



*In the Community to Serve**

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June 26, 2012

Mr. Dave Danner
Secretary and Executive Director
Washington Utilities & Transportation Commission
1300 S. Evergreen Park Drive SW
Olympia, WA 98504-9022

RE: Decoupling Mechanism Report for CY11

Dear Mr. Danner:

As an informational filing following the expiration of the Decoupling Mechanism and Annual Reporting requirement associated with **Docket UG-060256 Order 06**, Cascade Natural Gas Corporation hereby submits an Annual Conservation Achievement Report for Calendar Year 2011. This report includes documentation of the Company's CY11 therm savings achievements and program expenditures.

Any questions regarding this document should be directed to Allison Spector, Conservation Manager at (360)-788-2356 or allison.spector@cngc.com.

Sincerely,

A handwritten signature in black ink that appears to read "Michael Parvinen".

Michael Parvinen
Manager, Regulatory Affairs

Attachments

Cascade Natural Gas Corporation
Annual Conservation Achievement Report
Calendar Year 2011

Background

On October 1, 2007 the Washington Utilities and Transportation Commission (WUTC) approved an addendum to Cascade Natural Gas's Conservation Alliance Plan (CAP) and associated Decoupling Pilot, which was developed in compliance with the Commission's Order 06 in Docket UG-060256. As part of this addendum, the Company agreed to submit "an annual report to the Commission on the achievement of the Calendar year therm savings target, along with its Commission Basis results of operations report". Since that time, the Company has submitted an annual report no later than March 31 of each year, to report prior years' conservation achievements and associated CAP deferrals.

As of October 1, 2010, the Pilot Decoupling Mechanism and accompanying Conservation Plan, approved by the WUTC on October 1, 2007, are complete and no longer in effect. This report reflects the Company's conservation achievements for Calendar Year 2011, and represents the first full program year following the completion of the Company's Decoupling Pilot.

As described in the Company's 2010 Annual Conservation Report, the report below has been filed with the WUTC in a format similar to its previous Conservation Reports, as an informational filing. This, and all future reports will be shared with the WUTC by July 1st of the following program year (for instance, 2011 achievements were reported no later than July 1, 2012). In the event that the reporting format or timing needs to be adjusted, the Company will notify Commission Staff prior to filing.

All other planning associated with the Company's Conservation Programs can be found within the Demand Side Management (DSM) section of our Integrated Resource Plan (IRP), the traditional vehicle for such planning. The IRP has historically included (and will continue to include) a full assessment of the Company's DSM/Conservation potential and has/will provide a description/summary of targets and measures to achieve this potential.

Summary of 2011 Program Achievements

Table A: 2011 Program Achievements

Totals	Residential	Energy Kits	Commercial	Low Income	Total
Therms Achieved	217,528	2,068	467,657	24,130	711,383
Measures Installed	1,584,013 <i>(including units of insulation)</i>	92	212,317.01 <i>(including measures by kBtu/hr and units of insulation)</i>	259	1,796,681.01
Customers Served	2,762	92	56	84	2,994
Carbon Offset (CO2 avoided)	2,523,324.8 lbs	23,988.8 lbs	5,424,821.2 lbs	279,908 lbs	8,252,042.8 lbs

Table B: 2011 Programmatic Costs and Rebates

Total Costs	Residential	Commercial	Low Income
Incentives Paid	\$781,929	\$862,058	\$248,844
Programmatic Costs	\$790,451	\$751,214	\$55,189

Residential and Commercial

Cascade Natural Gas Corporation is pleased to report a 2011 therm savings achievement of **711,383**. This figure is 134% of the Company's conservative target ¹ and 100% of the combined 2011 stretch therm savings target for all three program sectors as outlined in the Company's most recently acknowledged Integrated Resources Plan.

Part of the success of the 2011 program year can be attributed to the 119,962 therms that were associated with a project that had been anticipated for completion in 2010 but was delayed until the following year. However, even absent these additional therm savings, the program would still have achieved a savings level of 591,421 therms which is 111% of the Company's conservative target or 83% of its stretch goal (the number utilized in the IRP).

A critical factor which led to increased uptake and cost effectiveness during the 2011 program year was the CY10 strategic reorganization of the Company's Conservation Incentive Program to utilize a singular vendor, Lockheed Martin, to provide conservation support to both our Residential and Commercial programs. The consolidation of the program delivery through one vendor allowed the program to benefit from economies of scale. The single-vendor approach has proven itself a sound strategy for achieving the flexibility and innovation necessary to encourage deeper savings through the installation of longer lived measures in customer homes, even in light of greater obstacles to cost-effectiveness associated with the projected decline in the cost of natural gas. The strategic reorganization and associated strategies have resulted in a notable increase of the average weighted life of the measures within the conservation portfolio, and a significant jump in the cost-effectiveness of the program.

The Total Resource Cost of the Residential portfolio² has been reduced (made more cost effective) by **\$.304**, and the TRC of the Commercial portfolio was lowered by **\$.311**, a substantial and positive indicator of the health and maturation of these programs.

Low Income

Since 2008, the amount of low income customers served by the program has increased by approximately 200%. Commensurate with the proliferation in ARRA funding, agencies were able to leverage these essential monies in 2010, allowing them to weatherize 112 customer homes, saving 30,809 therms in total for these vulnerable households.

However, the ramp-down of these monies in 2011 resulted in declining savings levels this program year, with **84** homes served and **34,130** therms saved. The Company anticipates further declines in the number of natural gas homes served in Cascade's service territory now that all

¹ Conservative target is 75% of the Company's "Estimated Achievable Therm Savings" which is included as part of the Demand Side Management section of Cascade's Integrated Resources Plan.

² From the initial report, but not factoring in the minor true-up adjustments made later in this document.

ARRA funds have been expended. However, the Company remains committed to providing essential leveraging dollars for this critical program and is working closely with the Low Income Agencies and advocates to determine ways to ensure Cascade customers in need of aid continue to receive essential weatherization services.

Participation Summary

A full breakdown of therm savings, total resource costs, and utility costs by all measures and programs for the 2010 program year can be found in Appendix A.

Updates to CY10 Program Achievements

Because the Company reports therm savings achievements based on the actual installation date of the measures, several 2010 projects were processed and paid following the annual reporting period for these activities. The therm savings associated with these projects are not included with the Calendar 2011 achievements but rather represent an addition or “true-up” to the original achievements published in the 2010 report submitted to the Commission on March 31, 2011.

On the Commercial side of the Program, one additional custom project application associated with Program Year 2010 was processed and an incentive provided, which resulted in an additional savings of 2,660 therms. On the Residential side of the Program, an additional 377 incentive applications for projects completed in PY10 were processed, resulting in the inclusion of an additional 27,584 therms. No modifications were needed for the Low Income Conservation portfolio.

The adjustment of the reporting period from March 31 to June 30, has allowed the Company to capture and process all qualified applications associated with the Program Year and should mitigate the need for further true-up reporting in subsequent annual reports.

Tables C and D below provide a summary of the total Calendar Year 2010 achievements and program costs.

Table C: Final 2010 Achievements

Totals	Residential	Energy Kits	Commercial	Low Income	Total
Therms Achieved	215,455	1,544	227,017	30,809	474,825
Measures Performed/Installed	788,919 <i>(2010 count includes individual units of insulation)</i>	77	118	354	
Customers Served	2,709	77	91	112	2,989
Carbon Offset (CO2 avoided) in 000's lbs	2,510.8	17.9	2,633.3	357.4	5,507.9

Table D: Final 2010 Programmatic Costs and Rebates

Total Costs	Residential	Commercial	Low Income
Incentives Paid	\$607,749	\$463,515	\$353,141
Programmatic Costs	\$1,319,100	\$806,541	\$63,984

Appendix B provides the updated therm savings, total resource costs, and utility costs by measures for the calendar year 2010.

Revised Three Year Pilot Achievements (2008 – 2010)

Table E: Revised Three Year Pilot Achievements

<i>Totals for CY2008 – CY2010</i>	Residential & Commercial	Low Income	Total
Therms Achieved	1,464,192	59,527	1,523,719
WUTC Three Year Therm Savings Target	1,342,375	74,875	1,417,250

Table E (shown above) reflects CNGC's program achievements over the three year duration of the Company's Pilot Decoupling effort. Over the course of the pilot, total Company achievements have significantly exceeded the aggregate 3-year therm savings target approved by the WUTC in the Company's revised Conservation Plan submitted on September 14, 2007.

Total therm savings from all programs during the three year pilot can be translated into a benefit of approximately 17.7 million pounds of mitigated CO2. This figure is based on the Company's latest Integrated Resources Plan and the EIA 2007 International Outlook, which recognizes the conversion of natural gas emissions to CO2 as approximately 11.6 pounds per therm.

CASCADE NATURAL GAS CORPORATION
Program Participant Cost Effectiveness Estimate Summary

PROGRAM	MEASURE/ PARTICIPANTS	TOTAL ANNUAL THERM SAVINGS	TOTAL INSTALLED COSTS	NON-ENERGY BENEFITS (10% of cost)	WEIGHTED MEASURE LIFE	DISCOUNTED THERM SAVINGS	PROGRAM DELIVERY & ADMIN	TOTAL PROGRAM REBATE	PROGRAM UTILITY COST	UC W/DELIVERY & ADMIN	BENEFIT COST RATIO		PROGRAM TOTAL RESOURCE COST	TRC W/DELIVERY & ADMIN	BENEFIT COST RATIO
RESIDENTIAL	2,854	219,596	\$ 2,021,757	\$ 202,176	32.60	3,704,041	\$ 790,451	\$ 781,929	0.211	\$ 0.425	1.708		\$ 0.491	\$ 0.705	1.029
COMMERCIAL*	212,355	467,657	\$ 2,161,494	\$ 216,149	17.60	5,622,610	\$ 751,214	\$ 862,058	0.153	\$ 0.287	2.441		\$ 0.346	\$ 0.480	1.460
LOW INCOME*	259	24,130	\$ 378,067	\$ 37,807	27.55	356,075	\$ 55,189	\$ 248,844	0.699	\$ 0.854	0.883		\$ 0.956	\$ 1.111	0.679
TOTAL	215,468	711,383	\$ 4,561,318	\$ 456,132	22.57	9,682,726	\$ 1,596,854	\$ 1,892,831	\$ 0.195	\$ 0.360	2.016		\$ 0.424	\$ 0.589	1.234

*Low Income and Commercial Program figures are on a "By Measure" basis. See the Low Income Program cost effectiveness calculation sheet for more details.

Commercial also includes units of insulation.

CASCADE NATURAL GAS CORPORATION
RESIDENTIAL Program Participant Cost Effectiveness
Program Year 2011

MEASURE	ZONE	EFFICIENCY RATING	PARTICIPANTS	MEASURES INSTALLED	ANNUAL THERM SAVINGS	TOTAL ANNUAL THERM SAVINGS	MEASURE INSTALLED COST	TOTAL INSTALLED COST	NON-ENERGY BENEFITS (10% of cost)	MEASURE LIFE	DISCOUNTED THERM SAVINGS	PROGRAM DELIVERY & ADMIN	PROGRAM REBATE	TOTAL REBATES COST	UTILITY COST	UC W/DELIVERY & ADMIN	BENEFIT COST RATIO	TOTAL RESOURCE COST	TRC W/DELIVERY & ADMIN	BENEFIT COST RATIO
Energy * Certified Home (BOP 1)	1	90% AFUE Rating	11	11	95	1,045	\$ 1,000.00	\$ 11,000.00	\$ 1,100.00	30	17,703	\$ 3,554.10	\$ 350.00	\$ 3,850.00	\$ 0.217	\$ 0.418	1,646	\$ 0.559	\$ 0.760	0.906
Energy * Certified Home (BOP 1)	2	90% AFUE Rating	23	23	102	2,346	\$ 1,000.00	\$ 23,000.00	\$ 2,300.00	30	39,743	\$ 7,978.86	\$ 350.00	\$ 8,050.00	\$ 0.203	\$ 1.707		\$ 0.521	\$ 0.722	0.954
Energy * Certified Home (BOP 1)	3	90% AFUE Rating	76	76	126	9,576	\$ 1,000.00	\$ 76,000.00	\$ 7,600.00	30	162,223	\$ 32,568.44	\$ 350.00	\$ 26,600.00	\$ 0.164	\$ 0.365	1,887	\$ 0.422	\$ 0.622	1.106
Energy * Plus Certified Home	1	Federal Tax Credit Eligible	7	7	221	1,547	\$ 3,700.00	\$ 25,900.00	\$ 2,590.00	30	26,207	\$ 5,261.42	\$ 750.00	\$ 5,250.00	\$ 0.200	\$ 0.401	1,716	\$ 0.889	\$ 1,090	0.631
Energy * Plus Certified Home	2	Federal Tax Credit Eligible	9	9	235	2,115	\$ 3,700.00	\$ 33,300.00	\$ 3,330.00	30	35,829	\$ 7,193.22	\$ 750.00	\$ 6,750.00	\$ 0.188	\$ 0.389	1,769	\$ 0.836	\$ 1,037	0.664
Energy * Plus Certified Home	3	Federal Tax Credit Eligible	4	4	296	1,184	\$ 3,700.00	\$ 14,800.00	\$ 1,480.00	30	20,058	\$ 4,026.84	\$ 750.00	\$ 3,000.00	\$ 0.150	\$ 0.350	1,965	\$ 0.664	\$ 0.865	0.796
95% AFUE Gas Furn Upgrade E*	1	95% AFUE Rating	17	17	124	2,108	\$ 1,000.00	\$ 17,000.00	\$ 1,700.00	30	35,711	\$ 7,169.41	\$ 150.00	\$ 2,550.00	\$ 0.071	\$ 0.272	2,529	\$ 0.428	\$ 0.629	1.094
95% AFUE Gas Furn Upgrade E*	2	95% AFUE Rating	32	32	118	3,776	\$ 1,000.00	\$ 32,000.00	\$ 3,200.00	30	63,968	\$ 12,842.36	\$ 150.00	\$ 4,800.00	\$ 0.075	\$ 0.276	2,496	\$ 0.450	\$ 0.651	1.057
95% AFUE Gas Furn Upgrade E*	3	95% AFUE Rating	71	71	142	10,082	\$ 1,000.00	\$ 71,000.00	\$ 7,100.00	30	170,795	\$ 34,289.37	\$ 150.00	\$ 10,650.00	\$ 0.062	\$ 0.263	2,616	\$ 0.374	\$ 0.575	1.197
90% Furnace & PTCS Duct Sealing	1	90% AFUE Rating	1	1	173	173	\$ 1,250.00	\$ 1,250.00	\$ 125.00	20	2,316	\$ 588.38	\$ 400.00	\$ 400.00	\$ 0.173	\$ 0.427	1,612	\$ 0.486	\$ 0.740	0.930
90% Furnace & PTCS Duct Sealing	2	90% AFUE Rating	3	3	160	480	\$ 1,250.00	\$ 3,750.00	\$ 375.00	20	6,426	\$ 1,632.50	\$ 400.00	\$ 1,200.00	\$ 0.187	\$ 0.441	1,561	\$ 0.525	\$ 0.779	0.883
90% Furnace & PTCS Duct Sealing	3	90% AFUE Rating	9	9	210	1,791	\$ 1,250.00	\$ 11,250.00	\$ 1,125.00	20	23,978	\$ 6,091.28	\$ 400.00	\$ 3,450.00	\$ 0.144	\$ 0.398	1,729	\$ 0.422	\$ 0.676	1.017
PTCS Duct Sealing	1	PTCS Certified Duct Sealing	5	5	88	440	\$ 800.00	\$ 4,000.00	\$ 400.00	20	5,891	\$ 1,496.46	\$ 150.00	\$ 750.00	\$ 0.127	\$ 0.381	1,804	\$ 0.611	\$ 0.865	0.795
PTCS Duct Sealing	2	PTCS Certified Duct Sealing	5	5	77	385	\$ 800.00	\$ 4,000.00	\$ 400.00	20	5,154	\$ 1,309.40	\$ 150.00	\$ 750.00	\$ 0.146	\$ 0.400	1,722	\$ 0.698	\$ 0.952	0.722
PTCS Duct Sealing	3	PTCS Certified Duct Sealing	10	10	113	1,130	\$ 800.00	\$ 8,000.00	\$ 800.00	20	15,128	\$ 3,843.19	\$ 150.00	\$ 1,500.00	\$ 0.099	\$ 0.353	1,948	\$ 0.476	\$ 0.730	0.942
90% AFUE New Gas Furnace (New)	1	90% AFUE Rating	28	28	65	1,820	\$ 500.00	\$ 14,000.00	\$ 1,400.00	18	22,725	\$ 6,189.91	\$ 150.00	\$ 4,200.00	\$ 0.185	\$ 0.457	1,524	\$ 0.554	\$ 0.827	0.843
90% AFUE New Gas Furnace (New)	2	90% AFUE Rating	0	0	61	0	\$ 500.00	\$ -	\$ -	18	0	\$ -	\$ 150.00	\$ -	\$ -	-	\$ -	-	-	
90% AFUE New Gas Furnace (New)	3	90% AFUE Rating	23	23	81	1,863	\$ 500.00	\$ 11,500.00	\$ 1,150.00	18	23,262	\$ 6,336.15	\$ 150.00	\$ 3,450.00	\$ 0.148	\$ 0.421	1,656	\$ 0.445	\$ 0.717	0.971
90% AFUE New Gas Furnace (Existing)	1	90% AFUE Rating	484	484	81	39,204	\$ 800.00	\$ 387,200.00	\$ 38,720.00	18	489,507	\$ 133,334.72	\$ 150.00	\$ 72,600.00	\$ 0.148	\$ 0.421	1,656	\$ 0.712	\$ 0.984	0.708
90% AFUE New Gas Furnace (Existing)	2	90% AFUE Rating	102	102	75	7,650	\$ 800.00	\$ 81,600.00	\$ 8,160.00	18	95,519	\$ 26,018.02	\$ 150.00	\$ 15,300.00	\$ 0.160	\$ 0.433	1,611	\$ 0.769	\$ 1,041	0.669
90% AFUE New Gas Furnace (Existing)	3	90% AFUE Rating	128	130	99	12,870	\$ 800.00	\$ 104,000.00	\$ 10,400.00	18	160,697	\$ 43,771.50	\$ 150.00	\$ 19,500.00	\$ 0.121	\$ 0.394	1,770	\$ 0.582	\$ 0.855	0.815
80% AFUE Hearth	1	80% AFUE Rating	1	1	80	80	\$ 400.00	\$ 400.00	\$ 40.00	20	1,071	\$ 272.08	\$ 70.00	\$ 70.00	\$ 0.065	\$ 0.319	2,154	\$ 0.336	\$ 0.590	1.166
80% AFUE Hearth	2	80% AFUE Rating	0	0	80	0	\$ 400.00	\$ -	\$ -	20	0	\$ -	\$ 70.00	\$ -	\$ -	-	\$ -	-	-	
80% AFUE Hearth	3	80% AFUE Rating	1	1	80	80	\$ 400.00	\$ 400.00	\$ 40.00	20	1,071	\$ 272.08	\$ 70.00	\$ 70.00	\$ 0.065	\$ 0.319	2,154	\$ 0.336	\$ 0.590	1.166
80% AFUE Hearth Upgrade	1	80% AFUE Rating	0	0	80	0	\$ 400.00	\$ -	\$ -	20	0	\$ -	\$ 70.00	\$ -	\$ -	-	\$ -	-	-	
80% AFUE Hearth Upgrade	2	80% AFUE Rating	0	0	80	0	\$ 400.00	\$ -	\$ -	20	0	\$ -	\$ 70.00	\$ -	\$ -	-	\$ -	-	-	
80% AFUE Hearth Upgrade	3	80% AFUE Rating	0	0	80	0	\$ 400.00	\$ -	\$ -	20	0	\$ -	\$ 70.00	\$ -	\$ -	-	\$ -	-	-	
.62 Water Heater	1	0.62 Energy Factor or Greater	51	52	13	676	\$ 100.00	\$ 5,200.00	\$ 520.00	12	6,282	\$ 2,299.11	\$ 25.00	\$ 1,300.00	\$ 0.207	\$ 0.573	1,240	\$ 0.745	\$ 1,111	0.639
.62 Water Heater	2	0.62 Energy Factor or Greater	11	11	13	143	\$ 100.00	\$ 1,100.00	\$ 110.00	12	1,329	\$ 486.35	\$ 25.00	\$ 275.00	\$ 0.207	\$ 0.573	1,240	\$ 0.745	\$ 1,111	0.639
.62 Water Heater	3	0.62 Energy Factor or Greater	16	16	13	208	\$ 100.00	\$ 1,600.00	\$ 160.00	12	1,933	\$ 707.42	\$ 25.00	\$ 400.00	\$ 0.207	\$ 0.573	1,240	\$ 0.745	\$ 1,111	0.639
Ceiling Insulation	1	Equal to or Greater than R-38	467	44282.1	0.057	25,241	\$ 0.57	\$ 252,412.02	\$ 25,241.20	45	509,021	\$ 85,846.56	\$ 0.25	\$ 110,707.03	\$ 0.217	\$ 0.386	1,763	\$ 0.446	\$ 0.615	1.107
Ceiling Insulation	2	Equal to or Greater than R-38	36	42263	0.055	2,324	\$ 0.56	\$ 23,667.28	\$ 2,366.73	45	46,876	\$ 7,905.62	\$ 0.25	\$ 10,565.75	\$ 0.225	\$ 0.394	1,728	\$ 0.454	\$ 0.623	1.093
Ceiling Insulation	3	Equal to or Greater than R-38	299	378728	0.065	24,617	\$ 0.57	\$ 215,874.96	\$ 21,587.50	45	496,439	\$ 83,724.71	\$ 0.25	\$						

CASCADE NATURAL GAS CORPORATION
COMMERCIAL Program Participant Cost Effectiveness
Program Year 2011

MEASURE	DESCRIPTION	EFFICIENCY TYPE FOR QUALIFICATION	ANNUAL THERM SAVINGS/UNIT	UNITS INSTALLED	UNITS	TOTAL ANNUAL THERM SAVINGS	MEASURE INSTALLED COST	TOTAL INSTALLED COST	NON-ENERGY BENEFITS (10% of cost)	MEASURE LIFE	DISCOUNTED THERM SAVINGS	PROGRAM DELIVERY & ADMIN	PROGRAM REBATE	UNITS	TOTAL REBATES COST	UTILITY COST	UC W/DELIVERY & ADMIN	BENEFIT COST RATIO	TOTAL RESOURCE COST	TRC W/DELIVERY & ADMIN	BENEFIT COST RATIO
HVAC Unit Heater	High-Efficiency Non-Condensing with Electro	Minimum 86% AFUE	0.610	kBtu/hr	332.00	202.52	\$ 6.72	\$ 2,231	\$ 223	18	2,529	\$ 644.33	\$ 1.50	kBtu/hr	\$ 498	\$ 0.197	\$ 0.452	1.542	\$ 0.794	\$ 1.049	0.664
HVAC Unit Heater	High Efficiency Condensing	Minimum 92% AFUE	1.100	kBtu/hr	0.00	0.00	\$ 6.72	\$ -	\$ -	18	0	\$ -	\$ -	kBtu/hr	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
Warm Air Furnace	High Efficiency Condensing Furnace	Minimum 91% AFUE	1.100	kBtu/hr	2441.00	2685.10	\$ 6.72	\$ 16,404	\$ 1,640	18	33,527	\$ 8,542.87	\$ 3.00	kBtu/hr	\$ 7,323.00	\$ 0.218	\$ 0.473	1.472	\$ 0.440	\$ 0.695	1.002
Radiant Heating	Direct Fired Radiant Heating	None	4.328	kBtu/hr	1345.00	5821.16	\$ 21.00	\$ 28,245	\$ 2,825	18	72,684	\$ 18,520.51	\$ 6.50	kBtu/hr	\$ 8,742.50	\$ 0.120	\$ 0.375	1.858	\$ 0.350	\$ 0.605	1.153
Insulation-Attic	Attic Insulation (Tier 1 - Z1 &Z3)	Minimum R-30	0.399	sq. ft.	80391.00	32076.01	\$ 1.35	\$ 108,528	\$ 10,853	30	543,388	\$ 102,052.54	\$ 0.50	sq. ft.	\$ 38,309.32	\$ 0.071	\$ 0.258	2.665	\$ 0.180	\$ 0.368	1.873
Insulation-Attic	Attic Insulation (Tier 1 - Z2)	Minimum R-30	0.220	sq. ft.	14760.00	3247.20	\$ 1.63	\$ 24,059	\$ 2,406	30	55,010	\$ 10,331.24	\$ 0.50	sq. ft.	\$ 7,380.00	\$ 0.134	\$ 0.322	2.138	\$ 0.394	\$ 0.581	1.184
Insulation-Attic	Attic Insulation (Tier 2 - Z1 &Z3)	Minimum R-45	0.407	sq. ft.	6720.00	2735.04	\$ 1.63	\$ 10,954	\$ 1,095	30	46,333	\$ 8,701.76	\$ 0.65	sq. ft.	\$ 4,368.00	\$ 0.094	\$ 0.282	2.440	\$ 0.213	\$ 0.401	1.718
Insulation-Attic	Attic Insulation (Tier 2 - Z2)	Minimum R-45	0.230	sq. ft.	0.00	0.00	\$ 1.83	\$ -	\$ -	30	0	\$ -	\$ 0.65	sq. ft.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
Insulation-Roof	Roof Insulation (Tier 1 - Z1 & Z3)	Minimum R-21	0.450	sq. ft.	0.00	0.00	\$ 1.35	\$ -	\$ -	30	0	\$ -	\$ 0.60	sq. ft.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
Insulation-Roof	Roof Insulation (Tier 1 Z2)	Minimum R-30	0.250	sq. ft.	0.00	0.00	\$ 1.63	\$ -	\$ -	30	0	\$ -	\$ 0.60	sq. ft.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
Insulation-Roof	Roof Insulation (Tier 2 - Z1 & Z3)	Minimum R-21	0.460	sq. ft.	9112.00	4191.52	\$ 1.83	\$ 16,675	\$ 1,667	30	71,007	\$ 13,335.68	\$ 0.80	sq. ft.	\$ 7,289.60	\$ 0.103	\$ 0.290	2.370	\$ 0.211	\$ 0.399	1.724
Insulation-Roof	Roof Insulation (Tier 2 - Z2)	Minimum R-30	0.250	sq. ft.	0.00	0.00	\$ 2.15	\$ -	\$ -	30	0	\$ -	\$ 0.80	sq. ft.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
Insulation-Wall	Wall Insulation (Tier 1 - Z1 & Z3)	Minimum R-11	0.220	sq. ft.	2987.00	6571.14	\$ 1.83	\$ 5,466	\$ 547	30	11,132	\$ 2,090.75	\$ 0.30	sq. ft.	\$ 896.10	\$ 0.080	\$ 0.268	2.565	\$ 0.442	\$ 0.630	1.093
Insulation-Wall	Wall Insulation (Tier 2 - Z1 & Z3)	Minimum R-11	0.243	sq. ft.	29352.00	7132.54	\$ 0.55	\$ 16,144	\$ 1,614	30	120,830	\$ 22,692.77	\$ 0.40	sq. ft.	\$ 11,685.82	\$ 0.097	\$ 0.285	2.419	\$ 0.120	\$ 0.308	2.234
Insulation-Wall	Wall Insulation (Tier 2 - Z2)	Minimum R-19	0.135	sq. ft.	17230.00	2326.05	\$ 1.70	\$ 29,291	\$ 2,929	30	39,405	\$ 7,400.52	\$ 0.40	sq. ft.	\$ 6,892.00	\$ 0.175	\$ 0.363	1.898	\$ 0.669	\$ 0.857	0.803
Domestic Hot Water Tanks	Condensing Tank	Minimum 91% AFUE or 91% Thermal Efficiency	0.790	kBtu/hr	6235.39	4925.96	\$ 6.06	\$ 37,786	\$ 3,779	15	54,123	\$ 15,672.35	\$ 2.50	kBtu/hr	\$ 15,588.48	\$ 0.288	\$ 0.578	1.234	\$ 0.628	\$ 0.918	0.776
Domestic Tankless with standing pilot	With Standing Pilot	Minimum 70.8% Energy Factor	21.700	gpm	0.00	84.00	\$ -	\$ -	\$ -	18	0	\$ -	\$ 30.00	gpm	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
Domestic Tankless with electronic ignition	With Electric Ignition	Minimum 73.8% AFUE	21.700	gpm	98.20	2130.94	\$ 117.00	\$ 11,489	\$ 1,149	18	26,607	\$ 6,779.77	\$ 40.00	gpm	\$ 3,928.00	\$ 0.148	\$ 0.402	1.731	\$ 0.389	\$ 0.643	1.083
Boiler	High Efficiency Condensing Boiler with Electr	Minimum 90% AFUE and 500 kBtu input	0.880	kBtu/hr	41252.50	36302.20	\$ 7.72	\$ 318,469	\$ 31,847	20	486,015	\$ 115,498.52	\$ 4.00	kBtu/hr	\$ 165,010.00	\$ 0.340	\$ 0.577	1.192	\$ 0.590	\$ 0.827	0.831
Boiler Vent Damper	Boiler Vent Damper	Minimum 1,000 kBtu input	270.000	kBtu/hr	1.00	270.00	\$ 1.50	\$ 2	\$ 0	12	2,509	\$ 859.03	\$ 1,000.00	kBtu/hr	\$ 1,000.00	\$ 0.399	\$ 0.741	0.959	\$ 0.001	\$ 0.343	2.071
Gas Fryer	Energy Star	None	548.000	each	1.00	548.00	\$ 1,400.00	\$ 1,400	\$ 140	8	3,664	\$ 1,743.51	\$ 600.00	each	\$ 600.00	\$ 0.164	\$ 0.640	1.106	\$ 0.344	\$ 0.820	0.863
Gas Convection Oven	Full Sized Oven 6 ft 3 or > interior	None	564.000	each	21.00	11844.00	\$ 2,000.00	\$ 42,000.00	\$ 4,200.00	12	110,068	\$ 37,682.69	\$ 600.00	each	\$ 12,600.00	\$ 0.114	\$ 0.457	1.555	\$ 0.343	\$ 0.686	1.036
Gas Griddle	High Efficiency Infrared Gas Griddle	Minimum 300 kBtu system size, steam pressures operating at 7 psig or greater, steam trap line size < 2", Min 25 psig	457.900	each	0.00	0.00	\$ 1,048.00	\$ -	\$ -	12	0	\$ -	\$ 600.00	each	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
Steam Trap	Steam Traps Line Size <2"	Trap Design Pressure	136.900	each	0.00	0.00	\$ 315.00	\$ -	\$ -	7	0	\$ -	\$ 80.00	each	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
Custom Projects																					
Homestead Fitness Center	Other	Custom Other	7357	/unit	1.00	7357	\$ 11,950.00	\$ 11,950.00	\$ 1,195.00	3	20,351	\$ 7,818.42	\$ 2,400.00	/project	\$ 2,400.00	\$ 0.118	\$ 0.502	1.310	\$ 0.528	\$ 0.913	0.721
On Rice Thai Cuisine	Other	Custom Other	350	/unit	1.00	1,000.00	\$ 1,000.00	\$ 100.00	\$ 100.00	12	3,253	\$ 371.95	\$ 500.00	/project	\$ 500.00	\$ 0.154	\$ 0.268	2.649	\$ 0.277	\$ 0.391	1.816
Bayside Swimming Club	Boilers	Custom Boilers	2278	/unit	1.00	2278	\$ 14,000.00	\$ 14,000.00	\$ 1,400.00	5	10,093	\$ 2,420.87	\$ 1,771.00	/project	\$ 1,771.00	\$ 0.175	\$ 0.415	1.690	\$ 1.248	\$ 1.488	0.472
Shields Bag & Printing Co.	Heat Recovery	Custom Heat Recovery	119962	/unit	1.00	119962	\$ 234,500.00	\$ 234,500.00	\$ 23,450.00	15	1,318,688	\$ 127,485.88	\$ 117,250.00	/project	\$ 117,250.00	\$ 0.089	\$ 0.186	3.838	\$ 0.160	\$ 0.257	2.775
North Kitsap High School, Tech Bldg.	Controls	DDC Controls	6086	/unit	1.00	6086	\$ 26,691.00	\$ 26,691.00	\$ 2,669.10	15	66,869	\$ 6,467.71	\$ 13,346.00	/project	\$ 13,346.00	\$ 0.200	\$ 0.296	2.405	\$ 0.359	\$ 0.456	1.563
Poulsbo Elementary School	Controls	DDC Controls	2054	/unit	1.00	2054	\$ 8,673.00	\$ 8,673.00	\$ 867.30	15	22,568	\$ 2,182.82	\$ 4,336.00	/project	\$ 4,336.00	\$ 0.192	\$ 0.289	2.467	\$ 0.346	\$ 0.443	1.610
Josephine Sunset Home	Other	Custom Other	8982	/unit	1.00	8982	\$ 23,94														

CASCADE NATURAL GAS CORPORATION
LOW INCOME Program Participant Cost Effectiveness Estimates
TOTAL IN FIRST YEAR by MEASURE

MEASURE	PARTICIPANTS	TOTAL ANNUAL THERM SAVINGS	MEASURE INSTALLED COST	NON-ENERGY BENEFITS (10% of cost)	MEASURE LIFE	DISCOUNTED THERM SAVINGS	PROGRAM DELIVERY & ADMIN	PROGRAM REBATE	UTILITY COST	UC W/DELIVERY & ADMIN	BENEFIT COST RATIO		TOTAL RESOURCE COST	TRC W/DELIVERY & ADMIN	BENEFIT COST RATIO
Attic/Ceiling Insulation	62	4,995	\$ 81,709	\$ 8,171	30	84,617	\$ 11,424	\$ 56,674	\$ 0.670	\$ 0.805	0.968	\$ 0.869	\$ 1.004	0.776	
Floor Insulation	62	6,359	\$ 106,361	\$ 10,636	30	84,617	\$ 14,544	\$ 72,237	\$ 0.854	\$ 1.026	0.967	\$ 1.131	\$ 1.303	0.761	
Wall Insulation	35	6,867	\$ 109,304	\$ 10,930	30	107,727	\$ 15,706	\$ 68,815	\$ 0.639	\$ 0.785	0.993	\$ 0.913	\$ 1.059	0.736	
Duct Insulation	22	2,003	\$ 22,266	\$ 2,227	20	26,822	\$ 4,582	\$ 14,822	\$ 0.553	\$ 0.723	1.106	\$ 0.747	\$ 0.918	0.872	
Air Infiltration Reduction	78	3,906	\$ 58,427	\$ 5,843	20	52,294	\$ 8,934	\$ 36,297	\$ 0.694	\$ 0.865	0.925	\$ 1.006	\$ 1.176	0.680	
TOTAL PROGRAM	259	24,130	\$ 378,067	\$ 37,807	27.55	356,075	\$ 55,189	\$ 248,844	\$ 0.699	\$ 0.854	0.998		\$ 0.956	\$ 1.111	0.767

CASCADE NATURAL GAS CORPORATION
RESIDENTIAL Program Participant Cost Effectiveness

MEASURE	ZONE	EFFICIENCY RATING	PARTICIPANTS	MEASURES INSTALLED	ANNUAL THERM SAVINGS	TOTAL ANNUAL THERM SAVINGS	MEASURE INSTALLED COST	TOTAL INSTALLED COST	NON-ENERGY BENEFITS (10% of cost)	MEASURE LIFE	DISCOUNTED THERM SAVINGS	PROGRAM DELIVERY & ADMIN	PROGRAM REBATE	TOTAL REBATES COST	UTILITY COST	UC W/DELIVERY & ADMIN	BENEFIT COST RATIO	TOTAL RESOURCE COST	TRC W/DELIVERY & ADMIN	BENEFIT COST RATIO
Energy * Certified Home (BOP 1)	1	90% AFUE Rating	3	3	95	285	\$ 1,000.00	\$ 3,000.00	\$ 300.00	30	4,828	\$ 1,732.46	\$ 350.00	\$ 1,050.00	\$ 0.217	\$ 0.576	1.352	\$ 0.559	\$ 0.918	0.849
Energy * Certified Home (BOP 1)	2	90% AFUE Rating	37	37	102	3,774	\$ 1,000.00	\$ 37,000.00	\$ 3,700.00	30	63,934	\$ 22,941.48	\$ 350.00	\$ 12,950.00	\$ 0.203	\$ 0.561	1.388	\$ 0.521	\$ 0.880	0.886
Energy * Certified Home (BOP 1)	3	90% AFUE Rating	87	85	126	10,710	\$ 1,000.00	\$ 85,000.00	\$ 8,500.00	30	181,434	\$ 65,104.21	\$ 350.00	\$ 29,750.00	\$ 0.164	\$ 0.523	1.490	\$ 0.422	\$ 0.780	0.998
Energy * Plus Certified Home	1	Federal Tax Credit Eligible	0	0	221	0	\$ 3,700.00	\$ -	\$ -	30	0	\$ -	\$ 750.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
Energy * Plus Certified Home	2	Federal Tax Credit Eligible	0	0	235	0	\$ 3,700.00	\$ -	\$ -	30	0	\$ -	\$ 750.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
Energy * Plus Certified Home	3	Federal Tax Credit Eligible	0	0	296	0	\$ 3,700.00	\$ -	\$ -	30	0	\$ -	\$ 750.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
95% AFUE Gas Furn Upgrade E*	1	95% AFUE Rating	1	1	124	124	\$ 1,000.00	\$ 1,000.00	\$ 100.00	30	2,101	\$ 753.77	\$ 150.00	\$ 150.00	\$ 0.071	\$ 0.430	1.811	\$ 0.428	\$ 0.787	0.990
95% AFUE Gas Furn Upgrade E*	2	95% AFUE Rating	4	4	118	472	\$ 1,000.00	\$ 4,000.00	\$ 400.00	30	7,996	\$ 2,869.20	\$ 150.00	\$ 600.00	\$ 0.075	\$ 0.434	1.796	\$ 0.450	\$ 0.809	0.963
95% AFUE Gas Furn Upgrade E*	3	95% AFUE Rating	105	105	142	14,910	\$ 1,000.00	\$ 105,000.00	\$ 10,500.00	30	252,585	\$ 90,635.27	\$ 150.00	\$ 15,750.00	\$ 0.062	\$ 0.421	1.850	\$ 0.374	\$ 0.733	1.063
90% Furnace & PTCS Duct Sealing	1	90% AFUE Rating	0	0	173	0	\$ 1,250.00	\$ -	\$ -	20	0	\$ -	\$ 400.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
90% Furnace & PTCS Duct Sealing	2	90% AFUE Rating	1	1	160	160	\$ 1,250.00	\$ 1,250.00	\$ 125.00	20	2,142	\$ 972.61	\$ 400.00	\$ 400.00	\$ 0.187	\$ 0.641	1.249	\$ 0.525	\$ 0.979	0.817
90% Furnace & PTCS Duct Sealing	3	90% AFUE Rating	6	6	210	1,260	\$ 1,250.00	\$ 7,500.00	\$ 750.00	20	16,869	\$ 7,659.32	\$ 400.00	\$ 2,400.00	\$ 0.142	\$ 0.596	1.342	\$ 0.400	\$ 0.854	0.937
PTCS Duct Sealing	1	PTCS Certified Duct Sealing	1	1	88	88	\$ 800.00	\$ 800.00	\$ 80.00	20	1,178	\$ 534.94	\$ 150.00	\$ 150.00	\$ 0.127	\$ 0.581	1.377	\$ 0.611	\$ 1.065	0.751
PTCS Duct Sealing	2	PTCS Certified Duct Sealing	0	0	77	0	\$ 800.00	\$ -	\$ -	20	0	\$ -	\$ 150.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
PTCS Duct Sealing	3	PTCS Certified Duct Sealing	8	8	113	904	\$ 800.00	\$ 6,400.00	\$ 640.00	20	12,103	\$ 5,495.26	\$ 150.00	\$ 1,200.00	\$ 0.099	\$ 0.553	1.447	\$ 0.476	\$ 0.930	0.861
90% AFUE New Gas Furnace (New)	1	90% AFUE Rating	7	7	61	427	\$ 500.00	\$ 3,500.00	\$ 350.00	18	5,332	\$ 2,595.66	\$ 150.00	\$ 1,050.00	\$ 0.197	\$ 0.684	1.182	\$ 0.591	\$ 1.078	0.750
90% AFUE New Gas Furnace (New)	2	90% AFUE Rating	20	20	81	1,620	\$ 500.00	\$ 10,000.00	\$ 1,000.00	18	20,228	\$ 9,847.70	\$ 150.00	\$ 3,000.00	\$ 0.148	\$ 0.635	1.273	\$ 0.445	\$ 0.932	0.868
90% AFUE New Gas Furnace (New)	3	90% AFUE Rating	41	41	65	2,665	\$ 500.00	\$ 20,500.00	\$ 2,050.00	18	33,276	\$ 16,200.07	\$ 150.00	\$ 6,150.00	\$ 0.185	\$ 0.672	1.204	\$ 0.554	\$ 1.041	0.776
90% AFUE New Gas Furnace (Existing)	1	90% AFUE Rating	971	971	81	78,651	\$ 800.00	\$ 776,800.00	\$ 77,680.00	18	982,049	\$ 478,105.60	\$ 150.00	\$ 145,650.00	\$ 0.148	\$ 0.635	1.273	\$ 0.712	\$ 1.199	0.674
90% AFUE New Gas Furnace (Existing)	2	90% AFUE Rating	222	222	75	16,650	\$ 800.00	\$ 177,600.00	\$ 17,760.00	18	207,895	\$ 101,212.42	\$ 150.00	\$ 33,300.00	\$ 0.160	\$ 0.647	1.250	\$ 0.769	\$ 1.256	0.644
90% AFUE New Gas Furnace (Existing)	3	90% AFUE Rating	189	189	99	18,711	\$ 800.00	\$ 151,200.00	\$ 15,120.00	18	233,629	\$ 113,740.88	\$ 150.00	\$ 28,350.00	\$ 0.121	\$ 0.608	1.329	\$ 0.582	\$ 1.069	0.756
80% AFUE Hearth	1	80% AFUE Rating	2	2	80	160	\$ 400.00	\$ 800.00	\$ 80.00	20	2,142	\$ 972.61	\$ 70.00	\$ 140.00	\$ 0.065	\$ 0.519	1.541	\$ 0.336	\$ 0.790	1.013
80% AFUE Hearth	2	80% AFUE Rating	0	0	80	0	\$ 400.00	\$ -	\$ -	20	0	\$ -	\$ 70.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
80% AFUE Hearth	3	80% AFUE Rating	0	0	80	0	\$ 400.00	\$ -	\$ -	20	0	\$ -	\$ 70.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
80% AFUE Hearth Upgrade	1	80% AFUE Rating	0	0	80	0	\$ 400.00	\$ -	\$ -	20	0	\$ -	\$ 70.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
80% AFUE Hearth Upgrade	2	80% AFUE Rating	0	0	80	0	\$ 400.00	\$ -	\$ -	20	0	\$ -	\$ 70.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
80% AFUE Hearth Upgrade	3	80% AFUE Rating	0	0	80	0	\$ 400.00	\$ -	\$ -	20	0	\$ -	\$ 70.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
.62 Water Heater	1	0.62 Energy Factor or Greater	82	82	13	1,066	\$ 100.00	\$ 8,200.00	\$ 820.00	12	9,907	\$ 6,480.03	\$ 25.00	\$ 2,050.00	\$ 0.207	\$ 0.861	0.995	\$ 0.745	\$ 1.399	0.612
.62 Water Heater	2	0.62 Energy Factor or Greater	89	89	13	1,157	\$ 100.00	\$ 8,900.00	\$ 890.00	12	10,752	\$ 7,033.20	\$ 25.00	\$ 2,225.00	\$ 0.207	\$ 0.861	0.995	\$ 0.745	\$ 1.399	0.612
.62 Water Heater	3	0.62 Energy Factor or Greater	11	11	13	143	\$ 100.00	\$ 1,100.00	\$ 110.00	12	1,329	\$ 869.27	\$ 25.00	\$ 275.00	\$ 0.207	\$ 0.861	0.995	\$ 0.745	\$ 1.399	0.612
Ceiling Insulation	1	Equal to or Greater than R-38	147	170,383	0.057	9,712	\$ 0.57	\$ 97,118.31	\$ 9,711.83	45	195,851	\$ 59,036.51	\$ 0.25	\$ 42,595.75	\$ 0.217	\$ 0.519	1.459	\$ 0.446	\$ 0.748	1.013
Ceiling Insulation	2	Equal to or Greater than R-38	26	34,029	0.055	1,872	\$ 0.56	\$ 19,056.24	\$ 1,905.62	45	37,743	\$ 11,377.10	\$ 0.25	\$ 8,507.25	\$ 0.225	\$ 0.527	1.437	\$ 0.454	\$ 0.756	1.002
Ceiling Insulation	3	Equal to or Greater than R-38	97	120,395	0.065	7,826	\$ 0.57	\$ 68,625.15	\$ 6,862.52	45	157,815	\$ 47,570.90	\$ 0.25	\$ 30,098.75	\$ 0.191	\$ 0.492	1.539	\$ 0.391	\$ 0.693	1.093
Floor Insulation	1	Equal to or Greater than R-30 or to fill cavity	202	232,022	0.057	13,225	\$ 0.57	\$ 132,252.54	\$ 13,225.25	45	266,704	\$ 80,393.99	\$ 0.45	\$ 104,409.90	\$ 0.391	\$ 0.693	1.093	\$ 0.446	\$ 0.748	1.013
Floor Insulation																				

CASCADE NATURAL GAS CORPORATION
COMMERCIAL Program Participant Cost Effectiveness

MEASURE	DESCRIPTION	EFFICIENCY TYPE FOR QUALIFICATION	TOTAL MEASURE COUNT	ANNUAL THERM SAVINGS/UNIT	UNITS	UNITS INSTALLED	TOTAL ANNUAL THERM SAVINGS	MEASURE INSTALLED COST	TOTAL INSTALLED COST	NON-ENERGY BENEFITS (10% of cost)	MEASURE LIFE	DISCOUNTED THERM SAVINGS	PROGRAM DELIVERY & ADMIN	PROGRAM REBATE	UNITS	TOTAL REBATES COST	UTILITY COST	UC W/DELIVERY & ADMIN	BENEFIT COST RATIO	TOTAL RESOURCE COST	TRC W/DELIVERY & ADMIN	BENEFIT COST RATIO	
HVAC Unit Heater	High-Efficiency Non-Condensing with Electronic Ignition	Minimum 86% AFUE	0	1,100	kBtu/hr		0.00	\$ 6.72	\$ -	\$ -	18	0	\$ -	\$ 1.50	kBtu/hr	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
HVAC Unit Heater	High Efficiency Condensing	Minimum 92% AFUE	0	1,100	kBtu/hr		0.00	\$ 6.72	\$ -	\$ -	18	0	\$ -	\$ 3.00	kBtu/hr	\$ 25,421.82	\$ 0.218	\$ 0.585	1.381	\$ 0.440	\$ 0.807	1.001	
Warm Air Furnace	High Efficiency Condensing Furnace	Minimum 91% AFUE	21	1,100	kBtu/hr	8473.94	9321.33	\$ 6.72	\$ 56,945	\$ 5,694	18	116,388	\$ 42,722.55	\$ 3.00	kBtu/hr	\$ 12,610.00	\$ 0.120	\$ 0.487	1.659	\$ 0.350	\$ 0.717	1.128	
Radiant Heating	Direct Fired Radiant Heating	None	6	4,330	kBtu/hr	1940.00	8396.60	\$ 21.00	\$ 40,740	\$ 4,074	18	104,841	\$ 38,484.21	\$ 6.50	kBtu/hr	\$ 12,610.00	\$ 0.120	\$ 0.487	1.659	\$ 0.179	\$ 0.450	1.731	
Insulation-Attic	Attic Insulation (Tier 1 - Z1 & Z3)	Minimum R-30	8	0.400	sq. ft.	54180.00	21672.00	\$ 1.35	\$ 73,143	\$ 7,314	30	367,137	\$ 99,329.47	\$ 0.50	sq. ft.	\$ 27,090.00	\$ 0.074	\$ 0.344	2.261	\$ 0.394	\$ 0.664	1.172	
Insulation-Attic	Attic Insulation (Tier 1- Z1)	Minimum R-30	1	0.220	sq. ft.	7000.00	1540.00	\$ 1.63	\$ 11,410	\$ 1,141	30	26,089	\$ 7,058.30	\$ 0.50	sq. ft.	\$ 3,500.00	\$ 0.134	\$ 0.405	1.924	\$ 0.394	\$ 0.664	1.172	
Insulation-Attic	Attic Insulation (Tier 2 - Z1 &Z3)	Minimum R-45	0	0.410	sq. ft.	0.00	0.00	\$ 1.63	\$ -	\$ -	30	0	\$ -	\$ 0.65	sq. ft.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	
Insulation-Attic	Attic Insulation (Tier 2 - Z2)	Minimum R-45	0	0.230	sq. ft.	0.00	0.00	\$ 1.83	\$ -	\$ -	30	0	\$ -	\$ 0.65	sq. ft.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	
Insulation-Roof	Roof Insulation (Tier 1 - Z1 & Z3)	Minimum R-21	0	0.450	sq. ft.	0.00	0.00	\$ 1.35	\$ -	\$ -	30	0	\$ -	\$ 0.60	sq. ft.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	
Insulation-Roof	Roof Insulation (Tier 1 Z1)	Minimum R-30	1	0.250	sq. ft.	2500.00	625.00	\$ 1.63	\$ 4,075	\$ 408	30	10,588	\$ 2,864.57	\$ 0.60	sq. ft.	\$ 1,500.00	\$ 0.142	\$ 0.412	1.889	\$ 0.346	\$ 0.617	1.262	
Insulation-Roof	Roof Insulation (Tier 2 - Z1 & Z3)	Minimum R-21	2	0.460	sq. ft.	7600.00	3496.00	\$ 1.83	\$ 13,908	\$ 1,391	30	59,224	\$ 16,023.25	\$ 0.80	sq. ft.	\$ 6,080.00	\$ 0.103	\$ 0.373	2.086	\$ 0.211	\$ 0.482	1.616	
Insulation-Roof	Roof Insulation (Tier 2 - Z2)	Minimum R-30	0	0.250	sq. ft.	0.00	0.00	\$ 2.15	\$ -	\$ -	30	0	\$ -	\$ 0.80	sq. ft.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	
Insulation-Wall	Wall Insulation (Tier 1- Z1 & Z3)	Minimum R-11	4	0.220	sq. ft.	5311.00	1168.42	\$ 1.83	\$ 9,719	\$ 972	30	19,794	\$ 5,355.23	\$ 0.30	sq. ft.	\$ 1,593.30	\$ 0.080	\$ 0.351	2.218	\$ 0.442	\$ 0.712	1.093	
Insulation-Wall	Wall Insulation (Tier 1- Z2)	Minimum R-19	0	0.120	sq. ft.	0.00	0.00	\$ 2.15	\$ -	\$ -	30	0	\$ -	\$ 0.30	sq. ft.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	
Insulation-Wall	Wall Insulation (Tier 2 - Z1 & Z3)	Minimum R-11	3	0.240	sq. ft.	7572.00	1817.28	\$ 0.55	\$ 4,165	\$ 416	30	30,786	\$ 8,329.16	\$ 0.40	sq. ft.	\$ 3,028.80	\$ 0.098	\$ 0.369	2.111	\$ 0.122	\$ 0.392	1.985	
Insulation-Wall	Wall Insulation (Tier 2 - Z2)	Minimum R-19	1	0.140	sq. ft.	9549.00	1336.86	\$ 1.70	\$ 16,233	\$ 1,623	30	22,647	\$ 6,127.24	\$ 0.24	sq. ft.	\$ 3,819.60	\$ 0.169	\$ 0.439	1.773	\$ 0.645	\$ 0.916	0.850	
Domestic Hot Water Tanks	Condensing Tank	Minimum 91% AFUE or 91% Thermal Efficiency	8	0.790	kBtu/hr	4904.70	3874.71	\$ 6.06	\$ 29,722	\$ 2,972	15	42,573	\$ 17,759.01	\$ 2.50	kBtu/hr	\$ 12,261.75	\$ 0.288	\$ 0.705	1.176	\$ 0.628	\$ 1.045	0.793	
Domestic Tankless with standing pilot	With Standing Pilot	Minimum 70.8% Energy Factor	0	21,700	gpm	0.00	0.00	\$ 84.00	\$ -	\$ -	18	0	\$ -	\$ 30.00	gpm	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	
Domestic Tankless with electronic ignition	With Electric Ignition	Minimum 73.8% AFUE	7	21,700	gpm	110.10	2389.17	\$ 117.00	\$ 12,882	\$ 1,288	18	29,832	\$ 10,950.30	\$ 40.00	gpm	\$ 4,404.00	\$ 0.148	\$ 0.515	1.571	\$ 0.389	\$ 0.756	1.070	
Boiler	High Efficiency Condensing Boiler with Electronic Ignition	Minimum 90% AFUE and 500 kBtu input	13	0.880	kBtu/hr	24087.90	21197.35	\$ 7.72	\$ 185,959	\$ 18,596	20	283,791	\$ 97,154.01	\$ 4.00	kBtu/hr	\$ 96,351.60	\$ 0.340	\$ 0.682	1.174	\$ 0.590	\$ 0.932	0.859	
Boiler Vent Damper	Boiler Vent Damper	Minimum 1,000 kBtu input	0	0.300	kBtu/hr	0	0.00	\$ 1.50	\$ -	\$ -	12	0	\$ -	\$ 1.00	kBtu/hr	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	
Gas Fryer	Energy Star	None	3	548.000	each	8.00	4384.00	\$ 1,400.00	\$ 11,200	\$ 1,120	8	29,310	\$ 20,093.23	\$ 600.00	each	\$ 4,800.00	\$ 0.164	\$ 0.849	1.052	\$ 0.344	\$ 1.029	0.868	
Gas Convection Oven	Full Sized Oven	None	8	564.000	each	12.00	6768.00	\$ 2,000.00	\$ 24,000.00	\$ 2,400.00	12	62,896	\$ 31,019.83	\$ 600.00	each	\$ 7,200.00	\$ 0.114	\$ 0.608	1.410	\$ 0.343	\$ 0.837	1.024	
Gas Griddle	High Efficiency Infrared Gas Griddle	None	0	457.900	each	0	0.00	\$ 1,048.00	\$ -	\$ -	12	0	\$ -	\$ 600.00	each	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	
Clothes Washer	Commercial Gas Washer	1.8 MEF	0	90.000	each	0	0.00	\$ 200.00	\$ -	\$ -	10	0	\$ -	\$ 180.00	each	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	
Steam Trap	Steam Traps Line Size <2"	Minimum 300 kBtu system size, steam pressures operating at 7 psig or greater, steam trap line size < 2", Min 25 psig Trap Design Pressure	0	136.900	each	0	0.00	\$ 315.00	\$ -	\$ -	7	0	\$ -	\$ 80.00	each	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	
Custom Projects																							
A&W Drive Inn	Food Service	Replace old conveyor broiler with new high efficiency broiler	1	1,157.00	/unit	1.00	1157	\$ 3,500.00	\$ 3,500.00	\$ 350.00	12	10,752	\$ 3,355.99	\$ 1,750.00	/project	\$ 1,750.00	\$ 0.163	\$ 0.475	1.804	\$ 0.293	\$ 0.605	1.416	
Acme Elementary	Controls	ECM 5.1 Control Upgrade	1	7,024.00	/unit	1.00	7024	\$ 51,168.00	\$ 51,168.00	\$ 5,116.80	15	77,175	\$ 20,373.81	\$ 15,653.00	/project	\$ 15,653.00	\$ 0.203	\$ 0.467	1.776	\$ 0.597	\$ 0.861	0.963	
Bellingham Pasta	Dishwasher	Low temp door dishwasher	1	502.00	/unit	1.00	502	\$ 1,500.00	\$ 1,500.00	\$ 150.00	12	4,665	\$ 1,456.10	\$ 750.00	/project	\$ 750.00	\$ 0.161	\$ 0.473	1.812	\$ 0.289	\$ 0.601	1.425	
Bremerton High School	Controls	Control upgrades	1	1,537.00	/unit	1.00	1537	\$ 53,298.00	\$ 53,298.00	\$ 5,329.80	15	16,888	\$ 4,458.22	\$ 3,426.00	/project	\$ 3,426.00	\$ 0.203	\$ 0.467	1.776	\$ 2,840	\$ 3,104	0.267	
Burger King of Sedro-Woolley	Food Service	Batch broiler	1	2,247.00	/unit	1.00	116																