

Electric Product Detailed Technical Assumptions																																																					
Measure Description		High Efficiency Product Assumptions			Baseline Product Assumptions			Economic Assumptions					Stipulated Output							Economic Assumptions			Technical Assumption	Program Forecast Inputs		Stipulated Forecast Inputs				Program Forecast Outputs																							
Electric Measure Group	Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs/yr)	Baseline Product Description / Rating	Baseline Product Consumption (watts)	Baseline Hours of Operation (hrs/yr)	Measure Lifetime (years)	Rebate Amount (\$)	Average Baseline Product Cost (\$)	Incremental Cost of Efficient Product (\$)	Assumed Energy Cost (\$/kWh)	Rebate as a % of Incremental Cost (%)	Increment1 Cost Payback Period w/o Rebate (yrs)	Increment1 Cost Payback Period w/ Rebate (yrs)	Annual Customer kWh Savings (kWh/yr)	Rebated Cost / Cust kWh Saved (\$/kWh)	Rebated Lifetime Cost / Cust kWh Saved (\$/kWh)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Non-Energy O&M Savings (\$)	Energy O&M Savings (\$)	Coincidence Factor (%)	2020		2020			2020			Measure Load Shape																					
																								2020 Participants (I)	2020 Units (I)	NET (%)	Installation Rate (%)	Realization Rate (%)	2020 NET Gen kW (kW)	2020 NET Gen kWh (kWh)	2020 Rebate Budget (\$)		2020 Incremental Costs (\$)																				
TOTAL																							1,284	3,999,664	5780,916	\$3,170,591																											
Envelope Improvement 10% - 14.99% - IECC2009	Envelope Measures with 10% improvement over local code - Combo Customers IECC 2009 or older	Energy Efficient Home Based Upon REMRate model by House Rater with Average Size 3674 and Percent BTC 13.68%	2,044	3,633	Reference Home Based upon Local Code	2,310	3,633	20.00	\$157	\$0	\$653	0.12075	24%	5.60	4.25	966	\$0.162	\$0.008	0.27	0.21	\$0.00	\$0.00	71%	40	79	92%	100%	100%	15	75,026	\$12,350	\$51,618	CO-Res_Cooling_DX																				
Envelope Improvement 15% - 19.99% - IECC2009	Envelope Measures with 15% improvement over local code - Combo Customers IECC 2009 or older	Energy Efficient Home Based Upon REMRate model by House Rater with Average Size 3359 and Percent BTC 18.19%	1,953	3,634	Reference Home Based upon Local Code	2,343	3,634	20.00	\$198	\$0	\$798	0.12075	25%	5.95	4.47	1,112	\$0.178	\$0.009	0.29	0.26	\$0.00	\$0.00	83%	98	191	92%	100%	100%	47	208,712	\$37,838	\$152,565	CO-Res_Cooling_DX																				
Envelope Improvement 20% - 24.99% - IECC2009	Envelope Measures with 20% improvement over local code - Combo Customers IECC 2009 or older	Energy Efficient Home Based Upon REMRate model by House Rater with Average Size 3058 and Percent BTC 22.75%	2,851	3,035	Reference Home Based upon Local Code	3,258	3,035	20.00	\$242	\$0	\$620	0.12075	29%	5.50	3.88	1,235	\$0.196	\$0.010	0.41	0.38	\$0.00	\$0.00	85%	138	269	92%	100%	100%	95	326,534	\$65,019	\$220,546	CO-Res_Cooling_DX																				
Envelope Improvement 25% - 29.99% - IECC2009	Envelope Measures with 25% improvement over local code - Combo Customers IECC 2009 or older	Energy Efficient Home Based Upon REMRate model by House Rater with Average Size 3789 and Percent BTC 27.21%	4,622	2,013	Reference Home Based upon Local Code	5,239	2,013	20.00	\$302	\$0	\$971	0.12075	31%	6.58	4.54	1,222	\$0.247	\$0.012	0.61	0.58	\$0.00	\$0.00	87%	87	170	92%	100%	100%	91	204,080	\$51,268	\$165,077	CO-Res_Cooling_DX																				
Envelope Improvement 30% - 34.99% - IECC2009	Envelope Measures with 30% improvement over local code - Combo Customers IECC 2009 or older	Energy Efficient Home Based Upon REMRate model by House Rater with Average Size 4322 and Percent BTC 31.65%	7,069	1,492	Reference Home Based upon Local Code	9,000	1,492	20.00	\$365	\$0	\$1,216	0.12075	30%	7.41	5.18	1,359	\$0.269	\$0.013	0.91	0.89	\$0.00	\$0.00	89%	21	42	92%	100%	100%	35	56,086	\$15,379	\$51,051	CO-Res_Cooling_DX																				
Envelope Improvement 35% - 39.99% - IECC2009	Envelope Measures with 35% improvement over local code - Combo Customers IECC 2009 or older	Energy Efficient Home Based Upon REMRate model by House Rater with Average Size 5040 and Percent BTC 36.56%	8,073	1,319	Reference Home Based upon Local Code	9,319	1,319	20.00	\$498	\$0	\$1,873	0.12075	27%	9.44	6.93	1,643	\$0.303	\$0.015	1.25	1.16	\$0.00	\$0.00	85%	3	6	92%	100%	100%	6	9,687	\$2,987	\$11,238	CO-Res_Cooling_DX																				
Envelope Improvement 40% & higher - IECC2009	Envelope Measures with 40% improvement over local code - Combo Customers IECC 2009 or older	Energy Efficient Home Based Upon REMRate model by House Rater with Average Size 5612 and Percent BTC 44.02%	5,843	1,544	Reference Home Based upon Local Code	7,328	1,544	20.00	\$714	\$0	\$2,219	0.12075	32%	8.01	5.43	2,293	\$0.312	\$0.016	1.49	1.06	\$0.00	\$0.00	86%	0	0	92%	100%	100%	0	0	\$0	\$0	CO-Res_Cooling_DX																				
Envelope Improvement 10% - 14.99% - IECC2012	Envelope Measures with 10% improvement over local code - Combo Customers IECC 2012 or Higher 2015	Energy Efficient Home Based Upon REMRate model by House Rater with Average Size 3674 and Percent BTC 12.76%	2,490	3,982	Reference Home Based upon Local Code	2,734	3,982	20.00	\$154	\$0	\$663	0.12075	23%	5.65	4.34	972	\$0.159	\$0.008	0.24	0.19	\$0.00	\$0.00	71%	477	932	92%	100%	100%	163	889,854	\$143,845	\$618,167	CO-Res_Cooling_DX																				
Envelope Improvement 15% - 19.99% - IECC2012	Envelope Measures with 15% improvement over local code - Combo Customers IECC 2012 or Higher 2015	Energy Efficient Home Based Upon REMRate model by House Rater with Average Size 3359 and Percent BTC 17.25%	3,167	3,296	Reference Home Based upon Local Code	3,580	3,296	20.00	\$228	\$0	\$1,228	0.12075	19%	7.73	6.29	1,316	\$0.173	\$0.009	0.403	0.37	\$0.00	\$0.00	83%	331	647	92%	100%	100%	219	836,905	\$147,636	\$784,619	CO-Res_Cooling_DX																				
Envelope Improvement 20% - 24.99% - IECC2012	Envelope Measures with 20% improvement over local code - Combo Customers IECC 2012 or Higher 2015	Energy Efficient Home Based Upon REMRate model by House Rater with Average Size 3599 and Percent BTC 21.75%	3,855	2,734	Reference Home Based upon Local Code	4,339	2,734	20.00	\$301	\$0	\$1,070	0.12075	15%	12.64	10.71	1,291	\$0.233	\$0.012	0.47	0.45	\$0.00	\$0.00	85%	63	123	92%	100%	100%	50	156,076	\$37,037	\$242,352	CO-Res_Cooling_DX																				
Envelope Improvement 25% - 29.99% - IECC2012	Envelope Measures with 25% improvement over local code - Combo Customers IECC 2012 or Higher 2015	Energy Efficient Home Based Upon REMRate model by House Rater with Average Size 3789 and Percent BTC 26.8%	3,942	3,055	Reference Home Based upon Local Code	3,855	3,055	20.00	\$518	\$0	\$3,469	0.12075	15%	15.07	12.78	1,873	\$0.277	\$0.014	0.61	0.59	\$0.00	\$0.00	87%	14	27	92%	100%	100%	15	49,684	\$13,999	\$92,032	CO-Res_Cooling_DX																				
Envelope Improvement 30% - 34.99% - IECC2012	Envelope Measures with 30% improvement over local code - Combo Customers IECC 2012 or Higher 2015	Energy Efficient Home Based Upon REMRate model by House Rater with Average Size 4322 and Percent BTC 32.17%	3,232	2,161	Reference Home Based upon Local Code	3,732	2,161	20.00	\$525	\$0	\$3,389	0.12075	15%	25.98	21.95	1,080	\$0.486	\$0.024	0.50	0.50	\$0.00	\$0.00	80%	12	24	92%	100%	100%	11	25,477	\$12,596	\$81,325	CO-Res_Cooling_DX																				
Envelope Improvement 35% - 39.99% - IECC2012	Envelope Measures with 35% improvement over local code - Combo Customers IECC 2012 or Higher 2015	Energy Efficient Home Based Upon REMRate model by House Rater with Average Size 5040 and Percent BTC 38.47%	2,538	4,135	Reference Home Based upon Local Code	3,238	4,135	20.00	\$938	\$0	\$7,499	0.12075	13%	21.46	18.77	2,894	\$0.324	\$0.016	0.70	0.65	\$0.00	\$0.00	85%	5	10	92%	100%	100%	6	28,442	\$9,380	\$74,991	CO-Res_Cooling_DX																				
Envelope Improvement 40% & higher - IECC2012	Envelope Measures with 40% improvement over local code - Combo Customers IECC 2012 or Higher 2015	Energy Efficient Home Based Upon REMRate model by House Rater with Average Size 5612 and Percent BTC 42.63%	1,474	5,352	Reference Home Based upon Local Code	2,174	5,352	20.00	\$1,341	\$0	\$8,898	0.12075	15%	19.67	16.70	3,747	\$0.358	\$0.018	0.70	0.50	\$0.00	\$0.00	85%	1	1	92%	100%	100%	0	3,662	\$1,341	\$8,898	CO-Res_Cooling_DX																				
Envelope Improvement 10% - 14.99% - IECC2012	Envelope Measures with 10% improvement over local code - Electric Only Customers IECC 2012 or Higher 2015	Energy Efficient Home Based Upon REMRate model by House Rater with Average Size 3163 and Percent BTC 13.46%	16,328	940	Reference Home Based upon Local Code	21,328	940	20.00	\$650	\$0	\$2,213	0.12075	29%	6.50	4.59	2,819	\$0.231	\$0.012	3.00	1.00	\$0.00	\$0.00	30%	44	44	92%	100%	100%	40	121,884	\$28,600	\$97,361	CO-Res_Cooling_DX																				
Envelope Improvement 15% - 19.99% - IECC2012	Envelope Measures with 15% improvement over local code - Electric Only Customers IECC 2012 or Higher 2015	Energy Efficient Home Based Upon REMRate model by House Rater with Average Size 4041 and Percent BTC 18.3%	11,891	1,537	Reference Home Based upon Local Code	14,891	1,537	20.00	\$800	\$0	\$6,937	0.12075	12%	11.68	10.33	4,918	\$0.163	\$0.008	3.20	1.56	\$0.00	\$0.00	44%	5	5	92%	100%	100%	7	24,164	\$4,000	\$34,686	CO-Res_Cooling_DX																				
Envelope Improvement 20% & higher - IECC2012	Envelope Measures with 20% improvement over local code - Electric Only Customers IECC 2012 or Higher 2015	Energy Efficient Home Based Upon REMRate model by House Rater with Average Size 4041 and Percent BTC 21.41%	10,891	1,649	Reference Home Based upon Local Code	14,591	1,649	20.00	\$1,000	\$0	\$9,830	0.12075	10%	13.34	11.98	6,102	\$0.164	\$0.008	3.70	1.98	\$0.00	\$0.00	49%	1	1	92%	100%	100%	2	5,997	\$1,000	\$9,830	CO-Res_Cooling_DX																				
Envelope Improvement 10% - 14.99% - IECC2018	Envelope Measures with 10% improvement over local code - Combo Customers IECC 2018	Energy Efficient Home Based Upon REMRate model by House Rater	3,986	3,096	Reference Home Based upon Local Code	3,096	3,096	20.00	\$108	\$0	\$756	0.12075	90%	1.39	0.14	716	\$0.151	\$0.008	0.57	0.19	\$0.00	\$0.00	88%	546	546	92%	100%	100%	94	384,186	\$59,103	\$65,707	CO-Res_Cooling_DX																				
Envelope Improvement 15% - 19.99% - IECC2018	Envelope Measures with 15% improvement over local code - Combo Customers IECC 2018	Energy Efficient Home Based Upon REMRate model by House Rater	3,234	3,666	Reference Home Based upon Local Code	3,666	3,666	20.00	\$147	\$0	\$437	0.12075	34%	8.72	5.78	414	\$0.356	\$0.018	0.80	0.39	\$0.00	\$0.00	44%	389	389	92%	100%	100%	140	158,399	\$57,318	\$169,803	CO-Res_Cooling_DX																				
Envelope Improvement 20% - 24.99% - IECC2018	Envelope Measures with 20% improvement over local code - Combo Customers IECC 2018	Energy Efficient Home Based Upon REMRate model by House Rater	3,986	3,096	Reference Home Based upon Local Code	3,096	3,096	20.00	\$254	\$0	\$860	0.12075	29%	6.62	4.72	1,104	\$0.230	\$0.011	0.87	0.47	\$0.00	\$0.00	86%	74	74	92%	100%	100%	32	80,315	\$18,754	\$65,332	CO-Res_Cooling_DX																				
Envelope Improvement 25% - 29.99% - IECC2018	Envelope Measures with 25% improvement over local code - Combo Customers IECC 2018	Energy Efficient Home Based Upon REMRate model by House Rater	3,264	3,667	Reference Home Based upon Local Code	3,667	3,667	20.00	\$321	\$0	\$892	0.12075	38%	13.42	8.37	526	\$0.609	\$0.030	0.87	0.47	\$0.00	\$0.00	86%	15	15	92%	100%	100%	6	7,753	\$4,809	\$12,781	CO-Res_Cooling_DX																				
Envelope Improvement 30% - 34.99% - IECC2018	Envelope Measures with 30% improvement over local code - Combo Customers IECC 2018	Energy Efficient Home Based Upon REMRate model by House Rater	3,267	3,666	Reference Home Based upon Local Code	3,666	3,666	20.00	\$296	\$0	\$890	0.12075	30%	26.09	18.21	312	\$0.951	\$0.048	0.87	0.47	\$0.00	\$0.00	86%	15	15	92%	100%	100%	6	4,597	\$4,447	\$14,736	CO-Res_Cooling_DX																				
Envelope Improvement 35% - 39.99% - IECC2018	Envelope Measures with 35% improvement over local code - Combo Customers IECC 2018	Energy Efficient Home Based Upon REMRate model by House Rater	3,267	3,666	Reference Home Based upon Local Code	3,666	3,666	20.00	\$456	\$0	\$890	0.12075	46%	26.09	13.97	312	\$1.463	\$0.073	0.87	0.47	\$0.00	\$0.00	86%	7	7	92%	100%	100%	3	2,145	\$3,193	\$6,877	CO-Res_Cooling_DX																				
Envelope Improvement 40% & higher - IECC2018	Envelope Measures with 40% improvement over local code - Combo Customers IECC 2018	Energy Efficient Home Based Upon REMRate model by House Rater	3,267	3,666	Reference Home Based upon Local Code	3,666	3,666	20.00	\$582	\$0	\$890	0.12075	59%	26.09	10.64	312	\$1.865	\$0.093	0.87	0.47	\$0.00	\$0.00	86%	5	5	92%	100%	100%	2	1,532	\$2,908	\$4,912	CO-Res_Cooling_DX																				
Envelope Improvement 10% - 14.99% - IECC2018	Envelope Measures with 10% improvement over local code - Electric Only Customers IECC 2018	Energy Efficient Home Based Upon REMRate model by House Rater	4,899	4,289	Reference Home Based upon Local Code	7,999	4,289	20.00	\$650	\$0	\$1,291	0.12075	65%	3.00	1.05	2,764	\$0.235	\$0.012	3.00	0.19	\$0.00	\$0.00	94%	0	0	92%	100%	100%	0	0	\$0	\$0	CO-Res_Cooling_DX																				
Envelope Improvement 15% - 19.99% - IECC2018	Envelope Measures with 15% improvement over local code - Electric Only Customers IECC 2018	Energy Efficient Home Based Upon REMRate model by House Rater	4,269	4,317	Reference Home Based upon Local Code	4,317	4,317	20.00	\$800	\$0	\$1,395	0.12075	43%	3.22	1.85	4,828	\$0.166	\$0.008	3.20	0.39	\$0.00	\$0.00	110%	0	0	92%	100%	100%	0	0	\$0	\$0	CO-Res_Cooling_DX																				
Envelope Improvement 20% & higher - IECC2018	Envelope Measures with 20% improvement over local code - Electric Only Customers IECC 2018	Energy Efficient Home Based Upon REMRate model by House Rater	4,899	4,289	Reference Home Based upon Local Code	4,289	4,289	20.00	\$1,000	\$0	\$3,076	0.12075	27%	4.17	3.03	7,294	\$0.137	\$0.007	3.70	0.48	\$0.00	\$0.00	94%	0	0	92%	100%	100%	0	0	\$0	\$0	CO-Res_Cooling_DX																				
ES Clothes Washer	Energy Star Clothes Washer - Combo Customers w/ Electric DHW	Energy Star Clothes Washer	389.9	265	Standard Clothes Washer	477	265	11	\$30	\$0	\$30	0.12075	100%	2.48	0.00	32	\$0.950	\$0.086	0.11	0.00	\$8.30	\$0.00	3%	1	1	92%	100%	100%	0	33	\$32	\$32	CO-RES-SPLIT																				
ES Clothes Washer	Energy Star Clothes Washer - Combo Customers w/ Gas DHW	Energy Star Clothes Washer	110.7	265	Standard Clothes Washer	132.1	265	11	\$11	\$0	\$11	0.12075	100%	1.25	0.00	6	\$1.796	\$0.062	0.02	0.00	\$8.30	\$0.00	3%	90	176	92%	100%	100%	0	1,094	\$1,999	\$1,999	CO-RES-SPLIT																				
Heat Pump Water Heater	Medium Draw Heat Pump Water Heater - Refrigerant Based Cooling & Electric Resistance Heat (30-50 Gallon)	High Efficiency Heat Pump Water Heater	4,016	387	Minimum Efficiency Electric Water Heater	4,593	931	12.0	\$400	\$959	\$611	0.12075	65%	1.86	0.64	2,721	\$0.147	\$0.012	0.58	0.63	\$0.00	\$0.00	100%	0	0	92%	100%	100%	0	0	\$0	\$0	CO-RES-SFWHT																				
Heat Pump Water Heater	Medium Draw Heat Pump Water Heater - Refrigerant Based Cooling & ASHP Heat (30-50 Gallon)	High Efficiency Heat Pump Water Heater	4,026	405	Minimum Efficiency Electric Water Heater	4,593	1,124	12.0	\$400	\$959	\$611	0.12075	65%	1.43	0.50	3,534	\$0.113	\$0.009	0.57	0.62	\$0.00	\$0.00	100%	3	5	92%	100%	100%	3	17,363	\$2,000	\$3,057	CO-RES-SFWHT																				
Heat Pump Water Heater	Medium Draw Heat Pump Water Heater - Refrigerant Based Cooling & Natural Gas Heat (30-50 Gallon)	High Efficiency Heat Pump Water Heater	4,026	405	Minimum Efficiency Electric Water Heater	4,593	1,278	12.0	\$400	\$959	\$611	0.12075	65%	1.19	0.41	4,240	\$0.094	\$0.008	0.57	0.62	\$0.00	\$0.00	100%	10	19	92%	100%	100%	11	79,159	\$7,600	\$11,618	CO-RES-SFWHT																				
Heat Pump Water Heater	Medium Draw Heat Pump Water Heater - Non-Refrigerant Based Cooling &																																																				