0.45
59	.59 EF to .63 EF gas DHW	SF	DHW	RR	2.1	\$0.45
60	smart air sealing	SF	SF_Envelope	RR	3.7	\$0.26
61	R-19 bsmt/crawl ceiling insulation	SF	SF_Envelope	RENO	1.4	\$0.87
62	atmospheric to DV fireplace	SF	HVAC	NC	2.3	\$0.54
63	atmospheric to DV fireplace	SF	HVAC	RENO	2.3	\$0.54
64	atmospheric to DV fireplace	SF	HVAC	RR	1.0	\$1.21
65	base to condensing gas furnace	SF	HVAC	NC	3.5	\$0.35
66	base to condensing gas furnace	SF	HVAC	RET	1.4	\$2.75
67	wall R-4 to R-15	SF	SF_Envelope	RET	2.3	\$0.47
68	wall R-4 to R-19	SF	SF_Envelope	RET	2.4	\$0.44
69	wall R-4 to R-21	SF	SF_Envelope	RET	2.5	\$0.44
70	smart air sealing	SF	SF_Envelope	RET	3.7	\$0.26
71	R-19 bsmt/crawl ceiling insulation	SF	SF_Envelope	RET	1.4	\$0.87
72	base hatch to insulated hatch	SF	SF_Envelope	RET	1.3	\$0.91
73	programmable t-stat	SF	HVAC	RET	1.1	\$1.10
74	base to condensing gas furnace	SF	HVAC	RR	2.3	\$0.53
75	base to humidity sensor model	SF	ClothesDryer	NC	2.6	\$0.35
76	base to humidity sensor model	SF	ClothesDryer	RENO	2.6	\$0.35
77	base to humidity sensor model	SF	ClothesDryer	RR	2.6	\$0.35
78	base to sealed/direct vent boiler	SF	HVAC	NC	6.0	\$0.20
79	base to sealed/direct vent boiler	SF	HVAC	RR	6.0	\$0.20

Table 5b: Residential Economics by Measure -- Downstate -- Reference Avoided Costs

#	Measure Name	Measure ID4 (e.g., Bldg type)	Measure ID5 (e.g., End Use)	Measure ID6 (e.g., Market: Retrofit, NC, ROB)	Total Resource BCR	TRC Levelized Cost per Saved Therm (\$/Therm)
80	GFX DHW heat recovery	SF	DHW	NC	1.1	\$0.87
81	GFX DHW heat recovery	SF	DHW	RENO	1.1	\$0.87
82	insul/seal/balance ducts	SF	HVAC	NC	3.5	\$0.18
83	SG w/storms to base DG	SF	SF_Envelope	RR	9,999.0	(\$2.58)
84	base DG window to low-e	SF	SF_Envelope	RR	1.0	\$1.19
85	programmable t-stat	SF	HVAC	RR	5.6	\$0.15
86	low-flow devices	SF	DHW	RET	5.8	\$0.17
87	place ducts within thermal shell	SF	HVAC	NC	4,862.8	(\$0.25)
88	seal/balance ducts	SF	HVAC	RET	4.0	\$0.19
89	seal/balance ducts	SF	HVAC	RR	3.4	\$0.24
90	tank temp turn down	SF	DHW	RET	2.0	\$0.48
91	attic R-27 to R-49	SF	SF_Envelope	NC	1.4	\$0.84
92	wall R-11 to R-15	SF	SF_Envelope	NC	11.1	(\$0.03)
93	wall R-11 to R-19	SF	SF_Envelope	NC	8.8	\$0.01
94	wall R-19 to R-21	SF	SF_Envelope	NC	4.6	\$0.15
95	smart air sealing	SF	SF_Envelope	NC	3.8	\$0.22
96	base DG window to low-e	SF	SF_Envelope	NC	1.1	\$1.04
97	R-19 bsm/crawl ceiling insulation	SF	SF_Envelope	NC	1.4	\$0.82
98	base door to insulated door	SF	SF_Envelope	NC	9,999.0	\$0.00
99	base hatch to insulated hatch	SF	SF_Envelope	NC	5.5	\$0.11
100	programmable t-stat	SF	HVAC	NC	5.8	\$0.10
101	tub/pool cover	SF	pools/spas	NC	7.5	\$0.13
102	tub/pool cover	SF	pools/spas	RENO	7.5	\$0.13
103	smart air sealing	SF	SF_Envelope	RENO	3.7	\$0.26
104	base DG window to low-e	SF	SF_Envelope	RENO	1.0	\$1.19
105	base door to insulated door	SF	SF_Envelope	RENO	9,999.0	\$0.00
106	base hatch to insulated hatch	SF	SF_Envelope	RENO	5.3	\$0.16
107	programmable t-stat	SF	HVAC	RENO	5.6	\$0.15
108	tub/pool cover	SF	pools/spas	RET	7.5	\$0.13
109	tub/pool cover	SF	pools/spas	RR	7.5	\$0.13
110	base to Energy Star clothes washer	MF	MF_ClothesWash	NC	1.1	\$0.64
111	base to Energy Star clothes washer	MF	MF_ClothesWash	RENO	1.1	\$0.64
112	base to Energy Star clothes washer	MF	MF_ClothesWash	RR	1.1	\$0.64
113	.59 EF to .63 EF gas DHW	MF	DHW	NC	2.2	\$0.44
114	.59 EF to .63 EF gas DHW	MF	DHW	RENO	2.2	\$0.44
115	.59 EF to .63 EF gas DHW	MF	DHW	RR	2.2	\$0.44
116	smart air sealing	MF	MF_Envelope	RR	4.4	\$0.22
117	R-19 bsm/crawl ceiling insulation	MF	MF_Envelope	RENO	1.4	\$0.89
118	base to condensing gas furnace	MF	HVAC	NC	2.5	\$0.48
119	wall R-4 to R-15	MF	MF_Envelope	RET	2.3	\$0.49
120	wall R-4 to R-19	MF	MF_Envelope	RET	2.4	\$0.47
121	wall R-4 to R-21	MF	MF_Envelope	RET	2.4	\$0.46
122	smart air sealing	MF	MF_Envelope	RET	4.4	\$0.22
123	R-19 bsm/crawl ceiling insulation	MF	MF_Envelope	RET	1.4	\$0.89
124	base hatch to insulated hatch	MF	MF_Envelope	RET	1.3	\$0.93
125	base to condensing gas furnace	MF	HVAC	RR	1.7	\$0.74
126	base to humidity sensor model	MF	ClothesDryer	NC	2.6	\$0.35
127	base to humidity sensor model	MF	ClothesDryer	RENO	2.6	\$0.35
128	base to humidity sensor model	MF	ClothesDryer	RR	2.6	\$0.35
129	base to sealed/direct vent boiler	MF	HVAC	NC	4.4	\$0.28
130	base to sealed/direct vent boiler	MF	HVAC	RR	4.4	\$0.28
131	GFX DHW heat recovery	MF	DHW	NC	1.2	\$0.80
132	GFX DHW heat recovery	MF	DHW	RENO	1.2	\$0.80
133	SG w/storms to base DG	MF	MF_Envelope	RR	9,999.0	(\$2.56)
134	programmable t-stat	MF	HVAC	RR	4.0	\$0.26
135	low-flow devices	MF	DHW	RET	5.9	\$0.17
136	place ducts within thermal shell	MF	HVAC	NC	1,710.5	(\$0.16)
137	seal/balance ducts	MF	HVAC	RET	1.5	\$0.76
138	seal/balance ducts	MF	HVAC	RR	1.5	\$0.76
139	tank temp turn down	MF	DHW	RET	2.0	\$0.48
140	attic R-27 to R-49	MF	MF_Envelope	NC	1.3	\$0.89
141	wall R-11 to R-15	MF	MF_Envelope	NC	10.7	\$0.03
142	wall R-11 to R-19	MF	MF_Envelope	NC	8.4	\$0.06
143	wall R-19 to R-21	MF	MF_Envelope	NC	4.4	\$0.20
144	smart air sealing	MF	MF_Envelope	NC	4.5	\$0.20
145	R-19 bsm/crawl ceiling insulation	MF	MF_Envelope	NC	1.4	\$0.87
146	base door to insulated door	MF	MF_Envelope	NC	9,999.0	\$0.00
147	base hatch to insulated hatch	MF	MF_Envelope	NC	5.2	\$0.16
148	programmable t-stat	MF	HVAC	NC	4.0	\$0.24
149	smart air sealing	MF	MF_Envelope	RENO	4.4	\$0.22
150	base door to insulated door	MF	MF_Envelope	RENO	9,999.0	\$0.00
151	base hatch to insulated hatch	MF	MF_Envelope	RENO	5.2	\$0.17
152	programmable t-stat	MF	HVAC	RENO	4.0	\$0.26
153	LI base to condensing gas furnace	LI SF	LI HVAC	RET	1.4	\$2.75
154	LI wall R-4 to R-15	LI SF	LI SF_Envelope	RET	2.3	\$0.47
155	LI wall R-4 to R-19	LI SF	LI SF_Envelope	RET	2.4	\$0.44
156	LI wall R-4 to R-21	LI SF	LI SF_Envelope	RET	2.5	\$0.44
157	LI smart air sealing	LI SF	LI SF_Envelope	RET	3.7	\$0.26
158	LI R-19 bsm/crawl ceiling insulation	LI SF	LI SF_Envelope	RET	1.4	\$0.87

Table 5b: Residential Economics by Measure -- Downstate -- Reference Avoided Costs

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159	LI base hatch to insulated hatch	LI SF	LI SF_Envelope	RET	1.3	\$0.91
160	LI programmable t-stat	LI SF	LI HVAC	RET	1.1	\$1.10
161	LI low-flow devices	LI SF	LI DHW	RET	5.8	\$0.17
162	LI seal/balance ducts	LI SF	LI HVAC	RET	4.0	\$0.19
163	LI tank temp turn down	LI SF	LI DHW	RET	2.0	\$0.48
164	LI tub/pool cover	LI SF	LI pools/spas	RET	7.5	\$0.13
165	LI wall R-4 to R-15	LI MF	LI MF_Envelope	RET	2.3	\$0.49
166	LI wall R-4 to R-19	LI MF	LI MF_Envelope	RET	2.4	\$0.47
167	LI wall R-4 to R-21	LI MF	LI MF_Envelope	RET	2.4	\$0.46
168	LI smart air sealing	LI MF	LI MF_Envelope	RET	4.4	\$0.22
169	LI R-19 bsm/crawl ceiling insulation	LI MF	LI MF_Envelope	RET	1.4	\$0.89
170	LI base hatch to insulated hatch	LI MF	LI MF_Envelope	RET	1.3	\$0.93
171	LI low-flow devices	LI MF	LI DHW	RET	5.9	\$0.17
172	LI seal/balance ducts	LI MF	LI HVAC	RET	1.5	\$0.76
173	LI tank temp turn down	LI MF	LI DHW	RET	2.0	\$0.48
174	SF storage tank to on-demand	SF	DHW	NC	1.4	\$2.68
175	SF storage tank to on-demand	SF	DHW	RR	1.4	\$2.68
176	MF storage tank to on-demand	MF	DHW	NC	1.9	\$1.91
177	MF storage tank to on-demand	MF	DHW	RR	1.9	\$1.91

Added Cost Effective Measures -- Downstate -- High Avoided Costs

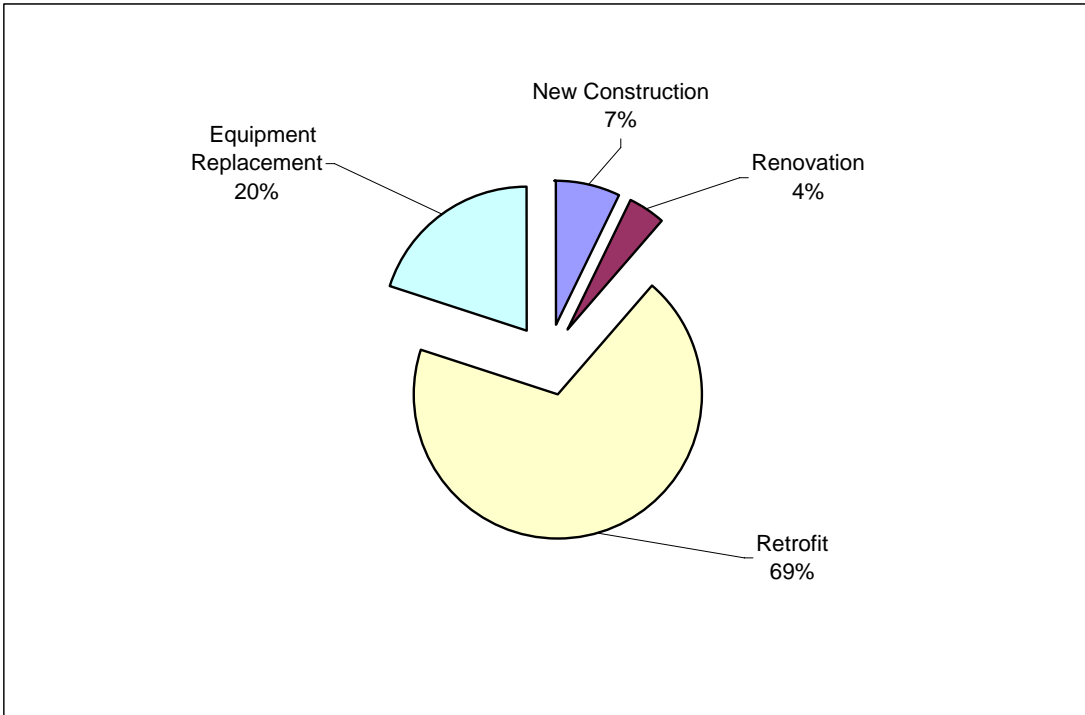
#	Measure Name	Measure ID4 (e.g., Bldg type)	Measure ID5 (e.g., End Use)	Measure ID6 (e.g., Market: Retrofit, NC, ROB)	Total Resource BCR	TRC Levelized Cost per Saved Therm (\$/Therm)
	attic R-11 to R-49	MF	MF_Envelope	RENO	1.18	\$0.58

Subtracted Cost Effective Measures -- Downstate -- Low Avoided Costs

#	Measure Name	Measure ID4 (e.g., Bldg type)	Measure ID5 (e.g., End Use)	Measure ID6 (e.g., Market: Retrofit, NC, ROB)	Total Resource BCR	TRC Levelized Cost per Saved Therm (\$/Therm)
3	Graywater heat exchanger/GFX	Multifamily	Water Heating	New construction	0.975	\$0.74
31	Improved roof insulation	Multifamily	Space Heating	New construction	0.789	\$1.37
32	Improved roof insulation	Multifamily	Space Heating	Renovation	0.789	\$1.37
64	atmospheric to DV fireplace	SF	HVAC	RR	0.761	\$1.16
73	programmable t-stat	SF	HVAC	RET	0.968	\$1.08
80	GFX DHW heat recovery	SF	DHW	NC	0.836	\$0.85
81	GFX DHW heat recovery	SF	DHW	RENO	0.836	\$0.85
84	base DG window to low-e	SF	SF_Envelope	RR	0.803	\$0.91
96	base DG window to low-e	SF	SF_Envelope	NC	0.908	\$0.77
104	base DG window to low-e	SF	SF_Envelope	RENO	0.803	\$0.91
131	GFX DHW heat recovery	MF	DHW	NC	0.905	\$0.80
132	GFX DHW heat recovery	MF	DHW	RENO	0.905	\$0.80
160	LI programmable t-stat	LI SF	LI HVAC	RET	0.968	\$1.08
170	LI base hatch to insulated hatch	LI MF	LI MF_Envelope	RET	0.992	\$0.72

Table 6: Economic Potential by Market

Economic Potential by Market -- Upstate



Economic Potential by Market -- Downstate

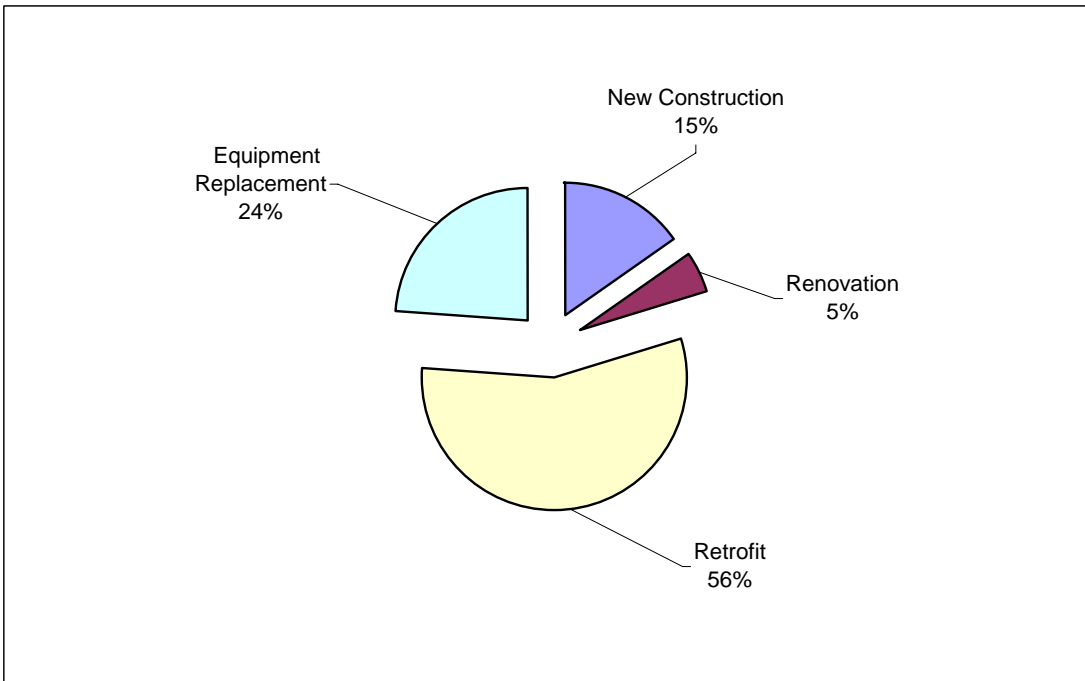
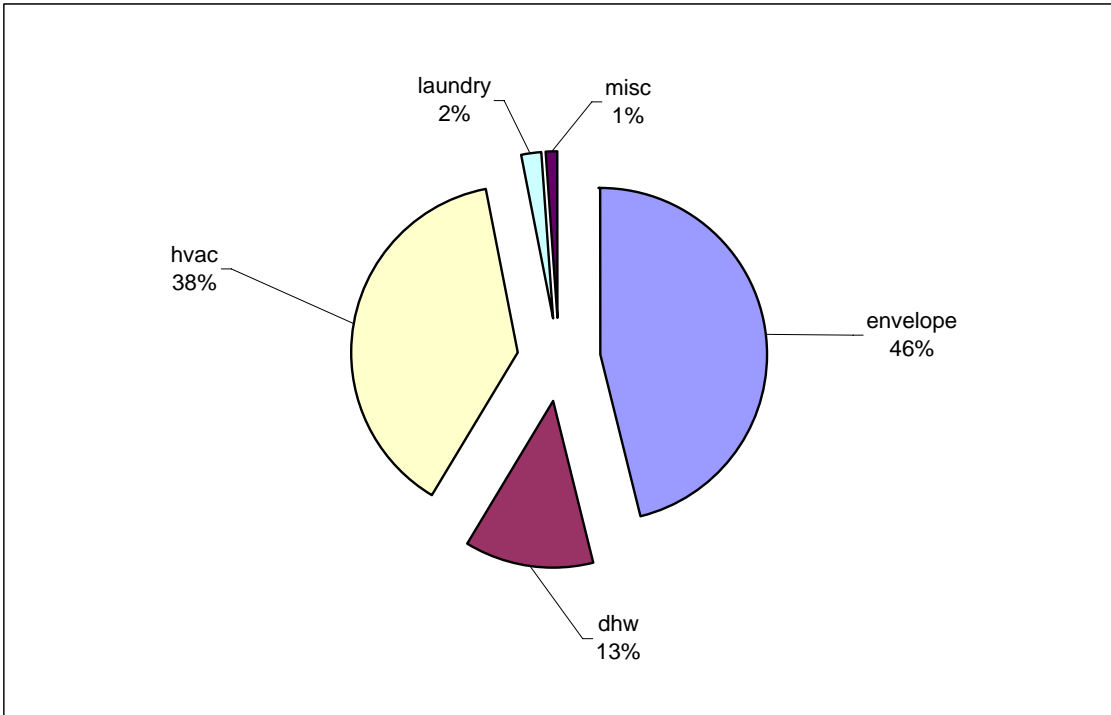


Table 7: Economic Potential by End Use

Economic Potential by End Use -- Upstate



Economic Potential by End Use -- Downstate

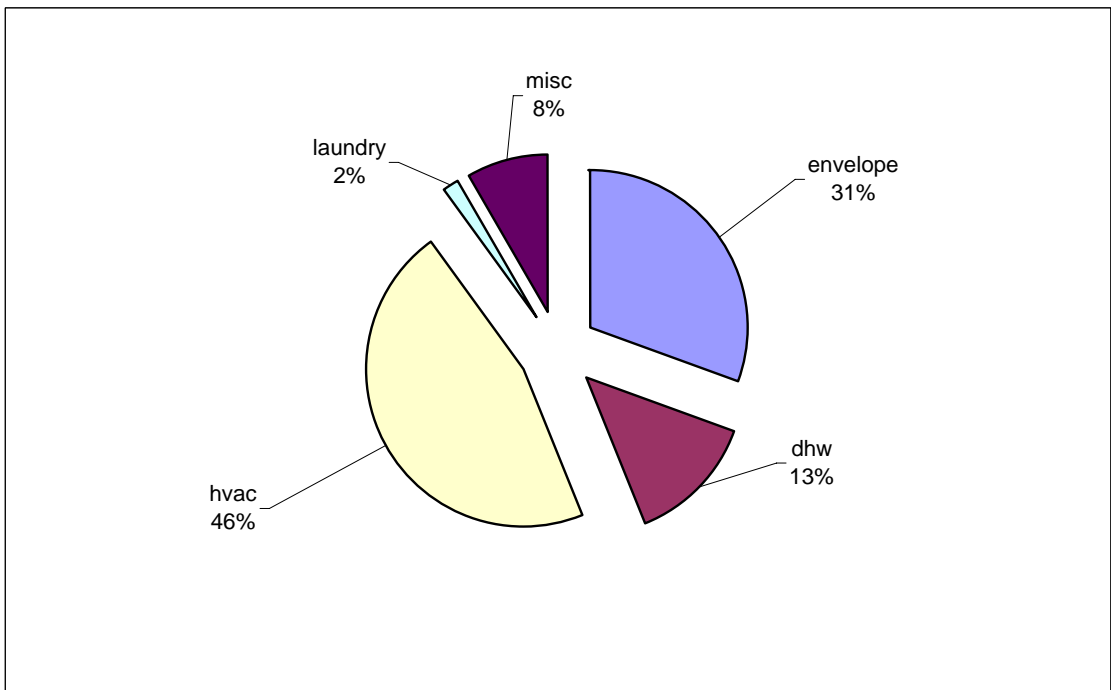


Table 8a: Achievable Cumulative Net Savings by Measure by Year -- Upstate -- Thousand DecaTherms (Net of Freeriders)

#	Measure Name	Measure ID4 (e.g., Bldg type)	Measure ID5 (e.g., End Use)	Measure ID6 (e.g., Market: Retrofit, NC, ROB)	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
1	Faucet aerator	Multifamily	Water Heating	Retrofit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	Graywater heat exchanger/GFX	Multifamily	Water Heating	New construction	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
3	Graywater heat exchanger/GFX	Multifamily	Water Heating	Remodel/Replacment	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.3
4	Low-flow shower heads	Multifamily	Water Heating	Retrofit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	Low-flow shower heads	Multifamily	Water Heating	New construction	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3
6	Low-flow shower heads	Multifamily	Water Heating	Remodel/Replacment	0.1	0.3	0.6	1.0	1.6	1.8	2.0	2.3	2.6	2.9
7	Pipe insulation - water heating	Multifamily	Water Heating	Retrofit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	Pipe insulation - water heating	Multifamily	Water Heating	New construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
9	Pipe insulation - water heating	Multifamily	Water Heating	Renovation	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
10	Tank insulation	Multifamily	Water Heating	Retrofit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	Tank insulation	Multifamily	Water Heating	New construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	Tank insulation	Multifamily	Water Heating	Remodel/Replacment	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2
13	Air Sealing	Multifamily	Space Heating	Retrofit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	Air Sealing	Multifamily	Space Heating	New construction	0.0	0.1	0.2	0.4	0.6	0.7	0.8	0.9	1.0	1.2
15	Air Sealing	Multifamily	Space Heating	Renovation	0.1	0.3	0.6	1.0	1.5	1.7	1.9	2.1	2.4	2.7
16	Improved heating system high efficiency unit - Tier 1	Multifamily	Space Heating	New construction	0.0	0.0	0.1	0.1	0.2	0.3	0.3	0.3	0.4	0.4
17	Improved heating system high efficiency unit - Tier 1	Multifamily	Space Heating	Remodel/Replacment	0.0	0.1	0.3	0.5	0.8	0.9	1.0	1.2	1.4	1.5
18	Improved heating system condensing unit - Tier 2	Multifamily	Space Heating	Retrofit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	Improved heating system condensing unit - Tier 2	Multifamily	Space Heating	New construction	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
20	Improved heating system condensing unit - Tier 2	Multifamily	Space Heating	Remodel/Replacment	0.0	0.0	0.1	0.1	0.2	0.3	0.3	0.4	0.4	0.5
21	Programmable Thermostat	Multifamily	Space Heating	Retrofit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	Programmable Thermostat	Multifamily	Space Heating	Renovation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	Programmable Thermostat	Multifamily	Space Heating	Remodel/Replacment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
24	Improved roof insulation	Multifamily	Space Heating	New construction	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
25	Improved roof insulation	Multifamily	Space Heating	Renovation	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2
26	Pipe insulation - space heating	Multifamily	Space Heating	Retrofit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	Pipe insulation - space heating	Multifamily	Space Heating	New construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
28	Pipe insulation - space heating	Multifamily	Space Heating	Renovation	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.3
29	Energy Star washer	Multifamily	Water Heating	New construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	Energy Star washer	Multifamily	Water Heating	Remodel/Replacment	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
31	Swimming pool/spa covers	Multifamily	Miscellaneous	Retrofit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32	Swimming pool/spa covers	Multifamily	Miscellaneous	Remodel/Replacment	0.0	0.1	0.1	0.2	0.3	0.3	0.3	0.3	0.3	0.3
33	Commissioning	Multifamily	Total	New construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	Commissioning	Multifamily	Total	Renovation	0.0	0.1	0.2	0.3	0.5	0.5	0.5	0.6	0.6	0.6
35	Commissioning	Multifamily	Total	Remodel/Replacment	0.1	0.3	0.6	1.1	1.6	1.8	1.9	2.0	2.1	2.1
36	Retrocommissioning	Multifamily	Total	Retrofit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
37	Integrated Design - High Performance (30% > codes) - Tier 1	Multifamily	Total	New construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
38	Steam trap Maintenance	Multifamily	Space Heating	Retrofit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39	Oxygen Trim	Multifamily	Space Heating	Retrofit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40	Oxygen Trim	Multifamily	Space Heating	New construction	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
41	Oxygen Trim	Multifamily	Space Heating	Remodel/Replacment	0.0	0.1	0.2	0.3	0.5	0.6	0.6	0.7	0.8	0.9
42	base to Energy Star clothes washer	SF	SF_ClothesWasher	NC	0.9	2.0	3.4	4.9	6.5	7.8	9.3	10.9	12.7	14.5
43	.59 EF to .63 EF gas DHW	SF	DHW	NC	1.0	2.2	3.6	5.2	7.0	8.4	10.0	11.7	13.5	15.4
44	base to condensing gas furnace	SF	HVAC	NC	6.8	15.3	25.4	36.4	48.2	57.8	68.2	79.3	91.0	103.2
45	base to condensing gas furnace	SF	HVAC	RR	100.5	264.6	458.9	683.3	937.9	1,055.1	1,175.7	1,299.6	1,426.9	1,557.5
46	base to sealed/direct vent boiler	SF	HVAC	NC	1.1	2.4	4.0	5.8	7.7	9.3	11.0	12.9	15.0	17.1
47	base to sealed/direct vent boiler	SF	HVAC	RR	3.1	9.4	18.7	31.2	46.8	50.0	53.1	56.2	59.3	62.4
48	GFX DHW heat recovery	SF	DHW	NC	0.5	1.2	1.9	2.8	3.7	4.5	5.4	6.3	7.3	8.4
49	insul/seal/balance ducts	SF	HVAC	NC	7.9	17.8	29.8	43.0	57.4	69.3	82.5	96.9	112.6	129.4
50	place ducts within thermal shell	SF	HVAC	NC	10.5	23.7	39.7	57.3	76.5	92.4	110.0	129.2	150.1	172.5
51	attic R-27 to R-49	SF	SF_Envelope	NC	1.4	3.1	5.2	7.6	10.1	12.1	14.4	16.9	19.6	22.5
52	wall R-11 to R-15	SF	SF_Envelope	NC	1.4	3.2	5.3	7.6	10.1	12.0	14.2	16.4	18.8	21.2
53	wall R-11 to R-19	SF	SF_Envelope	NC	3.1	7.0	11.7	16.9	22.5	27.0	32.1	37.5	43.3	49.5

Table 8a: Achievable Cumulative Net Savings by Measure by Year -- Upstate -- Thousand DecaTherms (Net of Freeriders)

#	Measure Name	Measure ID4 (e.g., Bldg type)	Measure ID5 (e.g., End Use)	Measure ID6 (e.g., Market: Retrofit, NC, ROB)	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
54	smart air sealing	SF	SF_Envelope	NC	10.0	22.7	37.9	54.8	73.1	88.3	105.2	123.6	143.5	164.9
55	base DG window to low-e	SF	SF_Envelope	NC	2.0	4.5	7.5	10.8	14.3	17.2	20.2	23.5	27.0	30.7
56	R-19 bsmt/crawl ceiling insulation	SF	SF_Envelope	NC	1.1	2.4	3.6	4.7	5.6	6.1	6.2	6.2	6.2	6.2
57	base hatch to insulated hatch	SF	SF_Envelope	NC	0.5	1.1	1.7	2.5	3.2	3.9	4.5	5.2	5.9	6.6
58	programmable t-stat	SF	HVAC	NC	0.2	0.5	0.7	1.0	1.3	1.5	1.8	2.0	2.2	2.3
59	.59 EF to .63 EF gas DHW	MF	DHW	NC	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2
60	base to condensing gas furnace	MF	HVAC	NC	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3
61	base to condensing gas furnace	MF	HVAC	RR	0.7	1.8	3.1	4.6	6.4	7.1	8.0	8.8	9.7	10.5
62	base to sealed/direct vent boiler	MF	HVAC	NC	0.0	0.1	0.1	0.2	0.2	0.3	0.3	0.4	0.4	0.5
63	base to sealed/direct vent boiler	MF	HVAC	RR	0.2	0.5	1.1	1.8	2.7	2.8	3.0	3.2	3.4	3.5
64	GFX DHW heat recovery	MF	DHW	NC	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
65	insul/seal/balance ducts	MF	HVAC	NC	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3
66	place ducts within thermal shell	MF	HVAC	NC	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3
67	attic R-27 to R-49	MF	MF_Envelope	NC	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2
68	wall R-11 to R-15	MF	MF_Envelope	NC	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2
69	wall R-11 to R-19	MF	MF_Envelope	NC	0.0	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.4	0.5
70	smart air sealing	MF	MF_Envelope	NC	0.1	0.2	0.3	0.5	0.7	0.8	1.0	1.1	1.3	1.5
71	R-19 bsmt/crawl ceiling insulation	MF	MF_Envelope	NC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72	base hatch to insulated hatch	MF	MF_Envelope	NC	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1
73	programmable t-stat	MF	HVAC	NC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
74	LI base to condensing gas furnace	LI SF	LI HVAC	RET	14.4	28.8	43.2	57.6	72.0	72.0	72.0	72.0	72.0	72.0
75	LI attic R-11 to R-49	LI SF	LI SF_Envelope	RET	4.6	9.2	13.8	18.4	23.0	23.0	23.0	23.0	23.0	23.0
76	LI wall R-4 to R-15	LI SF	LI SF_Envelope	RET	5.3	10.6	15.9	21.3	26.6	26.6	26.6	26.6	26.6	26.6
77	LI wall R-4 to R-19	LI SF	LI SF_Envelope	RET	1.1	2.3	3.4	4.6	5.7	5.7	5.7	5.7	5.7	5.7
78	LI wall R-4 to R-21	LI SF	LI SF_Envelope	RET	1.2	2.3	3.5	4.7	5.9	5.9	5.9	5.9	5.9	5.9
79	LI smart air sealing	LI SF	LI SF_Envelope	RET	16.8	33.5	50.3	67.1	83.9	83.9	83.9	83.9	83.9	83.9
80	LI R-19 bsmt/crawl ceiling insulation	LI SF	LI SF_Envelope	RET	11.6	23.2	34.8	46.3	57.9	57.9	57.9	57.9	57.9	57.9
81	LI base hatch to insulated hatch	LI SF	LI SF_Envelope	RET	1.4	2.9	4.3	5.7	7.2	7.2	7.2	7.2	7.2	7.2
82	LI programmable t-stat	LI SF	LI HVAC	RET	0.6	1.3	1.9	2.6	3.2	3.2	3.2	3.2	3.2	3.2
83	LI low-flow devices	LI SF	LI DHW	RET	2.1	4.1	6.2	8.2	10.3	10.3	10.3	10.3	10.3	10.3
84	LI seal/balance ducts	LI SF	LI HVAC	RET	21.9	43.9	65.8	87.7	109.7	109.7	109.7	109.7	109.7	109.7
85	LI tank temp turn down	LI SF	LI DHW	RET	0.7	1.3	2.0	2.6	3.3	3.3	3.3	3.3	3.3	3.3
86	LI tub/pool cover	LI SF	LI pools/spas	RET	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87	LI wall R-4 to R-15	LI MF	LI MF_Envelope	RET	0.1	0.2	0.2	0.3	0.4	0.4	0.4	0.4	0.4	0.4
88	LI wall R-4 to R-19	LI MF	LI MF_Envelope	RET	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
89	LI wall R-4 to R-21	LI MF	LI MF_Envelope	RET	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
90	LI smart air sealing	LI MF	LI MF_Envelope	RET	0.2	0.5	0.7	1.0	1.2	1.2	1.2	1.2	1.2	1.2
91	LI R-19 bsmt/crawl ceiling insulation	LI MF	LI MF_Envelope	RET	0.1	0.1	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3
92	LI base hatch to insulated hatch	LI MF	LI MF_Envelope	RET	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2
93	LI low-flow devices	LI MF	LI DHW	RET	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2
94	LI seal/balance ducts	LI MF	LI HVAC	RET	0.1	0.1	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3
95	LI tank temp turn down	LI MF	LI DHW	RET	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
96	SF storage tank to on-demand	SF	DHW	NC	2.0	6.3	13.6	24.9	40.0	47.1	54.9	63.5	72.7	82.7
97	SF storage tank to on-demand	SF	DHW	RR	7.2	23.5	49.0	88.3	141.6	160.8	181.9	205.0	229.9	256.8
98	MF storage tank to on-demand	MF	DHW	NC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
99	MF storage tank to on-demand	MF	DHW	RR	0.1	0.2	0.5	0.9	1.5	1.7	1.9	2.1	2.4	2.7

Table 8b: Achievable Cumulative Net Savings by Measure by Year -- Downstate -- Thousand DecaTherms (Net of Freeriders)

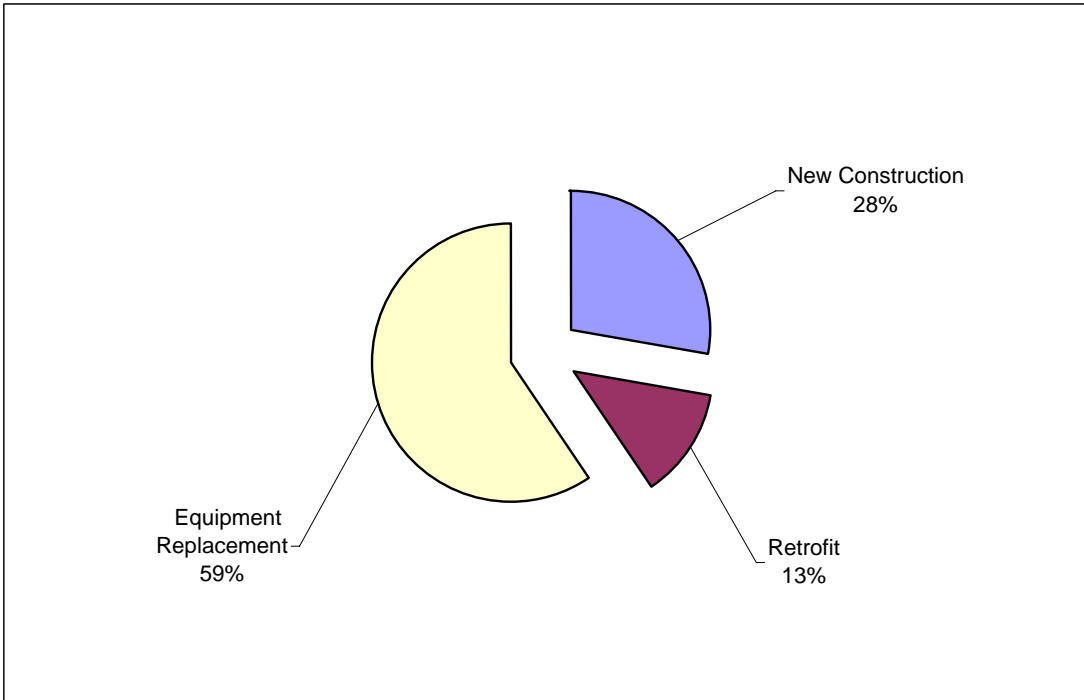
#	Measure Name	Measure ID4 (e.g., Bldg type)	Measure ID5 (e.g., End Use)	Measure ID6 (e.g., Market: Retrofit, NC, ROB)	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
1	Faucet aerator	Multifamily	Water Heating	Retrofit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	Graywater heat exchanger/GFX	Multifamily	Water Heating	Retrofit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	Graywater heat exchanger/GFX	Multifamily	Water Heating	New construction	0.3	0.8	1.6	2.7	4.1	4.7	5.3	6.1	6.9	7.9
4	Graywater heat exchanger/GFX	Multifamily	Water Heating	Remodel/Replacement	0.2	0.5	1.0	1.6	2.5	2.6	2.9	3.2	3.6	4.2
5	Low-flow shower heads	Multifamily	Water Heating	Retrofit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	Low-flow shower heads	Multifamily	Water Heating	New construction	0.6	1.8	3.8	6.4	9.7	11.1	12.6	14.4	16.5	18.8
7	Low-flow shower heads	Multifamily	Water Heating	Remodel/Replacement	1.5	4.6	9.2	15.5	23.4	26.5	30.1	34.2	38.6	43.5
8	Pipe insulation - water heating	Multifamily	Water Heating	Retrofit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	Pipe insulation - water heating	Multifamily	Water Heating	New construction	0.1	0.2	0.5	0.9	1.4	1.7	2.0	2.3	2.7	3.1
10	Pipe insulation - water heating	Multifamily	Water Heating	Renovation	0.1	0.2	0.4	0.7	1.0	1.2	1.4	1.6	1.9	2.2
11	Tank insulation	Multifamily	Water Heating	Retrofit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	Tank insulation	Multifamily	Water Heating	New construction	0.0	0.1	0.2	0.4	0.6	0.8	0.9	1.1	1.3	1.5
13	Tank insulation	Multifamily	Water Heating	Remodel/Replacement	0.1	0.2	0.4	0.7	1.0	1.2	1.5	1.7	2.0	2.3
14	Air Sealing	Multifamily	Space Heating	Retrofit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	Air Sealing	Multifamily	Space Heating	New construction	1.8	5.6	11.7	20.8	32.8	39.1	45.8	53.2	61.3	70.0
16	Air Sealing	Multifamily	Space Heating	Renovation	1.5	4.4	8.9	15.0	22.6	25.6	29.1	33.0	37.3	42.1
17	Improved heating system high efficiency unit - Tier 1	Multifamily	Space Heating	New construction	0.6	1.7	3.6	6.4	10.2	12.1	14.2	16.5	19.0	21.7
18	Improved heating system high efficiency unit - Tier 1	Multifamily	Space Heating	Remodel/Replacement	0.6	1.7	3.6	6.3	9.8	11.6	13.5	15.5	17.7	20.0
19	Improved heating system condensing unit - Tier 2	Multifamily	Space Heating	Retrofit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	Improved heating system condensing unit - Tier 2	Multifamily	Space Heating	New construction	0.2	0.5	1.0	1.8	2.9	3.4	4.0	4.7	5.4	6.1
21	Improved heating system condensing unit - Tier 2	Multifamily	Space Heating	Remodel/Replacement	0.2	0.5	1.0	1.8	2.8	3.3	3.8	4.4	5.0	5.7
22	Programmable Thermostat	Multifamily	Space Heating	Retrofit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	Programmable Thermostat	Multifamily	Space Heating	Renovation	0.2	0.6	1.2	2.0	2.9	3.5	4.2	4.9	5.8	6.6
24	Programmable Thermostat	Multifamily	Space Heating	Remodel/Replacement	0.6	1.6	2.9	4.9	7.3	8.8	10.5	12.4	14.4	16.5
25	Outdoor Air Reset	Multifamily	Space Heating	Retrofit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26	Outdoor Air Reset	Multifamily	Space Heating	New construction	0.4	1.2	2.1	3.3	4.6	4.0	2.8	3.1	3.4	3.6
27	Outdoor Air Reset	Multifamily	Space Heating	Remodel/Replacement	5.0	15.1	26.4	39.8	54.6	46.6	32.4	34.8	37.2	39.7
28	High Performance Glazing double pane, low-E, low conductivity frame - Tier 1	Multifamily	Space Heating	New construction	0.5	1.7	3.5	6.2	9.7	11.6	13.6	15.8	18.2	20.8
29	High Performance Glazing double pane, low-E, low conductivity frame - Tier 1	Multifamily	Space Heating	Renovation	0.5	1.6	3.4	6.0	9.4	11.1	12.9	14.9	17.0	19.2
30	High Performance Glazing triple pane, low-E, low conductivity frame - Tier 2	Multifamily	Space Heating	New construction	0.3	0.8	1.7	2.8	4.3	4.6	5.1	5.7	6.5	7.5
31	High Performance Glazing triple pane, low-E, low conductivity frame - Tier 2	Multifamily	Space Heating	Renovation	0.3	0.8	1.6	2.7	4.1	4.4	4.8	5.4	6.1	7.0
32	Improved roof insulation	Multifamily	Space Heating	New construction	0.1	0.2	0.4	0.7	1.0	1.1	1.2	1.3	1.5	1.7
33	Improved roof insulation	Multifamily	Space Heating	Renovation	0.0	0.1	0.2	0.3	0.5	0.5	0.6	0.7	0.8	1.0
34	Sensible Heat Recovery	Multifamily	Space Heating	Retrofit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35	Sensible Heat Recovery	Multifamily	Space Heating	New construction	1.8	5.4	11.0	18.6	28.4	32.4	37.0	42.3	48.2	54.9
36	Sensible Heat Recovery	Multifamily	Space Heating	Remodel/Replacement	3.0	9.0	18.0	30.2	45.5	51.7	58.7	66.6	75.3	84.9
37	Pipe insulation - space heating	Multifamily	Space Heating	Retrofit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
38	Pipe insulation - space heating	Multifamily	Space Heating	New construction	0.1	0.3	0.6	1.0	1.5	1.8	2.2	2.6	3.1	3.6
39	Pipe insulation - space heating	Multifamily	Space Heating	Renovation	0.1	0.3	0.6	1.0	1.5	1.8	2.1	2.5	2.9	3.3
40	Energy Star washer	Multifamily	Water Heating	New construction	0.0	0.1	0.2	0.4	0.6	0.7	0.7	0.7	0.7	0.7
41	Energy Star washer	Multifamily	Water Heating	Remodel/Replacement	0.1	0.2	0.5	0.8	1.3	1.5	1.5	1.5	1.5	1.5
42	Swimming pool/spa covers	Multifamily	Miscellaneous	Retrofit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43	Swimming pool/spa covers	Multifamily	Miscellaneous	New construction	0.1	0.2	0.3	0.6	0.8	0.9	0.9	0.9	0.9	0.8
44	Swimming pool/spa covers	Multifamily	Miscellaneous	Remodel/Replacement	0.3	0.8	1.6	2.7	4.0	4.3	4.4	4.3	4.1	3.7
45	Commissioning	Multifamily	Total	Renovation	0.4	1.2	2.4	4.0	6.1	6.5	7.1	7.6	7.8	7.9
46	Commissioning	Multifamily	Total	Remodel/Replacement	1.4	4.3	8.6	14.4	21.7	23.2	25.4	27.0	27.9	28.2
47	Retrocommissioning	Multifamily	Total	Retrofit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
48	Steam trap Maintenance	Multifamily	Space Heating	Retrofit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
49	Oxygen Trim	Multifamily	Space Heating	Retrofit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50	Oxygen Trim	Multifamily	Space Heating	New construction	0.2	0.5	1.0	1.7	2.6	2.9	3.4	3.8	4.4	5.0
51	Oxygen Trim	Multifamily	Space Heating	Remodel/Replacement	0.4	1.2	2.4	4.1	6.2	7.0	8.0	9.0	10.2	11.5
52	base to Energy Star clothes washer	SF	SF ClothesWasher	NC	0.4	1.3	2.7	4.6	7.3	8.5	9.8	11.2	12.6	14.1
53	.59 EF to .63 EF gas DHW	SF	DHW	NC	0.6	1.7	3.5	6.1	9.6	11.2	12.9	14.7	16.5	18.5
54	base to condensing gas furnace	SF	HVAC	NC	3.9	11.2	23.4	40.9	64.2	74.6	85.7	97.2	109.3	121.9
55	base to condensing gas furnace	SF	HVAC	RR	86.7	228.2	395.8	589.3	808.8	909.9	1,013.9	1,120.8	1,230.6	1,343.3
56	base to sealed/direct vent boiler	SF	HVAC	NC	0.6	1.7	3.6	6.3	9.9	11.5	13.3	15.1	17.0	19.0
57	base to sealed/direct vent boiler	SF	HVAC	RR	2.7	8.1	16.2	26.9	40.4	43.1	45.8	48.5	51.2	53.9
58	GFX DHW heat recovery	SF	DHW	NC	0.3	0.9	1.8	3.2	5.0	5.9	6.8	7.7	8.7	9.7
59	insul/seal/balance ducts	SF	HVAC	NC	4.4	12.9	26.9	47.2	74.5	86.8	99.9	113.7	128.3	143.6
60	place ducts within thermal shell	SF	HVAC	NC	5.9	17.2	35.9	63.0	99.3	115.7	133.2	151.6	171.0	191.5

Table 8b: Achievable Cumulative Net Savings by Measure by Year -- Downstate -- Thousand DecaTherms (Net of Freeriders)

#	Measure Name	Measure ID4 (e.g., Bldg type)	Measure ID5 (e.g., End Use)	Measure ID6 (e.g., Market: Retrofit, NC, ROB)	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
61	attic R-27 to R-49	SF	SF Envelope	NC	0.6	1.9	4.0	7.0	10.9	12.8	14.7	16.7	18.8	21.0
62	wall R-11 to R-15	SF	SF Envelope	NC	0.7	2.0	4.2	7.4	11.6	13.5	15.4	17.5	19.7	21.9
63	wall R-11 to R-19	SF	SF Envelope	NC	1.5	4.3	9.0	15.7	24.8	28.8	33.1	37.7	42.4	47.4
64	smart air sealing	SF	SF Envelope	NC	4.6	13.6	28.4	49.9	78.6	91.7	105.5	120.1	135.4	151.6
65	base DG window to low-e	SF	SF Envelope	NC	1.0	2.8	5.9	10.4	16.3	18.9	21.7	24.6	27.7	30.9
66	R-19 bsm/crawl ceiling insulation	SF	SF Envelope	NC	0.8	2.2	4.4	7.4	11.2	12.8	14.4	15.9	17.4	18.8
67	base hatch to insulated hatch	SF	SF Envelope	NC	0.2	0.7	1.4	2.5	3.9	4.5	5.2	5.8	6.5	7.3
68	programmable t-stat	SF	HVAC	NC	0.1	0.4	0.8	1.4	2.2	2.5	2.9	3.2	3.6	4.0
69	base to Energy Star clothes washer	MF	MF ClothesWasher	NC	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
70	.59 EF to .63 EF gas DHW	MF	DHW	NC	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.3
71	base to condensing gas furnace	MF	HVAC	NC	0.0	0.0	0.1	0.1	0.2	0.3	0.3	0.3	0.4	0.4
72	base to condensing gas furnace	MF	HVAC	RR	1.4	3.6	6.3	9.4	12.9	14.5	16.2	17.9	19.6	21.4
73	base to sealed/direct vent boiler	MF	HVAC	NC	0.0	0.0	0.1	0.2	0.3	0.3	0.4	0.4	0.5	0.5
74	base to sealed/direct vent boiler	MF	HVAC	RR	0.4	1.1	2.2	3.6	5.4	5.7	6.1	6.5	6.8	7.2
75	GFX DHW heat recovery	MF	DHW	NC	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
76	insul/seal/balance ducts	MF	HVAC	NC	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3
77	place ducts within thermal shell	MF	HVAC	NC	0.0	0.0	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.4
78	attic R-27 to R-49	MF	MF Envelope	NC	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2
79	wall R-11 to R-15	MF	MF Envelope	NC	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2
80	wall R-11 to R-19	MF	MF Envelope	NC	0.0	0.0	0.1	0.1	0.2	0.3	0.3	0.3	0.4	0.4
81	smart air sealing	MF	MF Envelope	NC	0.0	0.1	0.3	0.5	0.7	0.8	1.0	1.1	1.2	1.4
82	R-19 bsm/crawl ceiling insulation	MF	MF Envelope	NC	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1
83	base hatch to insulated hatch	MF	MF Envelope	NC	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
84	programmable t-stat	MF	HVAC	NC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
85	LI base to condensing gas furnace	LI SF	LI HVAC	RET	5.2	10.4	15.7	20.9	26.1	26.1	26.1	26.1	26.1	26.1
86	LI wall R-4 to R-15	LI SF	LI SF Envelope	RET	1.6	3.1	4.7	6.2	7.8	7.8	7.8	7.8	7.8	7.8
87	LI wall R-4 to R-19	LI SF	LI SF Envelope	RET	0.3	0.7	1.0	1.3	1.7	1.7	1.7	1.7	1.7	1.7
88	LI wall R-4 to R-21	LI SF	LI SF Envelope	RET	0.3	0.7	1.0	1.4	1.7	1.7	1.7	1.7	1.7	1.7
89	LI smart air sealing	LI SF	LI SF Envelope	RET	4.9	9.8	14.7	19.6	24.5	24.5	24.5	24.5	24.5	24.5
90	LI R-19 bsm/crawl ceiling insulation	LI SF	LI SF Envelope	RET	3.4	6.8	10.2	13.6	16.9	16.9	16.9	16.9	16.9	16.9
91	LI base hatch to insulated hatch	LI SF	LI SF Envelope	RET	0.4	0.8	1.3	1.7	2.1	2.1	2.1	2.1	2.1	2.1
92	LI programmable t-stat	LI SF	LI HVAC	RET	0.2	0.5	0.7	0.9	1.2	1.2	1.2	1.2	1.2	1.2
93	LI low-flow devices	LI SF	LI DHW	RET	0.8	1.5	2.3	3.0	3.8	3.8	3.8	3.8	3.8	3.8
94	LI seal/balance ducts	LI SF	LI HVAC	RET	7.7	15.5	23.2	30.9	38.6	38.6	38.6	38.6	38.6	38.6
95	LI tank temp turn down	LI SF	LI DHW	RET	0.2	0.5	0.7	1.0	1.2	1.2	1.2	1.2	1.2	1.2
96	LI tub/pool cover	LI SF	LI pools/spas	RET	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
97	LI base to condensing gas furnace	LI MF	LI HVAC	RET	0.1	0.2	0.2	0.3	0.4	0.4	0.4	0.4	0.4	0.4
98	LI wall R-4 to R-15	LI MF	LI MF Envelope	RET	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
99	LI wall R-4 to R-19	LI MF	LI MF Envelope	RET	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100	LI wall R-4 to R-21	LI MF	LI MF Envelope	RET	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
101	LI smart air sealing	LI MF	LI MF Envelope	RET	0.1	0.2	0.2	0.3	0.4	0.4	0.4	0.4	0.4	0.4
102	LI R-19 bsm/crawl ceiling insulation	LI MF	LI MF Envelope	RET	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
103	LI base hatch to insulated hatch	LI MF	LI MF Envelope	RET	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
104	LI low-flow devices	LI MF	LI DHW	RET	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
105	LI seal/balance ducts	LI MF	LI HVAC	RET	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
106	LI tank temp turn down	LI MF	LI DHW	RET	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
107	SF storage tank to on-demand	SF	DHW	NC	1.9	6.0	13.1	23.9	38.4	45.2	52.7	60.9	69.8	79.4
108	SF storage tank to on-demand	SF	DHW	RR	6.7	21.7	45.2	81.6	130.8	148.6	168.1	189.4	212.4	237.3
109	MF storage tank to on-demand	MF	DHW	NC	0.0	0.1	0.2	0.3	0.5	0.6	0.7	0.9	1.0	1.1
110	MF storage tank to on-demand	MF	DHW	RR	0.2	0.5	1.1	2.0	3.1	3.6	4.0	4.5	5.1	5.7

Table 9: Achievable Potential by Market -- Upstate

Achievable Potential by Market -- Upstate



Achievable Potential by Market -- Downstate

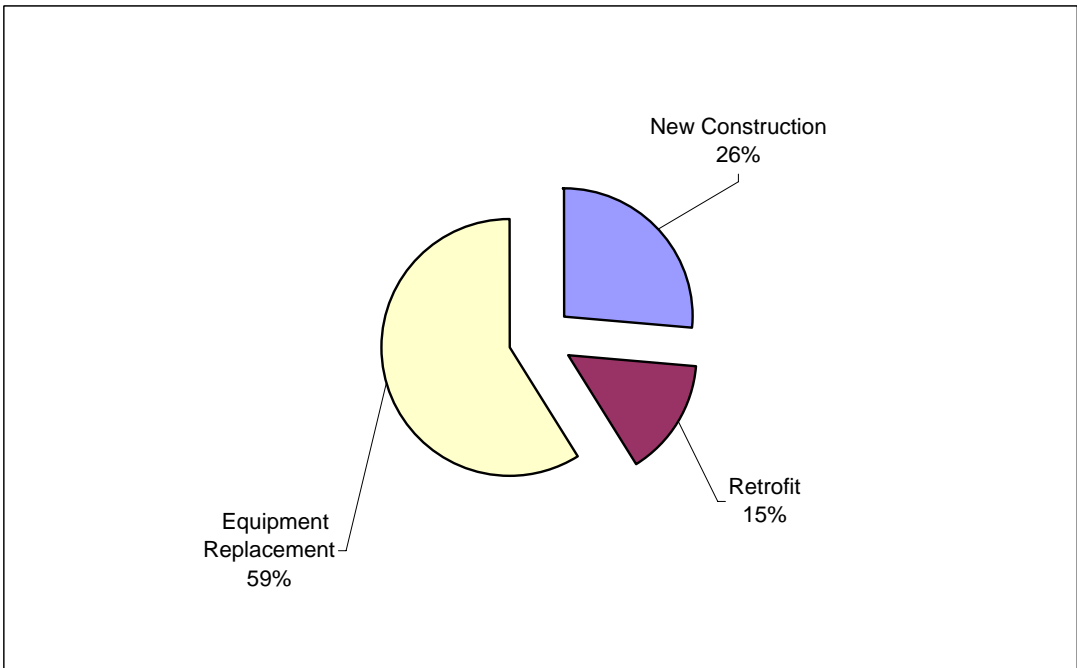
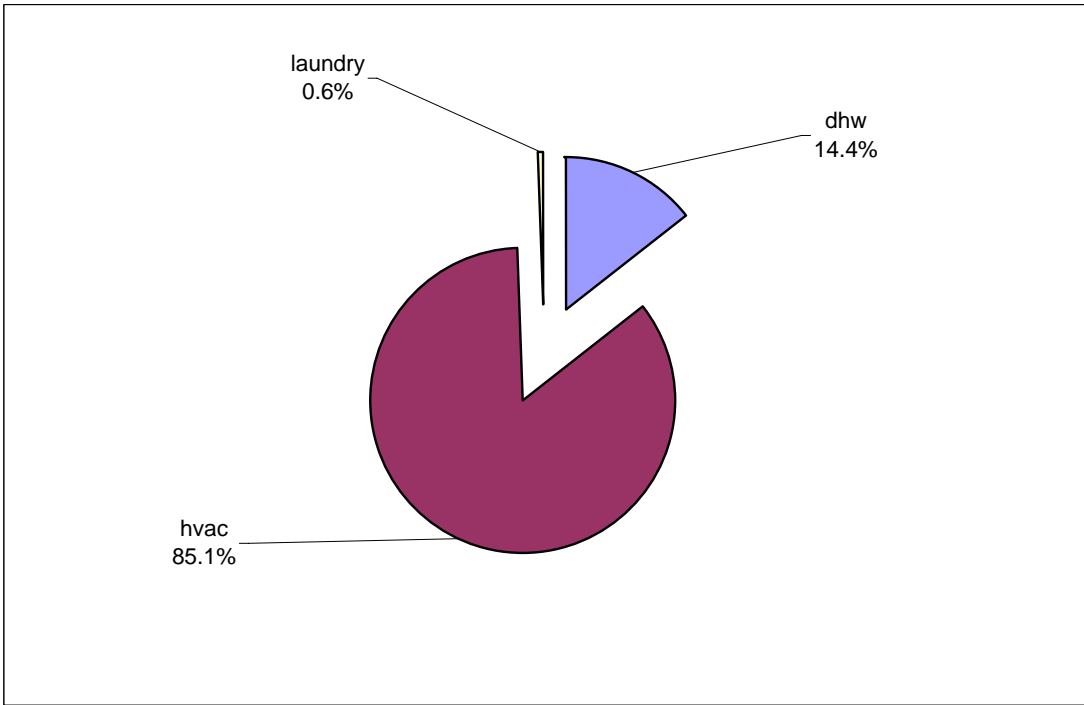


Table 10: Achievable Potential by End Use

Achievable Potential by End Use -- Upstate



Achievable Potential by End Use-- Downstate

