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								
																								2019		2020					2019			2020					
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 (%)	Increm'l Cost Payback Period w/o Rebate (yrs)	Increm'l Cost Payback Period w/ Rebate (yrs)	Annual Customer kWh Savings (kWh/yr)	Rebated Cost / Cost kWh Saved ($/kWh)	Rebated Lifetime cost /Cost KWh Saved ($/kWh)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Non-Energy O&M Savings ($)	Energy O&M Savings ($)	Coincidence Factor (%)	2019 Participants (-)	2019 Units (-)	2020 Participants (-)	2020 Units (-)	NTG (%)	Installation Rate (%)	Realization Rate (%)	2019 NET Gen kW (kW)	2019 NET Gen kWh (kWh)	2019 Rebate Budget ($)	2019 Incremental Costs ($)	2020 NET Gen kW (kW)	2020 NET Gen kWh (kWh)	2020 Rebate Budget ($)	2020 Incremental Costs ($)	
TOTAL																															997	3,433,972	$632,641	$2,966,198	1,000	3,368,638	$630,353	$2,830,444	
Envelope Improvement 10% - 14.99% - IECC2009	Envelope Measures with 10% improvement over local code - Combo Customers IECC 2009 or older	Energy Efficient Home Based Used Windows Rated by Home Rater with Average Size SFD and Packaged RTC 14 SEER	3,000	4,000	Reference Home Based upon Local Code	3,400	4,000	20.00	$157	$0	$853	0.12075	24%	5.60	4.25	966	$0.162	$0.008	0.27	0.21	$0.00	$0.00	71%	149	117	51	79	92%	100%	100%	22	111,115	$18,350	$76,447	15	75,026	$12,390	$51,618	CO-Res_Cooling_Eff
Envelope Improvement 15% - 19.99% - IECC2009	Envelope Measures with 15% improvement over local code - Combo Customers IECC 2009 or older	Energy Efficient Home Based Used Windows Rated by Home Rater with Average Size SFD and Packaged RTC 14 SEER	3,000	4,000	Reference Home Based upon Local Code	3,400	4,000	20.00	$198	$0	$706	0.12075	25%	5.95	4.47	1,112	$0.178	$0.009	0.29	0.26	$0.00	$0.00	63%	361	283	124	191	92%	100%	100%	69	309,243	$56,064	$226,052	47	208,712	$37,838	$152,585	CO-Res_Cooling_Eff
Envelope Improvement 20% - 24.99% - IECC2009	Envelope Measures with 20% improvement over local code - Combo Customers IECC 2009 or older	Energy Efficient Home Based Used Windows Rated by Home Rater with Average Size SFD and Packaged RTC 14 SEER	3,000	4,000	Reference Home Based upon Local Code	3,400	4,000	20.00	$242	$0	$600	0.12075	29%	5.50	3.88	1,235	$0.196	$0.010	0.41	0.38	$0.00	$0.00	65%	506	397	175	269	92%	100%	100%	140	481,911	$95,957	$325,489	95	326,534	$65,019	$220,546	CO-Res_Cooling_Eff
Envelope Improvement 25% - 29.99% - IECC2009	Envelope Measures with 25% improvement over local code - Combo Customers IECC 2009 or older	Energy Efficient Home Based Used Windows Rated by Home Rater with Average Size SFD and Packaged RTC 14 SEER	3,000	4,000	Reference Home Based upon Local Code	3,400	4,000	20.00	$302	$0	$675	0.12075	31%	6.58	4.54	1,222	$0.247	$0.012	0.61	0.58	$0.00	$0.00	67%	321	252	110	170	92%	100%	100%	135	302,518	$75,997	$244,702	91	204,080	$51,268	$165,077	CO-Res_Cooling_Eff
Envelope Improvement 30% - 34.99% - IECC2009	Envelope Measures with 30% improvement over local code - Combo Customers IECC 2009 or older	Energy Efficient Home Based Used Windows Rated by Home Rater with Average Size SFD and Packaged RTC 14 SEER	3,000	4,000	Reference Home Based upon Local Code	3,400	4,000	20.00	$366	$0	$1,333	0.12075	30%	7.41	5.18	1,359	$0.269	$0.013	0.91	0.89	$0.00	$0.00	89%	79	61	27	42	92%	100%	100%	50	81,458	$22,336	$74,146	35	56,086	$15,379	$51,051	CO-Res_Cooling_Eff
Envelope Improvement 35% - 39.99% - IECC2009	Envelope Measures with 35% improvement over local code - Combo Customers IECC 2009 or older	Energy Efficient Home Based Used Windows Rated by Home Rater with Average Size SFD and Packaged RTC 14 SEER	3,000	4,000	Reference Home Based upon Local Code	3,400	4,000	20.00	$498	$0	$1,833	0.12075	27%	9.44	6.93	1,643	$0.303	$0.015	1.25	1.16	$0.00	$0.00	85%	10	8	4	6	92%	100%	100%	9	12,916	$3,983	$14,984	6	9,687	$2,987	$11,238	CO-Res_Cooling_Eff
Envelope Improvement 40% & higher - IECC2009	Envelope Measures with 40% improvement over local code - Combo Customers IECC 2009 or older	Energy Efficient Home Based Used Windows Rated by Home Rater with Average Size SFD and Packaged RTC 14 SEER	3,000	4,000	Reference Home Based upon Local Code	3,400	4,000	20.00	$714	$0	$2,333	0.12075	32%	8.01	5.43	2,293	$0.312	$0.016	1.49	1.06	$0.00	$0.00	65%	1	1	0	0	92%	100%	100%	1	2,253	$714	$2,219	0	0	$0	$0	CO-Res_Cooling_Eff
Envelope Improvement 10% - 14.99% - IECC2012	Envelope Measures with 10% improvement over local code - Combo Customers IECC 2012 or Higher	Energy Efficient Home Based Used Windows Rated by Home Rater with Average Size SFD and Packaged RTC 14 SEER	3,000	4,000	Reference Home Based upon Local Code	2,730	4,000	20.00	$154	$0	$853	0.12075	23%	5.65	4.34	972	$0.159	$0.008	0.24	0.19	$0.00	$0.00	71%	1,131	887	606	932	92%	100%	100%	155	846,889	$136,900	$588,339	163	889,854	$143,845	$618,187	CO-Res_Cooling_Eff
Envelope Improvement 15% - 19.99% - IECC2012	Envelope Measures with 15% improvement over local code - Combo Customers IECC 2012 or Higher	Energy Efficient Home Based Used Windows Rated by Home Rater with Average Size SFD and Packaged RTC 14 SEER	3,000	4,000	Reference Home Based upon Local Code	2,730	4,000	20.00	$229	$0	$1,333	0.12075	19%	7.73	6.29	1,316	$0.173	$0.009	0.403	0.37	$0.00	$0.00	63%	785	616	420	647	92%	100%	100%	209	796,806	$140,562	$756,737	219	836,905	$147,616	$794,819	CO-Res_Cooling_Eff
Envelope Improvement 20% - 24.99% - IECC2012	Envelope Measures with 20% improvement over local code - Combo Customers IECC 2012 or Higher	Energy Efficient Home Based Used Windows Rated by Home Rater with Average Size SFD and Packaged RTC 14 SEER	3,000	4,000	Reference Home Based upon Local Code	2,730	4,000	20.00	$301	$0	$1,833	0.12075	15%	12.64	10.71	1,291	$0.233	$0.012	0.47	0.45	$0.00	$0.00	85%	149	117	80	123	92%	100%	100%	48	148,463	$35,230	$230,529	50	156,076	$37,037	$242,352	CO-Res_Cooling_Eff
Envelope Improvement 25% - 29.99% - IECC2012	Envelope Measures with 25% improvement over local code - Combo Customers IECC 2012 or Higher	Energy Efficient Home Based Used Windows Rated by Home Rater with Average Size SFD and Packaged RTC 14 SEER	3,000	4,000	Reference Home Based upon Local Code	2,730	4,000	20.00	$518	$0	$2,333	0.12075	15%	15.07	12.78	1,873	$0.277	$0.014	0.61	0.59	$0.00	$0.00	87%	32	25	18	27	92%	100%	100%	14	46,004	$12,962	$85,215	15	49,684	$13,999	$92,032	CO-Res_Cooling_Eff
Envelope Improvement 30% - 34.99% - IECC2012	Envelope Measures with 30% improvement over local code - Combo Customers IECC 2012 or Higher	Energy Efficient Home Based Used Windows Rated by Home Rater with Average Size SFD and Packaged RTC 14 SEER	3,000	4,000	Reference Home Based upon Local Code	2,730	4,000	20.00	$625	$0	$2,833	0.12075	15%	25.98	21.95	1,080	$0.486	$0.024	0.50	0.50	$0.00	$0.00	90%	31	24	16	24	92%	100%	100%	11	25,477	$12,595	$81,325	11	25,477	$12,595	$81,325	CO-Res_Cooling_Eff
Envelope Improvement 35% - 39.99% - IECC2012	Envelope Measures with 35% improvement over local code - Combo Customers IECC 2012 or Higher	Energy Efficient Home Based Used Windows Rated by Home Rater with Average Size SFD and Packaged RTC 14 SEER	3,000	4,000	Reference Home Based upon Local Code	2,730	4,000	20.00	$938	$0	$3,333	0.12075	13%	21.46	18.77	2,894	$0.324	$0.016	0.70	0.65	$0.00	$0.00	85%	14	11	6	10	92%	100%	100%	7	31,287	$10,318	$82,490	6	26,442	$9,380	$74,991	CO-Res_Cooling_Eff
Envelope Improvement 40% & higher - IECC2012	Envelope Measures with 40% improvement over local code - Combo Customers IECC 2012 or Higher	Energy Efficient Home Based Used Windows Rated by Home Rater with Average Size SFD and Packaged RTC 14 SEER	3,000	4,000	Reference Home Based upon Local Code	2,730	4,000	20.00	$1,341	$0	$4,833	0.12075	15%	19.67	16.70	3,747	$0.358	$0.018	0.70	0.50	$0.00	$0.00	65%	0	0	1	1	92%	100%	100%	0	0	$0	$0	0	3,692	$1,341	$8,898	CO-Res_Cooling_Eff
Envelope Improvement 10% - 14.99% - IECC2012	Envelope Measures with 10% improvement over local code - Electric Only Customers IECC 2012 or Higher	Energy Efficient Home Based Used Windows Rated by Home Rater with Average Size SFD and Packaged RTC 14 SEER	16,000	440	Reference Home Based upon Local Code	15,400	440	20.00	$650	$0	$2,533	0.12075	29%	6.50	4.59	2,819	$0.231	$0.012	3.00	1.00	$0.00	$0.00	30%	0	0	44	44	92%	100%	100%	0	0	$0	$0	40	121,884	$28,600	$97,361	CO-Res_Cooling_Eff
Envelope Improvement 15% - 19.99% - IECC2012	Envelope Measures with 15% improvement over local code - Electric Only Customers IECC 2012 or Higher	Energy Efficient Home Based Used Windows Rated by Home Rater with Average Size SFD and Packaged RTC 14 SEER	15,000	1,210	Reference Home Based upon Local Code	14,000	1,210	20.00	$800	$0	$3,333	0.12075	12%	11.68	10.33	4,918	$0.163	$0.008	3.20	1.56	$0.00	$0.00	44%	0	0	5	5	92%	100%	100%	0	0	$0	$0	7	24,164	$4,000	$34,686	CO-Res_Cooling_Eff
Envelope Improvement 20% & higher - IECC2012	Envelope Measures with 20% improvement over local code - Electric Only Customers IECC 2012 or Higher	Energy Efficient Home Based Used Windows Rated by Home Rater with Average Size SFD and Packaged RTC 14 SEER	15,000	1,210	Reference Home Based upon Local Code	14,000	1,210	20.00	$1,000	$0	$4,833	0.12075	10%	13.34	11.98	6,102	$0.164	$0.008	3.70	1.98	$0.00	$0.00	49%	0	0	1	1	92%	100%	100%	0	0	$0	$0	2	5,997	$1,000	$9,830	CO-Res_Cooling_Eff
ES Clothes Washer	Energy Star Clothes Washer - Combo Customers w/ Electric DHW	Energy Star Clothes Washer	383.5	295	Standard Clothes Washer	477	295	11	$30	$0	$30	0.12075	100%	2.48	0.00	32	$0.950	$0.086	0.11	0.00	$6.30	$0.00	3%	1	1	1	1	92%	100%	100%	0	31	$30	$30	0	33	$32	$32	CO-RES-SFLIT
ES Clothes Washer	Energy Star Clothes Washer - Combo Customers w/ Gas DHW	Energy Star Clothes Washer	110.7	295	Standard Clothes Washer	132.1	295	11	$11	$0	$11	0.12075	100%	1.25	0.00	6	$1.796	$0.163	0.02	0.00	$8.30	$0.00	3%	214	168	115	176	92%	100%	100%	0	1,042	$1,904	$1,904	0	1,094	$1,999	$1,999	CO-RES-SFLIT
~~SEMI Lights~~	~~100% High Efficiency Lighting in IECC 2012 or IECC 2015 Homes LEDs - 2017~~	~~LED Bulb Fixture or Lamp~~	~~10~~	~~100~~	~~Reference Home Based upon Local Code~~	~~30~~	~~300~~	~~5.0~~	~~$1~~	~~$2~~	~~$3~~	~~0.12075~~	~~33%~~	~~0.41~~	~~0.17~~	~~35~~	~~$0.029~~	~~$0.006~~	~~0.01~~	~~0.01~~	~~$0.00~~	~~$0.00~~	~~100%~~	0	0	0	0	~~92%~~	~~100%~~	~~100%~~	0	0	$0	$0	0	0	$0	$0	CO-RES-SFLIT
~~SEMI Lights~~	~~2000 ICCC or lower with LEDs - Minimum 20 lamps - 2017~~	~~LED Bulb Fixture or Lamp~~	~~10~~	~~100~~	~~Reference Home Based upon Local Code~~	~~30~~	~~300~~	~~5.0~~	~~$1~~	~~$2~~	~~$3~~	~~0.12075~~	~~33%~~	~~0.41~~	~~0.17~~	~~35~~	~~$0.029~~	~~$0.006~~	~~0.01~~	~~0.01~~	~~$0.00~~	~~$0.00~~	~~100%~~	0	0	0	0	~~92%~~	~~100%~~	~~100%~~	0	0	$0	$0	0	0	$0	$0	CO-RES-SFLIT
~~SEMI Lights~~	~~100% High Efficiency Lighting in IECC 2013 or IECC 2015 Homes LEDs - 2020~~	~~LED Bulb Fixture or Lamp~~	~~10~~	~~100~~	~~Reference Home Based upon Local Code~~	~~30~~	~~300~~	~~5.0~~	~~$1~~	~~$2~~	~~$3~~	~~0.12075~~	~~33%~~	~~0.41~~	~~0.17~~	~~35~~	~~$0.029~~	~~$0.006~~	~~0.01~~	~~0.01~~	~~$0.00~~	~~$0.00~~	~~100%~~	0	0	0	0	~~92%~~	~~100%~~	~~100%~~	0	0	$0	$0	0	0	$0	$0	CO-RES-SFLIT
~~SEMI Lights~~	~~2000 ICCC or lower with LEDs - Minimum 20 lamps - 2017~~	~~LED Bulb Fixture or Lamp~~	~~10~~	~~100~~	~~Reference Home Based upon Local Code~~	~~30~~	~~300~~	~~5.0~~	~~$1~~	~~$2~~	~~$3~~	~~0.12075~~	~~33%~~	~~0.41~~	~~0.17~~	~~35~~	~~$0.029~~	~~$0.006~~	~~0.01~~	~~0.01~~	~~$0.00~~	~~$0.00~~	~~100%~~	0	0	0	0	~~92%~~	~~100%~~	~~100%~~	0	0	$0	$0	0	0	$0	$0	CO-RES-SFLIT
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	-4,018	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	0	0	92%	100%	100%	0	0	$0	$0	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	-4,036	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%	0	1	3	5	92%	100%	100%	1	3,473	$400	$611	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	-4,036	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%	0	12	12	19	92%	100%	100%	7	49,995	$4,800	$7,337	11	79,159	$7,600	$11,618	CO-RES-SFWHT
Heat Pump Water Heater	Medium Draw Heat Pump Water Heater - Non-Refrigerant Based Cooling & Electric Resistance Heat (30-50 Gallon)	High Efficiency Heat Pump Water Heater	-4,018	392	Minimum Efficiency Electric Water Heater	4,500	931	12.0	$400	$959	$611	0.12075	65%	1.91	0.66	2,654	$0.151	$0.013	0.48	0.53	$0.00	$0.00	100%	0	0	0	0	92%	100%	100%	0	0	$0	$0	0	0	$0	$0	CO-RES-SFWHT
Heat Pump Water Heater	Medium Draw Heat Pump Water Heater - Non-Refrigerant Based Cooling & ASHP Heat (30-50 Gallon)	High Efficiency Heat Pump Water Heater	-4,018	398	Minimum Efficiency Electric Water Heater	4,500	1,128	12.0	$400	$959	$611	0.12075	65%	1.44	0.50	3,514	$0.114	$0.009	0.48	0.53	$0.00	$0.00	100%	0	0	0	0	92%	100%	100%	0	0	$0	$0	0	0	$0	$0	CO-RES-SFWHT
Heat Pump Water Heater	Medium Draw Heat Pump Water Heater - Non-Refrigerant Based Cooling & Natural Gas Heat (30-50 Gallon)	High Efficiency Heat Pump Water Heater	-4,018	392	Minimum Efficiency Electric Water Heater	4,500	1,265	12.0	$400	$959	$611	0.12075	65%	1.19	0.41	4,246	$0.094	$0.008	0.48	0.53	$0.00	$0.00	100%	0	3	4	6	92%	100%	100%	1	12,517	$1,200	$1,834	3	25,034	$2,400	$3,669	CO-RES-SFWHT
Energy Star Smart Thermostat	Install Energy Star certified smart thermostat - ELECTRIC ONLY	Average Single Family House with EnergyStar Smart Thermostat	2,621	573	Average Single Family House with Standard Thermostat	2,912	573	10.0	$50	$0	$137	0.12075	36%	6.80	4.32	167	$0.300	$0.030	0.29	0.24	$0.00	$0.00	76%	0	0	32	50	92%	100%	100%	0	0	$0	$0	11	8,198	$2,500	$6,852	CO-RES-FLAT
Energy Star Smart Thermostat	Install Energy Star certified smart thermostat - COMBO	Average Single Family House with EnergyStar Smart Thermostat	2,621	573	Average Single Family House with Standard Thermostat	2,912	573	10.0	$32	$0	$137	0.12075	23%	6.80	5.22	167	$0.191	$0.019	0.29	0.24	$0.00	$0.00	76%	625	490	465	715	92%	100%	100%	110	80,345	$15,617	$67,151	160	117,238	$22,787	$97,986	CO-RES-FLAT
ES Radon Fans	Energy Star Radon Fans	Energy Star Radon Fan - Radonaway RP140	17	8,760	Radonaway RP140	49	8,760	10.0	$20	$136	$4	0.12075	-500%	(0.12)	(0.73)	273	$0.073	$0.007	0.03	0.03	$0.00	$0.00	100%	428	336	218	336	92%	100%	100%	11	90,229	$6,720	-$1,344	11	90,229	$6,720	-$1,344	CO-RES-FLAT