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		2020			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 / 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 (%)	2019 Participants (-)	2019 Units (-)	2020 Participants (-)	2020 Units (-)	NTG (%)	Installation Rate (%)	Realization Rate (%)	2020 NET Gen kW (kW)	2020 NET Gen kWh (kWh)	2020 Rebate Budget ($)	2020 Incremental Costs ($)	Measure Load Shape
TOTAL																								643		739					467	310,388	$111,181	$406,172	
Attic Insulation	Attic Insulation in Electrically Heated and non-cooled Home	Existing Home with Attic Insulation added to achieve R-54	466	1,159	Existing home with R9 attic insul and average heating efficiency of 1.51 COP	2,343	1,159	20.00	$267	$0	$1,508	0.1207$	18%	5.74	4.724854815	2,175	$0.123	$0.006	1.88	0.00	$0.00	$0.00	0%	1	1	1	2	116%	100%	100%	0	5,390	$534	$3,016	CO-Res_Heating_Elec
Attic Insulation	Attic Insulation in Electrically Heated and Cooled Home	Existing Home with Attic Insulation added to achieve R-54	466	1,242	Existing home with R9 attic insul and average heating efficiency of 1.51 COP and cooling efficiency of 3.83 COP	2,343	1,242	20.00	$300	$0	$1,508	0.1207$	20%	5.36	4.29	2,330	$0.129	$0.006	1.88	0.52	$0.00	$0.00	25%	1	1	1	2	116%	100%	100%	1	5,774	$600	$3,016	CO-Res_Cooling_DX_Heating_Elec
Attic Insulation	Attic Insulation in Natural Gas Heated and Electrically Cooled Home	Existing Home with Attic Insulation added to achieve R-54	117	329	Existing home with R9 attic insul and average cooling efficiency of 3.83 COP	569	329	20.00	$214	$0	$785	0.1207$	27%	41.87	30.47	155	$1.377	$0.069	0.47	0.52	$0.00	$0.00	100%	131	215	114	215	116%	100%	100%	129	41,342	$45,946	$168,690	CO-Res_Cooling_DX
Air Sealing & Weather-stripping T2	Tier 2 Air Sealing & Bypass Sealing for minimum 20% ACH Reduction in Electric Heated and non-cooled Home	Home with Tier 2 Air Sealing: CFM50 reading of 2324	5,496	1,159	Baseline home with CFM50 rating of 3223	8,134	1,159	10.00	$171	$0	$960	0.1207$	18%	2.60	2.14	3,058	$0.056	$0.006	2.64	0.00	$0.00	$0.00	0%	1	1	1	2	116%	100%	100%	0	7,578	$342	$1,920	CO-Res_Heating_Elec
Air Sealing & Weather-stripping T2	Tier 2 Air Sealing & Bypass Sealing for minimum 20% ACH Reduction in Electrically Heated and Cooled Home	Home with Tier 2 Air Sealing: CFM50 reading of 2324	5,534	1,194	Baseline home with CFM50 rating of 3223	8,173	1,194	10.00	$233	$0	$960	0.1207$	24%	2.52	1.91	3,150	$0.074	$0.007	2.64	0.31	$0.00	$0.00	11%	1	1	1	2	116%	100%	100%	1	7,806	$467	$1,920	CO-Res_Cooling_DX_Heating_Elec
Air Sealing & Weather-stripping T2	Tier 2 Air Sealing & Bypass Sealing for minimum 20% ACH Reduction in Natural Gas Heated and Electric Cooled Home	Home with Tier 2 Air Sealing: CFM50 reading of 2324	722	329	Baseline home with CFM50 rating of 3223	1,001	329	10.00	$42	$0	$436	0.1207$	10%	39.31	35.56	92	$0.453	$0.045	0.28	0.31	$0.00	$0.00	100%	79	130	69	130	116%	100%	100%	46	14,784	$5,401	$56,634	CO-Res_Cooling_DX
Air Sealing & Weather-stripping T3	Tier 3 Air Sealing & Bypass Sealing for minimum 30% ACH Reduction in Electric Heated and non-cooled Home	Home with Tier 3 Air Sealing: CFM50 reading of 2078	6,188	1,159	Baseline home with CFM50 rating of 3641	10,841	1,159	10.00	$92	$0	$955	0.1207$	10%	1.47	1.33	5,392	$0.017	$0.002	4.65	0.00	$0.00	$0.00	0%	1	1	1	2	116%	100%	100%	0	13,362	$183	$1,910	CO-Res_Heating_Elec
Air Sealing & Weather-stripping T3	Tier 3 Air Sealing & Bypass Sealing for minimum 30% ACH Reduction in Electrically Heated and Cooled Home	Home with Tier 3 Air Sealing: CFM50 reading of 2078	6,189	1,193	Baseline home with CFM50 rating of 3641	10,841	1,193	10.00	$300	$0	$955	0.1207$	31%	1.43	0.98	5,550	$0.054	$0.005	4.65	0.53	$0.00	$0.00	10%	1	1	1	2	116%	100%	100%	1	13,753	$600	$1,910	CO-Res_Cooling_DX_Heating_Elec
Air Sealing & Weather-stripping T3	Tier 3 Air Sealing & Bypass Sealing for minimum 30% ACH Reduction in Natural Gas Heated and Electric Cooled Home	Home with Tier 3 Air Sealing: CFM50 reading of 2078	638	329	Baseline home with CFM50 rating of 3641	1,117	329	10.00	$72	$0	$436	0.1207$	17%	22.88	19.10	158	$0.456	$0.046	0.48	0.53	$0.00	$0.00	100%	79	130	69	130	116%	100%	100%	80	25,407	$9,357	$56,641	CO-Res_Cooling_DX
Wall Insulation	Wall Insulation from R-0 to R11 in Electric Heated and non-cooled Home	R-11 insulation in wall cavity	2,507	1,159	Empty Wall Cavity	6,420	1,159	20.00	$150	$0	$1,936	0.1207$	8%	3.53	3.26	4,536	$0.033	$0.002	3.91	0.00	$0.00	$0.00	0%	1	1	1	1	116%	100%	100%	0	5,620	$150	$1,936	CO-Res_Heating_Elec
Wall Insulation	Wall Insulation from R-0 to R11 in Electrically Heated and Cooled Home	R-11 insulation in wall cavity	2,163	1,230	Empty Wall Cavity	6,420	1,230	20.00	$296	$0	$1,936	0.1207$	15%	3.06	2.59	5,238	$0.056	$0.003	4.26	1.02	$0.00	$0.00	22%	1	1	1	1	116%	100%	100%	1	6,490	$296	$1,936	CO-Res_Cooling_DX_Heating_Elec
Wall Insulation	Wall Insulation from R-0 to R11 in Natural Gas Heated and Electrically Cooled Home	R-11 insulation in wall cavity	469	329	Empty Wall Cavity	1,392	329	20.00	$207	$0	$1,011	0.1207$	20%	27.55	21.90	304	$0.682	$0.034	0.92	1.02	$0.00	$0.00	100%	61	100	53	100	116%	100%	100%	118	37,640	$20,718	$101,065	CO-Res_Cooling_DX
Heat Pump Water Heater	Medium Draw Heat Pump Water Heater - Refrigerant Based Cooling & Electric Resistance Heat (30-50 Gallon) + CEA/ANSI Communications Port	High Efficiency Heat Pump Water Heater	4,018	387	Minimum Efficiency Electric Water Heater	4,635	923	12.00	$500	$959	$611	0.1207$	82%	1.86	0.34	2,721	$0.184	$0.015	0.62	0.68	$0.00	$0.00	100%	1	1	0	0	116%	100%	100%	0	0	$0	$0	CO-RES-SP/WHT
Heat Pump Water Heater	Medium Draw Heat Pump Water Heater - Refrigerant Based Cooling & ASHP Heat (30-50 Gallon) + CEA/ANSI Communications Port	High Efficiency Heat Pump Water Heater	4,026	405	Minimum Efficiency Electric Water Heater	4,635	1,114	12.00	$500	$959	$611	0.1207$	82%	1.43	0.26	3,534	$0.141	$0.012	0.61	0.67	$0.00	$0.00	100%	0	0	0	0	116%	100%	100%	0	0	$0	$0	CO-RES-SP/WHT
Heat Pump Water Heater	Medium Draw Heat Pump Water Heater - Refrigerant Based Cooling & Natural Gas Heat (30-50 Gallon) + CEA/ANSI Communications Port	High Efficiency Heat Pump Water Heater	4,026	405	Minimum Efficiency Electric Water Heater	4,635	1,267	12.00	$500	$959	$611	0.1207$	82%	1.30	0.24	4,240	$0.118	$0.010	0.61	0.67	-$42.44	$0.00	100%	0	0	0	0	116%	100%	100%	0	0	$0	$0	CO-RES-SP/WHT
Heat Pump Water Heater	Heat Pump Water Heater - Refrigerant Based Cooling Electric Resistance Heat + CEA/ANSI Communications Port	High Efficiency Heat Pump Water Heater	4,083	317	Minimum Efficiency Electric Water Heater(EF)	4,635	923	12.00	$500	$959	$611	0.1207$	82%	1.90	0.35	2,669	$0.187	$0.016	0.45	0.49	$0.00	$0.00	100%	0	0	3	6	116%	100%	100%	3	19,839	$3,000	$3,669	CO-RES-SP/WHT
Heat Pump Water Heater	Heat Pump Water Heater - Refrigerant Based Cooling ASHP Heat + CEA/ANSI Communications Port	High Efficiency Heat Pump Water Heater	4,083	317	Minimum Efficiency Electric Water Heater(EF)	4,635	923	12.00	$500	$959	$611	0.1207$	82%	1.58	0.29	3,209	$0.156	$0.013	0.45	0.49	$0.00	$0.00	100%	0	0	2	3	116%	100%	100%	2	11,929	$1,500	$1,834	CO-RES-SP/WHT
Heat Pump Water Heater	Heat Pump Water Heater - Refrigerant Based Cooling Natural Gas Heat + CEA/ANSI Communications Port	High Efficiency Heat Pump Water Heater	4,083	317	Minimum Efficiency Electric Water Heater(EF)	4,635	1,378	12.00	$500	$959	$611	0.1207$	82%	1.49	0.27	3,595	$0.139	$0.012	0.45	0.49	$0.00	-$39.87	100%	0	0	1	1	116%	100%	100%	1	4,454	$500	$611	CO-RES-SP/WHT
Installation of Qualifying Efficiency AC equipment with QI - Existing Home	High Efficiency AC with QI	Residential Air Conditioner - Qualifying Efficiency + QI (Nominal 16.03 SEER & 2.12 Tons)	2,542	642	Non-Quality Installation of 3 Ton 13 SEER AC	3,193	737	18.00	$500	$0	$913	0.1207$	55%	10.48	4.74	721	$0.693	$0.039	0.65	0.64	$0.00	$0.00	90%	1	1	1	1	116%	100%	100%	1	894	$500	$913	CO-Res_Cooling_DX
Installation of Non-Qualifying Efficiency AC equipment with QI - Existing Home	Standard Efficiency AC with QI	Residential Air Conditioner - Non-Qualifying Efficiency + QI (Nominal 13.36 SEER & 2.44 Tons)	3,033	685	Non-Quality Installation of 3 Ton 13 SEER AC	3,383	756	18.00	$300	$0	$157	0.1207$	191%	2.71	(2.47)	480	$0.626	$0.035	0.35	0.35	$0.00	$0.00	90%	0	0	0	0	116%	100%	100%	0	0	$0	$0	CO-Res_Cooling_DX
Installation of Non-Qualifying Efficiency AC equipment and associated Furnace with QI - Existing Home	Standard Efficiency AC with QI and associated furnace	Residential Air Conditioner - Non-Qualifying Efficiency + QI w/ associated Furnace (Nominal 13.15 SEER & 2.4 tons)	3,009	688	Residential Air Conditioner - Non-Qualifying Efficiency w/o QI	3,352	760	18	$192.96	0	108	0.1207$	178%	1.87	(1.47)	478	$0.403	$0.022	0.34	0.34	$0.00	$0.00	90%	0	0	0	0	100%	100%	100%	0	0	$0	$0	CO-Res_Cooling_DX
Installation of Qualifying Efficiency AC equipment and associated furnace with QI - Existing Home	High Efficiency AC without QI and associated furnace	Residential Air Conditioner - Qualifying Equip No QI w/associated furnace (Nominal 15.03 SEER & 2 Tons)	2,740	714	Residential Air Conditioner - Non-Qualifying Efficiency w/o QI	3,055	741	18	$200.00	0	647	0.1207$	31%	15.80	10.92	339	$0.589	$0.033	0.36	0.35	$0.00	$0.00	90%	1	2	1	2	100%	100%	100%	1	725	$400	$1,295	CO-Res_Cooling_DX
Installation of Qualifying Efficiency AC equipment and associated furnace with QI - Existing Home	Quality Install of High Efficiency AC with associated furnace	Residential Air Conditioner - Qualifying Equip QI Only w/associated furnace (Nominal 15.83 SEER & 2 Tons)	2,441	649	Residential Air Conditioner - Non-Qualifying Efficiency w/o QI	2,740	714	18	$182.52	0	74	0.1207$	247%	1.65	(2.43)	370	$0.493	$0.027	0.30	0.30	$0.00	$0.00	90%	1	2	1	2	100%	100%	100%	1	791	$365	$148	CO-Res_Cooling_DX
Ground Source Heat Pump	Installation of Qualifying Efficiency GSHP equipment with QI - New Home, ASHP Heating & Cooling Baseline - High Efficiency GSHP with QI	Residential Closed Loop GSHP + QI (Nominal 14.1 EER Cooling & 3.3 COP Heating & 36000 BTUh)	4,263	1,444	Residential Air-Source Heat Pump - Non-Qualifying Efficiency w/o QI	5,862	1,306	20.00	$1,200	$0	$2,440	0.1207$	49%	13.48	6.85	1,499	$0.801	$0.040	1.60	0.66	$0.00	$0.00	38%	0	0	0	0	116%	100%	100%	0	0	$0	$0	CO-Res_Cooling_DX_Heating_Elec
Ground Source Heat Pump	Installation of Qualifying Efficiency GSHP equipment with QI - Existing Home & Electric Heating & AC Cooling Baseline - High Efficiency GSHP with QI	Residential Closed Loop GSHP + QI (Nominal 14.1 EER Cooling & 3.3 COP Heating & 36000 BTUh)	4,263	5,657	Ducted Electric Resistance Htg - w/o QI	14,420	3,231	20.00	$1,200	$0	$2,453	0.1207$	49%	0.90	0.46	22,469	$0.053	$0.003	10.16	0.85	$0.00	$0.00	8%	1	1	1	1	116%	100%	100%	1	27,841	$1,200	$2,453	CO-Res_Cooling_DX_Heating_Elec
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	10.00	$50.00	$0.00	$137.04	0.1207$	36%	6.80	4.32	167	$0.300	$0.030	0.29	0.24	$0.00	$0.00	76%	3	5	40	75	100%	100%	100%	18	13,367	$3,750	$10,278	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	10.00	$31.87	$0.00	$137.04	0.1207$	23%	6.80	5.22	167	$0.191	$0.019	0.29	0.24	$0.00	$0.00	76%	9	15	18	33	100%	100%	100%	8	5,882	$1,052	$4,522	CO-RES-FLAT
ES Clothes Washer	Energy Star Front-loading Clothes Washer - Combo Customers w/ Electric DHW	Energy Star Front-Loading Clothes Washer w/ electric DHW and Electric Dryer	1,738	295	Conventional Front-Loading Clothes Washer	2,249	295	11.00	$30	$0	$50	0.1207$	60%	1.89	0.76	151	$0.199	$0.018	0.51	0.02	$8.30	$0.00	3.37%			1	1	116%	100%	100%	0	186	$30	$50	CO-RES-SFLIT
ES Clothes Washer	Energy Star Front-Loading Clothes Washer - Combo Customers w/ Gas DHW	Energy Star Front-Loading Clothes Washer w/ Gas DHW and Electric Dryer	1,479	295	Conventional Front-Loading Clothes Washer	1,904	295	11.00	$28	$0	$46	0.1207$	60%	2.03	0.81	125	$0.221	$0.020	0.42	0.02	$7.65	$0.00	3.37%			1	1	116%	100%	100%	0	155	$28	$46	CO-RES-SFLIT
ES Clothes Washer	Energy Star Top-loading Clothes Washer - Combo Customers w/ Electric DHW	Energy Star Top-Loading Clothes Washer w/ electric DHW and Electric Dryer	2,253	295	Conventional Top-Loading Clothes Washer	3,598	295	11.00	$30	$0	$190	0.1207$	16%	2.21	1.86	397	$0.076	$0.007	1.34	0.05	$38.26	$0.00	3.37%			1	1	116%	100%	100%	0	491	$30	$190	CO-RES-SFLIT
ES Clothes Washer	Energy Star Top-Loading Clothes Washer - Combo Customers w/ Gas DHW	Energy Star Top-Loading Clothes Washer w/ Gas DHW and Electric Dryer	1,784	295	Conventional Top-Loading Clothes Washer	2,820	295	11.00	$27	$0	$169	0.1207$	16%	2.38	2.01	306	$0.087	$0.008	1.04	0.04	$34.06	$0.00	3.37%			1	1	116%	100%	100%	0	379	$27	$169	CO-RES-SFLIT
ES Clothes Dryer	Energy Star Clothes Dryer	Energy Star Clothes Dryer >= 4.4 Cu.Ft.	1,318	283	Conventional Clothes Dryer	1,665	283	12.00	$30	$0	$75	0.1207$	40%	6.32	3.79	98	$0.305	$0.025	0.35	0.01	$0.00	$0.00	3.23%			1	1	116%	100%	100%	0	122	$30	$75	CO-RES-SFLIT
Evap Cooling (Denver/Front Range)	Premium evaporative cooler	High Effic Evaporative Cooler 3 Tons	380	549	37 SEER 13 EER 11.18 w/o Quality Installation	3,300	549	15.00	$675.00	$3,810.60	-$1,032.28	0.1207$	-65%	(5.57)	(9.22)	1,603	$0.421	$0.028	2.92	2.25	-$8.32	$0.00	70%			4	7	116%	100%	100%	18	13,904	$4,725	-$7,226	CO-Res_Cooling_DX
Evap Cooling (Grand Junction/Western Slope)	Premium evaporative cooler	High Effic Evaporative Cooler 3 Tons	380	578	37 SEER 13 EER 11.18 w/o Quality Installation	3,300	578	15.00	$675.00	$3,810.60	-$1,032.28	0.1207$	-65%	(5.28)	(8.73)	1,688	$0.400	$0.027	2.92	2.25	-$8.32	$0.00	70%			4	7	116%	100%	100%	18	14,638	$4,725	-$7,226	CO-Res_Cooling_DX
Evap Cooling (Alamosa/Mountain Areas)	Premium evaporative cooler	High Effic Evaporative Cooler 3 Tons	380	389	37 SEER 13 EER 11.18 w/o Quality Installation	3,300	389	15.00	$675.00	$3,810.60	-$1,032.28	0.1207$	-65%	(8.02)	(13.26)	1,135	$0.595	$0.040	2.92	2.25	-$8.32	$0.00	70%			4	7	116%	100%	100%	18	9,846	$4,725	-$7,226	CO-Res_Cooling_DX
EC Motor Furnace Fan	EC Fan Motor on new Residential Furnace with AC	ECM Furnace Fan	456	4,192	Non-ECM Fan	649	4,192	18.00	$125	$336	$235	0.1207$	53%	2.73	1.28	809	$0.155	$0.009	0.19	0.17	-$11.76	$0.00	79%	2	3	0	0	116%	100%	100%	0	0	$0	$0	CO-RES-SFRFT
EC Motor Furnace Fan	EC Fan Motor on new Residential Furnace no AC	ECM Furnace Fan	364	3,358	Non-ECM Fan	569	3,358	18.00	$80	$336	$235	0.1207$	34%	3.30	2.17	688	$0.116	$0.006	0.21	0.07	-$11.76	$0.00	30%	2	3	0	0	116%	100%	100%	0	0	$0	$0	CO-RES-SFRFT