Gas Product Detailed Technical Assumptions																	Program Forecast Inputs				Stipulated Forecast Inputs			Program Forecast Outputs			Program Forecast Ou	
Measure Description	High Efficiency Product Assumptions		Baseline Product Assumptions		Economic Assumptions				Stipulated Output						Economic Assumptions		2017		2018		Valid Throughout Filing Period			2017			2018	
Natural Gas Measure Description	High Efficiency Product Description / Rating	High Efficiency Product Consumption (Dth/yr)	Baseline Product Description / Rating	Baseline Product Consumption (Dth/yr)	Life of Product (years)	Average Rebate Amount	Average Baseline Product Cost	Average Incremental Cost of Efficient Product	Assumed Energy Cost ($/Dth)	Rebate as a % of Incremental Cost	Increm'l Cost Payback Period wlo Rebate	Increm'l Cost Payback Period with Rebate	Average Annual Customer Dth Savings	Average rebated cost per Dth Saved	Average rebated Lifetime cost per Dth Saved	Non-Energy O&M Savings	Energy O&M Savings	2017 Participants (-)	2017 Units (-)	2018 Participants (-)	2018 Units (-)	NTG (%)	Installation Rate (%)	Realization Rate (%)	2017 NET Dth (Dth)	2017 Rebate Budget ($)	2017 Incremental Cost ($)	2018 NET Dth (Dth)	2018 Rebate Budget ($)
Non-condensing Hot Water Boiler, New 175 MBTUH; for space heating only	85% Efficient Boiler	134.6	80% Efficient Boiler	143	20	$131.25	$3,000	$500	$5.56	26%	10.69	7.89	8.41	$15.61	$0.78	$0	$0	1	1	1	1	86%	100%	100%	7	$131	$500	7	$131
Non-condensing Hot Water Boiler, New 500 MBTUH; for space heating only	85% Efficient Boiler	384.5	80% Efficient Boiler	409	20	$375.00	$5,000	$4,000	$5.56	9%	29.94	27.13	24.03	$15.61	$0.78	$0	$0	6	6	6	6	86%	100%	100%	124	$2,250	$24,000	124	$2,250
Non-condensing Hot Water Boiler, New 1 MMBTUH; for space and domestic water heating	85% Efficient Boiler	1,443.0	80% Efficient Boiler	1,533	20	$750.00	$7,300	$4,400	$5.56	17%	8.77	7.28	90.19	$8.32	$0.42	$0	$0	4	4	4	4	86%	100%	100%	310	$3,000	$17,600	310	$3,000
Non-condensing Hot Water Boiler, New 2 MMBTUH; for space and domestic water heating	85% Efficient Boiler	2,885.9	80% Efficient Boiler	3,066	20	$1,500.00	$12,000	$5,000	$5.56	30%	4.99	3.49	180.37	$8.32	$0.42	$0	$0	0	0	0	0	86%	100%	100%	0	$0	$0	0	$0
Non-condensing Hot Water Boiler, New 4 MMBTUH; for space and domestic water heating	85% Efficient Boiler	5,771.9	82% Efficient Boiler	5,983	20	$3,000.00	$24,000	$10,000	$5.56	30%	8.52	5.96	211.17	$14.21	$0.71	$0	$0	0	0	0	0	86%	100%	100%	0	$0	$0	0	$0
Condensing Hot Water Boiler, New 175 MBTUH; for space heating only	92% Efficient Boiler	134.6	80% Efficient Boiler	153	20	$612.50	$3,000	$1,000	$5.56	38%	15.55	9.60	18.50	$33.10	$1.66	$0	$0	12	14	12	14	86%	100%	100%	223	$8,575	$22,400	223	$8,575
Condensing Hot Water Boiler, New 500 MBTUH; for space heating only	92% Efficient Boiler	384.5	80% Efficient Boiler	437	20	$1,750.00	$5,000	$6,200	$5.56	28%	21.09	15.14	52.87	$33.10	$1.66	$0	$0	4	4	4	4	86%	100%	100%	182	$7,000	$24,800	182	$7,000
Condensing Hot Water Boiler, New 1 MMBTUH; for space and domestic water heating	92% Efficient Boiler	1,443.0	80% Efficient Boiler	1,641	20	$3,500.00	$7,300	$7,700	$5.56	45%	6.98	3.81	198.41	$17.64	$0.88	$0	$0	61	66	61	66	86%	100%	100%	11,262	$231,000	$508,200	11,262	$231,000
Condensing Hot Water Boiler, New 2 MMBTUH; forspace and domestic water heating	92% Efficient Boiler	2,885.9	80% Efficient Boiler	3,283	20	$7,000.00	$12,000	$14,500	$5.56	48%	6.57	3.40	396.82	$17.64	$0.88	$0	$0	4	5	4	5	86%	100%	100%	1,706	$35,000	$72,500	1,706	$35,000
Condensing Hot Water Boiler, New 4 MMBTUH; forspace and domestic water heating	92% Efficient Boiler	5,771.9	82% Efficient Boiler	6,405	20	$14,000.00	$24,000	$29,000	$5.56	48%	8.23	4.26	633.50	$22.10	$1.10	$0	$0	2	2	2	2	86%	100%	100%	1,090	$28,000	$58,000	1,090	$28,000
Commercial Hot Water Heater Condensing; 160 MBTUH	96% Efficient Water Heater	163.8	80% Efficient Water Heater	201	15	$320.00	$3,512	$1,018	$5.56	31%	4.89	3.35	37.48	$8.54	$0.57	$0	$0	1	1	1	1	86%	100%	100%	32	$320	$1,018	32	$320
Commercial Hot Water Heater Condensing; 199.9 MBTUH	96% Efficient Water Heater	202.7	80% Efficient Water Heater	249	15	$399.80	$3,450	$1,000	$5.56	40%	3.98	2.39	45.25	$8.84	$0.59	$0	$0	3	4	3	4	86%	100%	100%	156	$1,599	$4,001	156	$1,599
Commercial Hot Water Heater Condensing; 300 MBTUH	96% Efficient Water Heater	300.1	80% Efficient Water Heater	365	15	$600.00	$5,959	$1,728	$5.56	35%	4.80	3.13	64.73	$9.27	$0.62	$0	$0	4	5	4	5	86%	100%	100%	278	$3,000	$8,641	278	$3,000
Commercial Tankless Water Heater - Condensing; 150 MBTUH	95% Efficient Water Heater	148.0	80% Efficient Storage Water Heater	188	15	$300.00	$4,284	$1,242	$5.56	24%	5.34	4.05	41.84	$7.17	$0.48	$0	$0	1	1	1	1	86%	100%	100%	36	$300	$1,242	36	$300
Commercial Tankless Water Heater - Condensing; 199.9 MBTUH	97% Efficient Water Heater	194.5	80% Efficient Storage Water Heater	250	15	$399.80	$3,450	$1,000	$5.56	40%	3.22	1.94	55.80	$7.16	$0.48	$0	$0	6	8	6	8	86%	100%	100%	384	$3,198	$8,003	384	$3,198
Pipe Insulation Hot Water System	100 Ft of Pipe with new insulation	95.5	100 Ft of Pipe with no or old insulation	96.9	15	$1,961.25	$9	$0.337	$5.56	85%	5.43	0.81	76.46	$25.65	$1.71	$0	$0	3	4	3	4	86%	100%	100%	263	$7,845	$9,226	263	$7,845
Pipe Insulation Steam System	100 Ft of Pipe with new insulation	19.0	100 Ft of Pipe with no or old insulation	137.3	15	$3,540.00	$0	$0.337	$5.56	112%	4.57	-0.55	124.30	$28.48	$1.90	$0	$0	0	0	0	0	86%	100%	100%	0	$0	$0	0	$0
C&I Gas Boiler - Tune-Up assumed on 1-HW boiler at 80% eff 175 Mbtuh (Non-condensing)	Boiler Tune-up - 2% additive improvement in efficiency; Boiler now at 80% efficiency	225.0	Existing boiler at 78% efficiency	231	2	$250.00	$0	$345	$5.56	72%	10.77	2.98	5.77	$43.33	$21.67	$0	$0	8	9	8	9	86%	100%	100%	45	$2,250	$3,109	45	$2,250
C&I Gas Boiler - Tune-Up assumed on 1-HW boiler at 80% eff 500 Mbtuh (Non-condensing)	Boiler Tune-up - 2% additive improvement in efficiency; Boiler now at 80% efficiency	642.8	Existing boiler at 78% efficiency	659	2	$250.00	$0	$645	$5.56	39%	7.03	4.31	16.48	$15.17	$7.58	$0	$0	11	13	11	13	86%	100%	100%	184	$3,250	$8,381	184	$3,250
C&I Gas Boiler - Tune-Up assumed on 1-HW boiler at 80% eff 1 MMButh (Non-condensing)	Boiler Tune-up - 2% additive improvement in efficiency; Boiler now at 80% efficiency	1,285.7	Existing boiler at 78% efficiency	1,319	2	$250.00	$0	$522	$5.56	48%	2.85	1.48	32.97	$7.58	$3.79	$0	$0	21	25	21	25	86%	100%	100%	709	$6,250	$13,048	709	$6,250
C&I Gas Boiler - Tune-Up assumed on 1-HW boiler at 80% eff 2 MMBtuh (Non-condensing)	Boiler Tune-up - 2% additive improvement in efficiency; Boiler now at 80% efficiency	2,571.4	Existing boiler at 78% efficiency	2,637	2	$250.00	$0	$657	$5.56	38%	1.79	1.11	65.93	$3.79	$1.90	$0	$0	6	9	6	9	86%	100%	100%	510	$2,250	$5,916	510	$2,250
C&I Gas Boiler - Tune-Up assumed on 1-HW boiler at 88% average operating eff 399 kBTUh (Condensing)	Boiler Tune-up - 0.8% additive improvement in efficiency; Boiler now at 88% average operating efficiency	513.0	Existing boiler at 87.2% efficiency	518	2	$250.00	$0	$345	$5.56	72%	13.20	3.65	4.71	$53.12	$26.56	$0	$0	3	5	3	5	86%	100%	100%	20	$1,250	$1,727	20	$1,250
C&I Gas Boiler - Outdoor Air Reset assumed on 1-HW boiler at 80% eff 175 Mbtuh	83% Efficient Boiler	216.9	80% Efficient existing boiler	225	20	$43.75	$0	$1,000	$5.56	4%	22.12	21.15	8.13	$5.38	$0.27	$0	$0	1	3	1	3	86%	100%	100%	21	$131	$3,000	21	$131
C&I Gas Boiler - Outdoor Air Reset assumed on 1-HW boiler at 80% eff 500 Mbtuh	83% Efficient Boiler	619.6	80% Efficient existing boiler	643	20	$125.00	$0	$1,000	$5.56	13%	7.74	6.77	23.24	$5.38	$0.27	$0	$0	0	0	0	0	86%	100%	100%	0	$0	$0	0	$0
C&I Gas Boiler - Outdoor Air Reset assumed on 1-HW boiler at 80% eff 1 MMBtuh	83% Efficient Boiler	1,230.2	80% Efficient existing boiler	1,286	20	$250.00	$0	$1,000	$5.56	25%	3.87	2.90	46.47	$5.38	$0.27	$0	$0	0	0	0	0	86%	100%	100%	0	$0	$0	0	$0
C&I Gas Boiler - Outdoor Air Reset assumed on 1-HW boiler at 80% eff 2 MMBtuh	83% Efficient Boiler	2,478.4	80% Efficient existing boiler	2,571	20	$500.00	$0	$1,000	$5.56	50%	1.94	0.97	92.94	$5.38	$0.27	$0	$0	0	0	0	0	86%	100%	100%	0	$0	$0	0	$0
C&I Gas Boiler - Stack Dampers assumed on 1-HW boiler at 80% eff 175 Mbtuh	81% Efficient Boiler	222.2	80% Efficient existing boiler	225	12	$43.75	$0	$500	$5.56	9%	32.37	29.54	2.78	$15.75	$1.31	$0	$0	0	0	0	0	86%	100%	100%	0	$0	$0	0	$0
C&I Gas Boiler - Stack Dampers assumed on 1-HW boiler at 80% eff 500 Mbtuh	81% Efficient Boiler	634.9	80% Efficient existing boiler	643	12	$125.00	$0	$500	$5.56	25%	11.33	8.50	7.94	$15.75	$1.31	$0	$0	0	0	0	0	86%	100%	100%	0	$0	$0	0	$0
C&I Gas Boiler - Stack Dampers assumed on 1-HW boiler at 80% eff 1 MMButh	81% Efficient Boiler	1,269.8	80% Efficient existing boiler	1,286	12	$250.00	$0	$1,000	$5.56	25%	11.33	8.50	15.87	$15.75	$1.31	$0	$0	0	0	0	0	86%	100%	100%	0	$0	$0	0	$0
C&I Gas Boiler - Stack Dampers assumed on 1-HW boiler at 80% eff 2 MMBtuh	81% Efficient Boiler	2,539.6	80% Efficient existing boiler	2,571	12	$500.00	$0	$1,000	$5.56	50%	5.67	2.83	31.75	$15.75	$1.31	$0	$0	0	0	0	0	86%	100%	100%	0	$0	$0	0	$0
C&I Gas Boiler - Modulating Burner Controls, >=5 to 1 turn down assumed on 1-HW boiler at 80% eff 175 Mbtuh	83% Efficient Boiler	216.9	80% Efficient existing boiler	225	20	$131.25	$0	$3,808	$5.56	3%	84.22	81.32	8.13	$16.14	$0.81	$0	$0	0	0	0	0	86%	100%	100%	0	$0	$0	0	$0
C&I Gas Boiler - Modulating Burner Controls, >=5 to 1 turn down assumed on 1-HW boiler at 80% eff 500 Mbtuh	83% Efficient Boiler	619.6	80% Efficient existing boiler	643	20	$375.00	$0	$3,808	$5.56	10%	29.48	26.57	23.24	$16.14	$0.81	$0	$0	0	0	0	0	86%	100%	100%	0	$0	$0	0	$0
C&I Gas Boiler - Modulating Burner Controls, >=5 to 1 turn down assumed on 1-HW boiler at 80% eff 1 MMButh	83% Efficient Boiler	1,230.2	80% Efficient existing boiler	1,286	20	$750.00	$0	$8,422	$5.56	9%	32.60	29.69	46.47	$16.14	$0.81	$0	$0	0	0	0	0	86%	100%	100%	0	$0	$0	0	$0
C&I Gas Boiler - Modulating Burner Controls, >=5 to 1 turn down assumed on 1-HW boiler at 80% eff 2 MMBtuh	83% Efficient Boiler	2,478.4	80% Efficient existing boiler	2,571	20	$1,500.00	$0	$8,422	$5.56	18%	16.30	13.40	92.94	$16.14	$0.81	$0	$0	0	0	0	0	86%	100%	100%	0	$0	$0	0	$0
C&I Gas Boiler - Steam Traps Low Pressure - average of 10 and 15 PSI	New Steam Traps	2,441.1	Existing Boiler, malfunctioning steam traps	2,481	10	$50.00	$0	$200	$5.56	25%	0.90	0.68	39.90	$1.25	$0.13	$0	$0	0	0	0	0	86%	100%	100%	0	$0	$0	0	$0
C&I Gas Boiler - Steam Traps High Pressure - average of 50 PSI and 65 PSI	New Steam Traps	2,391.8	Existing Boiler, malfunctioning steam traps	2,481	4	$50.00	$0	$200	$5.56	25%	0.40	0.30	89.18	$0.56	$0.14	$0	$0	0	0	0	0	86%	100%	100%	0	$0	$0	0	$0
Furnaces (avg size-90,000 Btuh)	83% Efficient Furnace	76.2	80% Efficient Furnace	85	15	$94.22	$668	$535	$5.56	11%	11.91	10.56	12.47	$7.55	$0.50	$0	$0	14	17	14	17	86%	100%	100%	182	$1,602	$14,048	182	$1,602
Non-Condensing Power Vent (83% efficiency)	Non-condensing power vent unit heater	200	Non-condensing standard forced-air unit heater	208	20	$75	$1,051	$202	$5.56	37%	4.84	3.04	7.52	$9.99	$0.50	$0	$0	5	10	7	14	86%	100%	100%	65	$751	$2,022	91	$1,052
Condensing (>90% efficiency)	Condensing power vent unit heater	185	Non-condensing standard forced-air unit heater	208	20	$693	$1,051	$1,254	$5.56	55%	9.75	4.36	23.11	$29.98	$1.50	$0	$0	4	8	5	10	86%	100%	100%	159	$5,544	$10,028	199	$6,930
Infrared	Infrared heater	184	Non-condensing standard forced-air unit heater	208	15	$87	$1,051	$204	$5.56	43%	1.50	0.86	24.39	$3.55	$0.24	$0	$0	4	4	5	5	86%	100%	100%	84	$347	$815	105	$433