

Cascade Natural Gas Corporation  
Annual Decoupling Mechanism Report  
Calendar Year 2010

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**Background**

On October 1, 2007 the Washington Utilities and Transportation Commission (WUTC) approved an addendum to Cascade Natural Gas's Conservation Plan, which was developed in compliance with the Commission's Order 06 in Docket UG-060256. This document included revised therm savings targets, a modified penalty mechanism, and expanded program offerings for the Commercial, Residential, and Low Income conservation programs. The document also provided additional details regarding the accounting and reporting process surrounding the penalty mechanism of the earnings cap.

Specifically, 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 for calendar 2008, no later than March 31, 2009. The same reporting and accounting process would be utilized for the 2009 program year". The entire requirement can be found on page two of the *Addendum to Cascade Natural Gas Corporation Conservation Plan Docket UG-060256 Order 06*.

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Decoupling Mechanism and accompanying Conservation Plan, approved by the WUTC on October 1, 2007, are complete and no longer in effect. Third party evaluator H. Gil Peach and Associates is currently conducting an independent evaluation of the pilot mechanism and associated achievements, which should be complete before May 2011.

This report and accompanying appendices reflect the Company's conservation achievements for Calendar Year 2010 (with our Commission Basis report filed under a separate cover) and represents the third and final year of the Company's Decoupling Pilot. Future documentation outlining the Company's annual Conservation Achievements will be filed with the WUTC in a format similar to its previous Conservation Reports, as an informational filing by July 1<sup>st</sup> of the following program year (for instance, 2011 achievements will be 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.

In the future, planning associated with the Company's Conservation Programs will be available via the Demand Side Management (DSM) section of its 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 2010 Program Achievements

**Table A: 2010 Program Achievements**

<i>Totals</i>	<b>Residential</b>	<b>Energy Kits</b>	<b>Commercial</b>	<b>Low Income</b>	<b>Total</b>
<b>Therms Achieved</b>	187,871	1,544	224,357	30,809	<b>444,581</b>
<b>Measures Performed/Installed</b>	729,346 <i>(2010 count includes individual units of insulation)</i>	76	117	354	
<b>Customers Served</b>	2,257	76	90	112	<b>2,535</b>
<b>Carbon Offset (CO2 avoided)</b> <i>in 000's lbs</i>	2,179.3	17.9	2,602.5	357.4	<b>5,157.1</b>

**Table B: 2010 Programmatic Costs and Rebates**

<i>Total Costs</i>	<b>Residential</b>	<b>Commercial</b>	<b>Low Income</b>
<b>Incentives Paid</b>	\$539,849	\$457,546	\$353,141
<b>Programmatic Costs</b>	\$1,319,100	\$806,541	\$63,984

### *Residential and Commercial*

As of March 1, 2011, Cascade Natural Gas Corporation has calculated a 2010 therm savings achievement of 444,581, or 78% of the 2010 therm savings target. The shortfall of savings primarily reflects the delay of a critical custom Commercial energy savings project that was scheduled for completion during Q4 of 2010. However due to the unavailability of the equipment necessary to complete the project it is now anticipated for completion in 2011. This project was projected to achieve a savings of 119,962 therms. Reports indicate that all equipment necessary to complete the facility upgrades have been delivered and final completion of the project should take place by the end of Summer 2011. The incentive and associated therm savings will be processed and counted as an achievement for the *current (2011)* calendar year.

During CY10 the Company underwent a strategic reorganization in its program delivery to utilize a singular vendor, Lockheed Martin, to provide conservation support to both our Residential and Commercial programs. This decision was made following growing concerns regarding the ability of our residential contractor to meet the Company's targets in an efficient and cost-effective manner, particularly in the context of declining avoided costs. As a result, during Q2 of CY10, Cascade entered into negotiations with Lockheed Martin, our Commercial program vendor, to support both sides of the program. The consolidation of the program delivery through one vendor allows the programs to benefit from economies of scale to develop a single customer tracking system for all program efforts and outline new and innovative strategies to encourage deeper savings through the installation of longer lived measures in customer homes. This change took place concurrently with a departmental decision to reduce our reliance on Energy Savers Kits (ESKs) in order to achieve our therm savings goals. The kits, while a valuable way to pique the interest of customers in deeper home energy improvements, were often the only measure customers engaged in through our program, thus creating missed opportunities in which the

customer feels they have “done their part” with no further action required. Aggressive pro-conservation messaging through community events and bill inserts has helped mitigate this effect, but it will take continued long term efforts to fully engage customers to deeper measures, particularly in light of a slowed economy. Thus the Company’s 2010 residential achievements concurrently reflect a decline in the promotion of ESKs and a marked increase in the average weighted life of the measures installed (weatherization and HVAC improvements).

The expanded contract with Lockheed Martin, termination of the contract with Conservation Services Group (CSG) and overall refocus of CIP strategy took effect September 1, 2010. As of this report, program transitions have been accomplished with little change noticed by our customers and trade allies. It is anticipated that the ultimate benefits of program improvements and associated upturn in cost-effectiveness will be experienced over the course of CY11 when the benefits of significantly streamlined administrative costs and strategic improvements have had a full year to take effect.

### *Low Income*

We are excited to report that the Company’s Low Income Conservation Program is steadily gaining traction throughout the communities we serve and has received increased recognition by the local community action agencies as a viable source of leveraged funds available to serve low income gas customers within Cascade’s service territory. Since 2008, the amount of low income customers served by the program has increased by approximately 200%. In 2010, the program provided funds towards the weatherization of 112 customer homes, saving 30,809 therms in total for these vulnerable households. This significant jump in program participation reflects increasingly strengthened relations between the Company and the Community Action Agencies that deliver the Low Income Weatherization Program in our service territory, and greater awareness of the availability of Cascade rebate funds for these purposes. The proliferation of ARRA funds also allowed the agencies to serve a greater number of Washington households, thus serving more qualified CNGC low income households by extension. The Company is now working at the state and agency level to better understand any remaining obstacles to the use of Company dollars, and to encourage *all* agencies within CNGC’s service territory to participate in our programs.

### **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 CY09 Program Achievements**

Because the Company reports therm savings achievements based on the actual installation date of the measures, several projects were paid in 2010 that related to the 2009 calendar year. The therm savings associated with these projects are not included with the Calendar 2010 achievements but rather represent an addition or “true-up” to the original achievements published in the 2009 report submitted to the Commission on March 31, 2010.

The Company is pleased to report an additional 7,691 therms were saved via the installation of 193 high-efficiency measures in qualified customer homes and an additional 2,667 therms were saved across two additional measures (and one upward adjustment) in qualified commercial facilities in CY09. Overall cost effectiveness of both programs increased by .002 (commercial) and .009 (residential) after the inclusion of these achievements. Tables C and D below provide a summary of the total Calendar Year 2009 achievements and program costs.

**Table C: Final 2009 Achievements**

<i>Totals</i>	<b>Residential</b>	<b>Energy Kits</b>	<b>Commercial</b>	<b>Low Income</b>	<b>Total</b>
<b>Therms Achieved</b>	226,491	47,342	275,604	14,733	<b>564,170</b>
<b>Measures Performed /Installed</b>	1,130,654 <i>(2009 count includes individual units of insulation)</i>	1,636	392	168	
<b>Customers Served</b>	4,042	1,636	126	54	<b>5858</b>
<b>Carbon Offset (CO2 avoided)</b> <i>in 000's lbs</i>	2,627.3	549.2	3,197.0	170.9	<b>6,544.4</b>

**Table D: 2009 Final Programmatic Costs and Rebates**

<i>Total Costs</i>	<b>Residential</b>	<b>Commercial</b>	<b>Low Income</b>
<b>Incentives Paid</b>	\$826,412	\$447,898	\$168,378
<b>Programmatic Costs</b>	\$1,108,104	\$598,196	\$ 74,387

Appendix B provides the updated therm savings, total resource costs, and utility costs by measures for the calendar year 2009.

**Three Year Pilot Achievements (2008 – 2010)**

**Table E: Three Year Pilot Achievements**

<i>Totals for CY2008 – CY2010</i>	<b>Residential &amp; Commercial</b>	<b>Low Income</b>	<b>Total</b>
<b>Therms Achieved</b>	1,403,704	59,527	1,463,231
<b>WUTC Three Year Therm Savings Target</b>	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. The Company surpassed its annual targets during CY08 and CY09, and fell within 78% of target during CY10 (and 91% of the "conservative" target anticipated in the Company's original

Conservation Plan filed with the WUTC as part of UG-060256) in spite of delays to the aforementioned large custom commercial project.

Total therm savings from all programs during the three year pilot can be translated into a benefit of 17.0 million pounds of mitigated CO<sub>2</sub>. 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 CO<sub>2</sub> as approximately 11.6 pounds per therm.

### **2010 CAP Deferrals**

The deferrals associated with the CAP mechanism for the 9 month period ending September 30, 2010, was \$958,868.97 before interest. As detailed in the Conservation Plan, recovery of the deferred balance is subject to both the Company meeting its annual therm savings targets as outlined in the plan along with an earnings test. Since the Company fell short of its annual therm savings target, the company would only be eligible to recover 70% of the deferred costs, or \$671,208. In order to recover this reduced balance, the Company's adjusted earnings must be less than the authorized 8.85% overall rate of return set in the Company's last rate case (UG-060256). The Company's Commission Basis Earnings for the Calendar Year Ending December 31, 2010 was 9.06% and therefore none of the deferred balance will be recovered.

# ***APPENDIX A***

***2010 RESULTS***

**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	2,333	189,415	\$ 1,742,310	\$ 174,231	26.59	2,861,833	\$ 1,319,100	\$ 539,849	0.189	\$ 0.650	1.258		\$ 0.548	\$ 1.009	0.810
COMMERCIAL*	117	224,357	\$ 1,400,065	\$ 140,006	17.17	2,613,114	\$ 806,541	\$ 457,546	0.175	\$ 0.484	1.737		\$ 0.482	\$ 0.791	1.062
LOW INCOME*	354	30,809	\$ 483,015	\$ 48,302	27.14	490,680	\$ 63,984	\$ 353,141	0.720	\$ 0.850	0.928		\$ 0.886	\$ 1.016	0.776
<b>TOTAL</b>	<b>2,804</b>	<b>444,581</b>	<b>\$ 3,625,390</b>	<b>\$ 362,539</b>	<b>21.87</b>	<b>5,965,627</b>	<b>\$ 2,189,625</b>	<b>\$ 1,350,536</b>	<b>\$ 0.226</b>	<b>\$ 0.593</b>	<b>1.384</b>		<b>\$ 0.547</b>	<b>\$ 0.914</b>	<b>0.899</b>

Nominal interest rate (post tax cost of cap.) 7.63%  
Inflation rate 3.32%  
Long term real discount rate 4.17%

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

**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	\$ 1,984.76	\$ 350.00	\$ 1,050.00	\$ 0.217	\$ 0.629	1.240	\$ 0.559	\$ 0.970	0.803
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	\$ 26,282.41	\$ 350.00	\$ 12,950.00	\$ 0.203	\$ 0.614	1.270	\$ 0.521	\$ 0.932	0.836
Energy * Certified Home (BOP 1)	3	90% AFUE Rating	67	65	126	8,190	\$ 1,000.00	\$ 65,000.00	\$ 6,500.00	30	138,744	\$ 57,035.75	\$ 350.00	\$ 22,750.00	\$ 0.164	\$ 0.575	1.355	\$ 0.422	\$ 0.833	0.936
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	\$ 863.54	\$ 150.00	\$ 150.00	\$ 0.071	\$ 0.482	1.615	\$ 0.428	\$ 0.840	0.928
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	\$ 3,287.04	\$ 150.00	\$ 600.00	\$ 0.075	\$ 0.486	1.603	\$ 0.450	\$ 0.861	0.905
95% AFUE Gas Furn Upgrade E*	3	95% AFUE Rating	87	87	142	12,354	\$ 1,000.00	\$ 87,000.00	\$ 8,700.00	30	209,285	\$ 86,034.14	\$ 150.00	\$ 13,050.00	\$ 0.062	\$ 0.473	1.646	\$ 0.374	\$ 0.785	0.992
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	0	0	160	0	\$ 1,250.00	\$ -	\$ -	20	0	\$ -	\$ 400.00	\$ -	\$ -	\$ -	-	\$ -	\$ -	-
90% Furnace & PTCS Duct Sealing	3	90% AFUE Rating	4	4	210	840	\$ 1,250.00	\$ 5,000.00	\$ 500.00	20	11,246	\$ 5,849.82	\$ 400.00	\$ 1,600.00	\$ 0.142	\$ 0.662	1.208	\$ 0.400	\$ 0.920	0.870
PTCS Duct Sealing	1	PTCS Certified Duct Sealing	1	1	88	88	\$ 800.00	\$ 800.00	\$ 80.00	20	1,178	\$ 612.84	\$ 150.00	\$ 150.00	\$ 0.127	\$ 0.647	1.236	\$ 0.611	\$ 1.131	0.707
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	\$ 6,295.52	\$ 150.00	\$ 1,200.00	\$ 0.099	\$ 0.619	1.292	\$ 0.476	\$ 0.996	0.803
90% AFUE New Gas Furnace (New)	1	90% AFUE Rating	3	3	61	183	\$ 500.00	\$ 1,500.00	\$ 150.00	18	2,285	\$ 1,274.43	\$ 150.00	\$ 450.00	\$ 0.197	\$ 0.755	1.071	\$ 0.591	\$ 1.149	0.704
90% AFUE New Gas Furnace (New)	2	90% AFUE Rating	2	2	81	162	\$ 500.00	\$ 1,000.00	\$ 100.00	18	2,023	\$ 1,128.18	\$ 150.00	\$ 300.00	\$ 0.148	\$ 0.706	1.145	\$ 0.445	\$ 1.003	0.806
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	\$ 18,559.25	\$ 150.00	\$ 6,150.00	\$ 0.185	\$ 0.743	1.089	\$ 0.554	\$ 1.112	0.727
90% AFUE New Gas Furnace (Existing)	1	90% AFUE Rating	843	847	81	68,607	\$ 800.00	\$ 677,600.00	\$ 67,760.00	18	856,638	\$ 477,784.05	\$ 150.00	\$ 127,050.00	\$ 0.148	\$ 0.706	1.145	\$ 0.712	\$ 1.270	0.637
90% AFUE New Gas Furnace (Existing)	2	90% AFUE Rating	196	196	75	14,700	\$ 800.00	\$ 156,800.00	\$ 15,680.00	18	183,547	\$ 102,371.85	\$ 150.00	\$ 29,400.00	\$ 0.161	\$ 0.718	1.126	\$ 0.769	\$ 1.327	0.609
90% AFUE New Gas Furnace (Existing)	3	90% AFUE Rating	166	166	99	16,434	\$ 800.00	\$ 132,800.00	\$ 13,280.00	18	205,198	\$ 114,447.55	\$ 150.00	\$ 24,900.00	\$ 0.121	\$ 0.679	1.191	\$ 0.582	\$ 1.140	0.709
80% AFUE Hearth	1	80% AFUE Rating	2	2	80	160	\$ 400.00	\$ 800.00	\$ 80.00	20	2,142	\$ 1,114.25	\$ 70.00	\$ 140.00	\$ 0.065	\$ 0.586	1.367	\$ 0.336	\$ 0.856	0.935
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	63	63	13	819	\$ 100.00	\$ 6,300.00	\$ 630.00	12	7,611	\$ 5,703.57	\$ 25.00	\$ 1,575.00	\$ 0.207	\$ 0.956	0.896	\$ 0.745	\$ 1.494	0.573
.62 Water Heater	2	0.62 Energy Factor or Greater	40	40	13	520	\$ 100.00	\$ 4,000.00	\$ 400.00	12	4,832	\$ 3,621.32	\$ 25.00	\$ 1,000.00	\$ 0.207	\$ 0.956	0.896	\$ 0.745	\$ 1.494	0.573
.62 Water Heater	3	0.62 Energy Factor or Greater	10	10	13	130	\$ 100.00	\$ 1,000.00	\$ 100.00	12	1,208	\$ 905.33	\$ 25.00	\$ 250.00	\$ 0.207	\$ 0.956	0.896	\$ 0.745	\$ 1.494	0.573
Ceiling Insulation	1	Equal to or Greater than R-38	133	156,912	0.057	8,944	\$ 0.57	\$ 89,439.84	\$ 8,943.98	45	180,367	\$ 62,286.54	\$ 0.25	\$ 39,228.00	\$ 0.217	\$ 0.563	1.346	\$ 0.446	\$ 0.792	0.957
Ceiling Insulation	2	Equal to or Greater than R-38	24	31,879	0.055	1,753	\$ 0.56	\$ 17,852.24	\$ 1,785.22	45	35,358	\$ 12,210.42	\$ 0.25	\$ 7,969.75	\$ 0.225	\$ 0.571	1.327	\$ 0.454	\$ 0.800	0.947
Ceiling Insulation	3	Equal to or Greater than R-38	93	115,236	0.065	7,490	\$ 0.57	\$ 65,684.52	\$ 6,568.45	45	151,052	\$ 52,163.26	\$ 0.25	\$ 28,809.00	\$ 0.191	\$ 0.536	1.413	\$ 0.391	\$ 0.737	1.028
Floor Insulation	1	Equal to or Greater than R-30 or to fill cavity	183	212,898	0.057	12,135	\$ 0.57	\$ 121,351.86	\$ 12,135.19	45	244,721	\$ 84,510.30	\$ 0.45	\$ 95,804.10	\$ 0.391	\$ 0.737	1.028	\$ 0.446	\$ 0.792	0.957
Floor Insulation	2	Equal to or Greater than R-30 or to fill cavity	31	43,254	0.055	2,379	\$ 0.56	\$ 24,222.24	\$ 2,422.22	45	47,975	\$ 16,567.32	\$ 0.45	\$ 19,464.30	\$ 0.406	\$ 0.751	1.008	\$ 0.454	\$ 0.800	0.947
Floor Insulation	3	Equal to or Greater than R-30 or to fill cavity	47	47,466	0.065	3,085	\$ 0.57	\$ 27,055.62	\$ 2,705.56	45	62,219	\$ 21,486.18	\$ 0.45	\$ 21,359.70	\$ 0.343	\$ 0.689	1.100	\$ 0.391	\$ 0.737	1.028
Wall Insulation	1	Equal to or Greater than R-11 to fill cavity	70	62,139	0.067	4,163	\$ 0.66	\$ 41,011.74	\$ 4,101.17	45	83,958	\$ 28,993.61	\$ 0.40	\$ 24,855.60	\$ 0.296	\$ 0.641	1.181	\$ 0.440	\$ 0.785	0.965
Wall Insulation	2	Equal to or Greater than R-11 to fill cavity	7	8,345	0.065	542	\$ 0.67	\$ 5,591.15	\$ 559.12	45	10,939	\$ 3,777.49	\$ 0.40	\$ 3,338.00	\$ 0.305	\$ 0.650	1.164	\$ 0.460	\$ 0.805	0.940
Wall Insulation	3	Equal to or Greater than R-11 to fill cavity	49	49,595	0.076	3,769	\$ 0.66	\$ 32,732.70	\$ 3,273.27	45	76,011	\$ 26,249.12	\$ 0.40	\$ 19,838.00	\$ 0.261	\$ 0.606	1.249	\$ 0.388	\$ 0.733	1.033
High Efficiency Combination Radiant Heat	1	90% Eff Condensing Tankless Combo w/ WH	7	7	297	2,079	\$ 2,500.00	\$ 17,500.00	\$ 1,750.00	30	35,220	\$ 14,478.30	\$ 800.00	\$ 5,600.00	\$ 0.159	\$ 0.570	1.367	\$ 0.447	\$ 0.858	0.908
High Efficiency Combination Radiant Heat	2	90% Eff Condensing Tankless Combo w/ WH	34	34	288	9,792	\$ 2,500.00	\$ 85,000.00	\$ 8,500.00	30	165,883	\$ 68,192.19	\$ 800.00	\$ 27,200.00	\$ 0.164	\$ 0.575	1.355	\$ 0.461	\$ 0.872	0.893
High Efficiency Combination Radiant Heat	3	90% Eff Condensing Tankless Combo w/ WH	1	1	327	327	\$ 2,500.00	\$ 2,500.00	\$ 250.00	30	5,540	\$ 2,277.25	\$ 800.00	\$ 800.00	\$ 0.144	\$ 0.556	1.403	\$ 0.406	\$ 0.817	0.953
Energy Saver Kit (Direct Distribution)	1	Low Flow Showerhead plus Aerators	0	0	17	0	\$ 7.80	\$ -	\$ -	10	0	\$ -	\$ 7.80	\$ -	\$ -	\$ -	-	\$ -	\$ -	-
Energy Saver Kit (Direct Distribution)	2	Low Flow Showerhead plus Aerators	0	0	17	0	\$ 7.80	\$ -	\$ -	10	0	\$ -	\$ 7.80	\$ -	\$ -	\$ -	-	\$ -	\$ -	-
Energy Saver Kit (Direct Distribution)	3	Low Flow Showerhead plus Aerators	0	0	17	0	\$ 7.80	\$ -	\$ -	10	0	\$ -	\$ 7.80	\$ -	\$ -	\$ -	-	\$ -	\$ -	-
Energy Saver Kit (Kit 1)	1	Low Flow Showerhead plus Aerators	23	23	17	391	\$ 10.00	\$ 230.00	\$ 23.00	10	3,145	\$ 2,722.95	\$ 10.00	\$ 230.00	\$ 0.073	\$ 0.939	0.931	\$ 0.066	\$ 0.932	0.939
Energy Saver Kit (Kit 1)	2	Low Flow Showerhead plus Aerators	9	9	17	153	\$ 10.00	\$ 90.00	\$ 9.00	10	1,231	\$ 1,065.50	\$ 10.00	\$ 90.00	\$ 0.073	\$ 0.939	0.931	\$ 0.066	\$ 0.932	0.939
Energy Saver Kit (Kit 1)	3	Low Flow Showerhead plus Aerators	26	26	17	442	\$ 10.00	\$ 260.00	\$ 26.00	10	3,555	\$ 3,078.12	\$ 10.00	\$ 260.00	\$ 0.073	\$ 0.939	0.931	\$ 0.066	\$ 0.932	0.939
Energy Saver Kit (Kit 2)	1	Low Flow Showerhead plus Aerators	6	6	31	186	\$ 16.00	\$ 96.00	\$ 9.60	10	1,496	\$ 1,295.32	\$ 16.00	\$ 96.00	\$ 0.064	\$ 0.930	0.940	\$ 0.058	\$ 0.924	0.947
Energy Saver Kit (Kit 2)	2	Low Flow Showerhead plus Aerators	2	2	31	62	\$ 16.00	\$ 32.00	\$ 3.20	10	499	\$ 431.77	\$ 16.00	\$ 32.00	\$ 0.064	\$ 0.930	0.940	\$ 0.058	\$ 0.924	0.947
Energy Saver Kit (Kit 2)	3	Low Flow Showerhead plus Aerators	10	10	31	310	\$ 16.00	\$ 160.00	\$ 16.00	10	2,493	\$ 2,158.86	\$ 16.00	\$ 160.00	\$ 0.064	\$ 0.930	0.940	\$ 0.058	\$ 0.924	0.947
<b>TOTAL PROGRAM</b>			<b>2,333</b>	<b>729,422</b>		<b>189,415</b>	<b>\$ 1,742,310</b>	<b>\$ 174,231</b>	<b>26.59</b>	<b>2,861,833</b>	<b>\$ 1,319,100</b>		<b>\$ 539,849</b>	<b>\$ 0.189</b>	<b>\$ 0.650</b>	<b>1.258</b>	<b>\$ 0.548</b>	<b>\$ 1.009</b>	<b>0.810&lt;/</b>	



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	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	0.00	\$ 6.72	\$ -	\$ -	18	0	\$ -	\$ 3.00	kBtu/hr	\$ -	\$ -	\$ -	-	\$ -	\$ -	-
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	\$ 25,421.82	\$ 0.218	\$ 0.585	1.381	\$ 0.440	\$ 0.807	1.001
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	\$ 0.350	\$ 0.717	1.128
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	\$ 0.179	\$ 0.450	1.731
Insulation-Attic	Attic Insulation (Tier 1 - Z2)	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 Z2)	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-11	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-19	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	\$ 0.40	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	\$ 8,288	\$ 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	\$ 1.00	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	\$ -	\$ 4.00	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	\$ 2,400	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/h 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	\$ -	\$ -	\$ -	-	\$ -	\$ -	-
<b>Custom Projects</b>			0			0																
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	\$ 3,421.45	\$ 1,750.00	/project	\$ 1,750.00	\$ 0.163	\$ 0.481	1.782	\$ 0.293	\$ 0.611	1.402
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	\$ 20,771.22	\$ 15,653.00	/project	\$ 15,653.00	\$ 0.203	\$ 0.472	1.757	\$ 0.597	\$ 0.866	0.958
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	\$ 1,484.50	\$ 750.00	/project	\$ 750.00	\$ 0.161	\$ 0.479	1.789	\$ 0.289	\$ 0.608	1.410
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	\$ 4,545.18	\$ 3,426.00	/project	\$ 3,426.00	\$ 0.203	\$ 0.472	1.757	\$ 2.840	\$ 3.110	0.267
Burger King of Sedro-Woolley	Food Service	Batch broiler	1	2,247.00	/unit	1.00	1161	\$ 7,480.00	\$ 7,480.00	\$ 748.00	12	10,789	\$ 3,433.28	\$ 2,247.00	/project	\$ 2,247.00	\$ 0.208	\$ 0.526	1.628	\$ 0.624	\$ 0.942	0.909
Central Kitsap Junior High	Controls	Control upgrades	1	230.00	/unit	1.00	230	\$ 1,466.00	\$ 1,466.00	\$ 146.60	15	2,527	\$ 680.15	\$ 512.66	/project	\$ 512.66	\$ 0.203	\$ 0.472	1.757	\$ 0.522	\$ 0.791	1.048
Cottonwood Elementary School	Controls	Control upgrades	1	917.00	/unit	1.00	917	\$ 1,466.00	\$ 1,466.00	\$ 146.60	15	10,075	\$ 2,711.73	\$ 2,044.00	/project	\$ 2,044.00	\$ 0.203	\$ 0.472	1.757	\$ 0.131	\$ 0.400	2.072
Fairview Junior High	Controls	Control upgrades	1	3,910.00	/unit	1.00	3910	\$ 16,092.00	\$ 16,092.00	\$ 1,609.20	15	42,961	\$ 11,562.57	\$ 8,713.00	/project	\$ 8,713.00	\$ 0.203	\$ 0.472	1.757	\$ 0.337	\$ 0.606	1.368
Foster Farms	Radiant Heat	Replace standing pilot ign brooder heaters w/ ignition htis	1	5,927.00	/unit	1.00	5927	\$ 13,312.00	\$ 13,312.00	\$ 1,331.20	15	65,122	\$ 17,527.19	\$ 6,656.00	/project	\$ 6,656.00	\$ 0.102	\$ 0.371	2.233	\$ 0.184	\$ 0.453	1.830
Kitsap Lake Elementary School	Controls	Control upgrades	1	3,009.00	/unit	1.00	3009	\$ 6,705.00	\$ 6,705.00	\$ 670.50	15	33,061	\$ 8,898.15	\$ 6,705.00	/project	\$ 6,705.00	\$ 0.203	\$ 0.472	1.757	\$ 0.183	\$ 0.452	1.836
Kulshan Middle School	Controls	Control upgrades and demand control ventilation for HVAC units	1	7,617.00	/unit	1.00	7617	\$ 72,597.00	\$ 72,597.00	\$ 7,259.70	15	83,691	\$ 22,524.82	\$ 16,975.00	/project	\$ 16,975.00	\$ 0.203	\$ 0.472	1.757	\$ 0.781	\$ 1.050	0.790
Living Faith Victory Center	Insulation	Apply R23 rigid insulation to underside of roof deck	1	1,672.00	/unit	1.00	1672	\$ 4,434.00	\$ 4,434.00	\$ 443.40	30	28,325	\$ 4,944.40	\$ 2,217.00	/project	\$ 2,217.00	\$ 0.078	\$ 0.253	3.080	\$ 0.141	\$ 0.315	2.468
Montesano School District (2)	Controls	DDC controls	1	6,724.00	/unit	1.00	6724	\$ 60,480.00	\$ 60,480.00	\$ 6,048.00	15	73,879	\$ 19,884.06	\$ 14,985.00	/project	\$ 14,985.00	\$ 0.203	\$ 0.472	1.757	\$ 0.737	\$ 1.006	0.824
Montesano School District (2)	Custom Gas Furnace Replacement	Direct fired furnaces	1	8,687.00	/unit	1.00	8687	\$ 85,800.00	\$ 85,800.00	\$ 8,580.00	20	116,302	\$ 25,689.00	\$ 22,906.00	/project	\$ 22,906.00	\$ 0.197	\$ 0.418	1.915	\$ 0.664	\$ 0.885	0.904
Mt Vernon Women's Clinic	Insulation	Insulate 3022 sq feet of floor above crawl with R30Batts	1	257.00	/unit	1.00	257	\$ 2,690.00	\$ 2,690.00	\$ 269.00	30	4,354	\$ 759.99	\$ 839.00	/project	\$ 839.00	\$ 0.193	\$ 0.367	2.120	\$ 0.556	\$ 0.731	1.066
Old Town Bistro	Dishwasher	Install high temp CMA Model 180UC	1	201.00	/unit	1.00	201	\$ 1,100.00	\$ 1,100.00	\$ 110.00	10	1,617	\$ 594.39	\$ 341.00	/project	\$ 341.00	\$ 0.211	\$ 0.579	1.512	\$ 0.612	\$ 0.980	0.892
Olympic College	Controls	HVAC controls upgrade and retrocommissioning for 11 bldgs	1	56,275.00	/unit	1.00	56275	\$ 357,027.00	\$ 357,027.00	\$ 35,702.70	10	452,602	\$ 166,415.19	\$ 95,555.00	/project	\$ 95,555.00	\$ 0.211	\$ 0.579	1.511	\$ 0.710	\$ 1.078	0.812
Olympic College	Duct Pipe Insulation	Duct piping insulation projects	1	4,399.00	/unit	1.00	4399	\$ 9,373.00	\$ 9,373.00	\$ 937.30	30	74,522	\$ 13,008.63	\$ 4,687.00	/project	\$ 4,687.00	\$ 0.063	\$ 0.237	3.279	\$ 0.113	\$ 0.288	2.706
Olympic College	Heat Recovery	Run around loop heat recovery	1	9,165.00	/unit	1.00	9165	\$ 30,900.00	\$ 30,900.00	\$ 3,090.00	20	122,701	\$ 27,102.54	\$ 15,450.00	/project	\$ 15,450.00	\$ 0.126	\$ 0.347	2.308	\$ 0.227	\$ 0.448	1.788
Pincrest Elementary School	Controls	Control upgrades	1	2,251.00	/unit	1.00	2251	\$ 14,348.00	\$ 14,348.00	\$ 1,434.80	15	24,733	\$ 6,656.61	\$ 5,016.00	/project	\$ 5,016.00	\$ 0.203	\$ 0.472	1.757	\$ 0.522	\$ 0.791	1.048
Ridgetop Junior High	Controls	Control upgrades	1	230.00	/unit	1.00	230	\$ 1,466.00	\$ 1,466.00	\$ 146.6												

**CASCADE NATURAL GAS CORPORATION**  
**LOW INCOME Program Participant Cost Effectiveness Estimates**

MEASURE	TOTAL INSTALLED MEASURES	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	91	7,559	\$ 134,147	\$ 13,415	30	128,054	\$ 15,550	\$ 95,436	\$ 0.745	\$ 0.867	0.898		\$ 0.943	\$ 1.064	0.732
Floor Insulation	76	7,290	\$ 130,026	\$ 13,003	30	123,492	\$ 14,736	\$ 95,655	\$ 0.775	\$ 0.894	0.871		\$ 0.948	\$ 1.067	0.730
Wall Insulation	50	7,164	\$ 112,907	\$ 11,291	30	121,361	\$ 14,402	\$ 83,367	\$ 0.687	\$ 0.806	0.967		\$ 0.837	\$ 0.956	0.815
Duct Insulation	39	4,104	\$ 30,232	\$ 3,023	20	54,943	\$ 8,899	\$ 29,365	\$ 0.534	\$ 0.696	1.149		\$ 0.495	\$ 0.657	1.218
Infiltration Reduction	98	4,693	\$ 75,703	\$ 7,570	20	62,830	\$ 10,398	\$ 49,318	\$ 0.785	\$ 0.950	0.842		\$ 1.084	\$ 1.250	0.640
<b>TOTAL PROGRAM</b>	<b>354</b>	<b>30,809</b>	<b>\$ 483,015</b>	<b>\$ 48,302</b>	<b>27.14</b>	<b>490,680</b>	<b>\$ 63,984</b>	<b>\$ 353,141</b>	<b>\$ 0.720</b>	<b>0.850</b>	<b>0.928</b>		<b>\$ 0.886</b>	<b>\$ 1.016</b>	<b>0.776</b>

# APPENDIX B

UPDATED 2009 RESULTS

**CASCADE NATURAL GAS CORPORATION**  
**Program Participant Cost Effectiveness Estimate Summary**

PROGRAM	PARTICIPANTS	TOTAL ANNUAL THERM SAVINGS	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	5,678	273,833	\$ 2,389,197	\$ 238,920	24.18	3,805,051	\$ 1,108,104	\$ 447,998	0.217	\$ 0.508	1.678		0.565	\$ 0.8560	0.996
COMMERCIAL	126	275,604	\$ 1,262,742	\$ 126,274	15.50	2,922,813	\$ 598,196	\$ 447,898	0.153	\$ 0.358	2.400		0.389	\$ 0.5930	1.447
LOW INCOME*	168	14,733	\$ 221,754	\$ 22,175	27.45	236,240	\$ 74,387	\$ 168,378	0.713	\$ 1.028	0.763		0.845	\$ 1.1597	0.676
<b>TOTAL</b>	<b>5,972</b>	<b>564,170</b>	<b>\$ 3,873,693</b>	<b>\$ 387,369</b>	<b>20.03</b>	<b>6,964,104</b>	<b>\$ 1,780,687</b>	<b>\$ 1,064,274</b>	<b>\$ 0.15</b>	<b>\$ 0.41</b>	<b>5.680</b>		<b>\$ 0.50</b>	<b>\$ 0.76</b>	<b>1.148</b>

Nominal interest rate (post tax cost of cap.) 7.63%  
Inflation rate 3.32%  
Long term real discount rate 4.17%

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

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	92	92	95	8,740	\$ 1,000.00	\$ 92,000.00	\$ 9,200.00	30	148,061	\$ 35,367.60	\$ 350.00	\$ 32,200.00	\$ 0.217	\$ 0.456	1.707	\$ 0.559	\$ 0.798	0.976
Energy * Certified Home (BOP 1)	2	90% AFUE Rating	49	49	102	4,998	\$ 1,000.00	\$ 49,000.00	\$ 4,900.00	30	84,669	\$ 20,225.09	\$ 350.00	\$ 17,150.00	\$ 0.203	\$ 0.441	1.765	\$ 0.521	\$ 0.760	1.026
Energy * Certified Home (BOP 1)	3	90% AFUE Rating	17	17	126	2,142	\$ 1,000.00	\$ 17,000.00	\$ 1,700.00	30	36,287	\$ 8,667.89	\$ 350.00	\$ 5,950.00	\$ 0.164	\$ 0.403	1.934	\$ 0.422	\$ 0.661	1.180
Energy * Plus Certified Home	1	Federal Tax Credit Eligible	1	1	221	221	\$ 3,700.00	\$ 3,700.00	\$ 370.00	30	3,744	\$ 894.31	\$ 750.00	\$ 750.00	\$ 0.200	\$ 0.439	1.774	\$ 0.889	\$ 1.128	0.691
Energy * Plus Certified Home	2	Federal Tax Credit Eligible	26	26	235	6,110	\$ 3,700.00	\$ 96,200.00	\$ 9,620.00	30	103,507	\$ 24,724.95	\$ 750.00	\$ 19,500.00	\$ 0.188	\$ 0.427	1.824	\$ 0.836	\$ 1.075	0.725
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	0	0	124	0	\$ 1,000.00	\$ -	\$ -	30	0	\$ -	\$ 150.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
95% AFUE Gas Furn Upgrade E*	2	95% AFUE Rating	0	0	118	0	\$ 1,000.00	\$ -	\$ -	30	0	\$ -	\$ 150.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
95% AFUE Gas Furn Upgrade E*	3	95% AFUE Rating	0	0	142	0	\$ 1,000.00	\$ -	\$ -	30	0	\$ -	\$ 150.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
90% Furnace & PTCS Duct Sealing (Old Tariff)	1	90% AFUE Rating	0	0	173	0	\$ 1,250.00	\$ -	\$ -	20	0	\$ -	\$ 300.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
90% Furnace & PTCS Duct Sealing (Old Tariff)	2	90% AFUE Rating	0	0	160	0	\$ 1,250.00	\$ -	\$ -	20	0	\$ -	\$ 300.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
90% Furnace & PTCS Duct Sealing (Old Tariff)	3	90% AFUE Rating	1	1	210	210	\$ 1,250.00	\$ 1,250.00	\$ 125.00	20	2,811	\$ 849.79	\$ 300.00	\$ 300.00	\$ 0.107	\$ 0.409	1.957	\$ 0.400	\$ 0.702	1.139
90% Furnace & PTCS Duct Sealing (New Tariff)	1	90% AFUE Rating	0	0	173	0	\$ 1,250.00	\$ -	\$ -	20	0	\$ -	\$ 400.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
90% Furnace & PTCS Duct Sealing (New Tariff)	2	90% AFUE Rating	0	0	160	0	\$ 1,250.00	\$ -	\$ -	20	0	\$ -	\$ 400.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
90% Furnace & PTCS Duct Sealing (New Tariff)	3	90% AFUE Rating	0	0	210	0	\$ 1,250.00	\$ -	\$ -	20	0	\$ -	\$ 400.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
PTCS Duct Sealing	1	PTCS Certified Duct Sealing	5	5	88	440	\$ 800.00	\$ 4,000.00	\$ 400.00	20	5,891	\$ 1,780.52	\$ 150.00	\$ 750.00	\$ 0.127	\$ 0.430	1.863	\$ 0.611	\$ 0.913	0.876
PTCS Duct Sealing	2	PTCS Certified Duct Sealing	3	3	77	231	\$ 800.00	\$ 2,400.00	\$ 240.00	20	3,093	\$ 934.77	\$ 150.00	\$ 450.00	\$ 0.146	\$ 0.448	1.787	\$ 0.698	\$ 1.001	0.800
PTCS Duct Sealing	3	PTCS Certified Duct Sealing	13	13	113	1,469	\$ 800.00	\$ 10,400.00	\$ 1,040.00	20	19,667	\$ 5,944.51	\$ 150.00	\$ 1,950.00	\$ 0.099	\$ 0.401	1.994	\$ 0.476	\$ 0.778	1.028
90% AFUE New Gas Furnace (New)	1	90% AFUE Rating	3	3	61	183	\$ 500.00	\$ 1,500.00	\$ 150.00	18	2,285	\$ 740.53	\$ 150.00	\$ 450.00	\$ 0.197	\$ 0.521	1.552	\$ 0.591	\$ 0.915	0.884
90% AFUE New Gas Furnace (New)	2	90% AFUE Rating	4	4	81	324	\$ 500.00	\$ 2,000.00	\$ 200.00	18	4,046	\$ 1,311.11	\$ 150.00	\$ 600.00	\$ 0.148	\$ 0.472	1.711	\$ 0.445	\$ 0.769	1.051
90% AFUE New Gas Furnace (New)	3	90% AFUE Rating	3	3	65	195	\$ 500.00	\$ 1,500.00	\$ 150.00	18	2,435	\$ 789.09	\$ 150.00	\$ 450.00	\$ 0.185	\$ 0.509	1.589	\$ 0.554	\$ 0.879	0.920
90% AFUE New Gas Furnace (Existing)	1	90% AFUE Rating	857	858	81	69,498	\$ 800.00	\$ 686,400.00	\$ 68,640.00	18	867,763	\$ 281,233.12	\$ 150.00	\$ 128,700.00	\$ 0.148	\$ 0.472	1.711	\$ 0.712	\$ 1.036	0.780
90% AFUE New Gas Furnace (Existing)	2	90% AFUE Rating	213	213	75	15,975	\$ 800.00	\$ 170,400.00	\$ 17,040.00	18	199,466	\$ 64,645.01	\$ 150.00	\$ 31,950.00	\$ 0.160	\$ 0.484	1.669	\$ 0.769	\$ 1.093	0.740
90% AFUE New Gas Furnace (Existing)	3	90% AFUE Rating	133	134	99	13,266	\$ 800.00	\$ 107,200.00	\$ 10,720.00	18	165,641	\$ 53,682.68	\$ 150.00	\$ 20,100.00	\$ 0.121	\$ 0.445	1.815	\$ 0.582	\$ 0.907	0.892
.81 Tankless Water Heater (replace & new)	1	0.81 Energy Factor	301	301	43	12,943	\$ 800.00	\$ 240,800.00	\$ 24,080.00	20	173,281	\$ 52,375.61	\$ 200.00	\$ 60,200.00	\$ 0.347	\$ 0.650	1.232	\$ 1.251	\$ 1.553	0.515
.81 Tankless Water Heater (replace & new)	2	0.81 Energy Factor	88	93	43	3,999	\$ 800.00	\$ 74,400.00	\$ 7,440.00	20	53,539	\$ 16,182.50	\$ 200.00	\$ 18,600.00	\$ 0.347	\$ 0.650	1.232	\$ 1.251	\$ 1.553	0.515
.81 Tankless Water Heater (replace & new)	3	0.81 Energy Factor	18	18	43	774	\$ 800.00	\$ 14,400.00	\$ 1,440.00	20	10,362	\$ 3,132.10	\$ 200.00	\$ 3,600.00	\$ 0.347	\$ 0.650	1.232	\$ 1.251	\$ 1.553	0.515
Upgrade to Tankless Water Heater	1	0.81 EF Above Energy Star Home	0	0	43	0	\$ 800.00	\$ -	\$ -	20	0	\$ -	\$ 100.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Upgrade to Tankless Water Heater	2	0.81 EF Above Energy Star Home	0	0	43	0	\$ 800.00	\$ -	\$ -	20	0	\$ -	\$ 100.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Upgrade to Tankless Water Heater	3	0.81 EF Above Energy Star Home	0	0	43	0	\$ 800.00	\$ -	\$ -	20	0	\$ -	\$ 100.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.0 MEF E* Clothes Washer	1	2.0 MEF	779	779	13	10,127	\$ 113.00	\$ 88,027.00	\$ 8,802.70	12	94,112	\$ 40,980.28	\$ 75.00	\$ 58,425.00	\$ 0.621	\$ 1.056	0.811	\$ 0.842	\$ 1.277	0.671
2.0 MEF E* Clothes Washer	2	2.0 MEF	45	45	13	585	\$ 113.00	\$ 5,085.00	\$ 508.50	12	5,437	\$ 2,367.28	\$ 75.00	\$ 3,375.00	\$ 0.621	\$ 1.056	0.811	\$ 0.842	\$ 1.277	0.671
2.0 MEF E* Clothes Washer	3	2.0 MEF	123	123	13	1,599	\$ 113.00	\$ 13,899.00	\$ 1,389.90	12	14,860	\$ 6,470.57	\$ 75.00	\$ 9,225.00	\$ 0.621	\$ 1.056	0.811	\$ 0.842	\$ 1.277	0.671
80% AFUE Hearth	1	80% AFUE Rating	3	3	80	240	\$ 400.00	\$ 1,200.00	\$ 120.00	20	3,213	\$ 971.19	\$ 70.00	\$ 210.00	\$ 0.065	\$ 0.368	2.177	\$ 0.336	\$ 0.638	1.254
80% AFUE Hearth	2	80% AFUE Rating	4	4	80	320	\$ 400.00	\$ 1,600.00	\$ 160.00	20	4,284	\$ 1,294.92	\$ 70.00	\$ 280.00	\$ 0.065	\$ 0.368	2.177	\$ 0.336	\$ 0.638	1.254
80% AFUE Hearth	3	80% AFUE Rating	2	2	80	160	\$ 400.00	\$ 800.00	\$ 80.00	20	2,142	\$ 647.46	\$ 70.00	\$ 140.00	\$ 0.065	\$ 0.368	2.177	\$ 0.336	\$ 0.638	1.254
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	84	85	13	1,105	\$ 100.00	\$ 8,500.00	\$ 850.00	12	10,269	\$ 4,471.53	\$ 25.00	\$ 2,125.00	\$ 0.207	\$ 0.642	1.334	\$ 0.745	\$ 1.180	0.726
.62 Water Heater	2	0.62 Energy Factor or Greater	46	46	13	598	\$ 100.00	\$ 4,600.00	\$ 460.00	12	5,557	\$ 2,419.89	\$ 25.00	\$ 1,150.00	\$ 0.207	\$ 0.642	1.334	\$ 0.745	\$ 1.180	0.726
.62 Water Heater	3	0.62 Energy Factor or Greater	103	103	13	1,339	\$ 100.00	\$ 10,300.00	\$ 1,030.00	12	12,444	\$ 5,418.45	\$ 25.00	\$ 2,575.00	\$ 0.207	\$ 0.642	1.334	\$ 0.745	\$ 1.180	0.726
Ceiling Insulation	1	Equal to or Greater than R-38	237	277,083	0.057	15,794	\$ 0.57	\$ 157,937.31	\$ 15,793.73	45	318,500	\$ 63,911.48	\$ 0.25	\$ 69,270.75	\$ 0.217	\$ 0.418	1.811	\$ 0.446	\$ 0.647	1.171
Ceiling Insulation	2	Equal to or Greater than R-38	37	41,392	0.055	2,277	\$ 0.56	\$ 23,179.52	\$ 2,317.95	45	45,910	\$ 9,212.41	\$ 0.25	\$ 10,348.00	\$ 0.225	\$ 0.426	1.777	\$ 0.454	\$ 0.655	1.156
Ceiling Insulation	3	Equal to or Greater than R-38	176	211,934	0.065	13,776	\$ 0.57	\$ 120,802.38	\$ 12,080.24	45	277,805	\$ 55,745.29	\$ 0.25	\$ 52,983.50	\$ 0.191	\$ 0.391	1.935	\$ 0.391	\$ 0.592	1.279
Floor Insulation	1	Equal to or Greater than R-30 or to fill cavity	253	298,944	0.057	17,040	\$ 0.57	\$ 170,398.08	\$ 17,039.81	45	343,629	\$ 68,953.90	\$ 0.45	\$ 134,524.80	\$ 0.391	\$ 0.592	1.279	\$ 0.446	\$ 0.647	1.171
Floor Insulation	2	Equal to or Greater than R-30 or to fill cavity	41	47,698	0.055	2,623	\$ 0.56	\$ 26,710.88	\$ 2,671.09	45	52,904	\$ 10,615.90	\$ 0.45	\$ 21,464.10	\$ 0.406	\$ 0.606	1.249	\$ 0.454	\$ 0.655	1.156
Floor Insulation	3	Equal to or Greater than R-30 or to fill cavity	98	96,177	0.065	6,252	\$ 0.57	\$ 54,820.89	\$ 5,482.09	45	126,069	\$ 25,297.57	\$ 0.45	\$ 43,279.65	\$ 0.343	\$ 0.544	1.392	\$ 0.391	\$ 0.592	1.279
Wall Insulation (Old Tariff)	1	Equal to or Greater than R-11 to fill cavity	67	54,049	0.067	3,621	\$ 0.66	\$ 35,672.34	\$ 3,567.23	45	73,028	\$ 14,654.01	\$ 0.30	\$ 16,214.70	\$ 0.222	\$ 0.423	1.792	\$ 0.440	\$ 0.640	1.183
Wall Insulation (Old Tariff)	2	Equal to or Greater than R-11 to fill cavity	17	13,844	0.065	900	\$ 0.67	\$ 9,275.48	\$ 927.55	45	18,147	\$ 3,641.41	\$ 0.30	\$ 4,153.20	\$ 0.229	\$ 0.430	1.763	\$ 0.460	\$ 0.661	1.146
Wall Insulation (Old Tariff)	3	Equal to or Greater than R-11 to fill cavity	74	63,150	0.076	4,799	\$ 0.66	\$ 41,679.90	\$ 4,167.90	45	96,786	\$ 19,421.43	\$ 0.30	\$ 18,945.00	\$ 0.196	\$ 0.396	1.910	\$ 0.388	\$ 0.588	1.287
Wall Insulation (New Tariff)	1	Equal to or Greater than R-11 to fill cavity	15	15,771	0.067	1,057	\$ 0.66	\$ 10,408.86	\$ 1,040.89	45	21,309	\$ 4,275.91	\$							

CASCADE NATURAL GAS CORPORATION  
COMMERCIAL Program Participant Cost Effectiveness

MEASURE	DESCRIPTION	EFFICIENCY TYPE FOR QUALIFICATION	PARTICIPANTS	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	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	0	1.10	kBtu/hr	0	0	\$ 6.72	\$ -	\$ -	18	0	\$ -	\$ 1.50	\$ -	\$ -	\$ -	-	\$ -	\$ -	-
HVAC Unit Heater	High Efficiency Condensing	Minimum 92% AFUE	0	0	1.10	kBtu/hr	0	0	\$ 6.72	\$ -	\$ -	18	0	\$ -	\$ 3.00	\$ -	\$ -	\$ -	-	\$ -	\$ -	-
Warm Air Furnace	High Efficiency Condensing Furnace	Minimum 91% AFUE	20	44	1.10	kBtu/hr	4,752	5,227	\$ 6.72	\$ 31,930	\$ 3,193	18	65,261	\$ 13,851	\$ 3.00	\$ 14,255	\$ 0.218	\$ 0.431	1.877	\$ 0.440	\$ 0.653	1.239
Radiant Heating	Direct Fired Radiant Heating	None	4	31	4.33	kBtu/hr	2,056	8,902	\$ 21.00	\$ 43,176	\$ 4,318	18	111,158	\$ 23,592	\$ 6.50	\$ 13,364	\$ 0.120	\$ 0.332	2.432	\$ 0.350	\$ 0.562	1.439
Insulation (Attic) (Old Tariff)	Attic Insulation	Minimum R-19	9	9	0.18	sq. ft.	34,738	6,095	\$ 0.80	\$ 27,790	\$ 2,779	30	103,310	\$ 16,161	\$ 0.20	\$ 6,948	\$ 0.067	\$ 0.224	3.481	\$ 0.242	\$ 0.399	1.954
Insulation (Roof) (Old Tariff)	Roof Insulation	Minimum R-11	5	5	0.24	sq. ft.	70,621	16,814.76	\$ 0.95	\$ 67,090	\$ 6,709	30	284,853	\$ 44,559	\$ 0.20	\$ 14,124	\$ 0.050	\$ 0.206	3.780	\$ 0.212	\$ 0.368	2.114
Insulation (Wall) (Old Tariff)	Wall Insulation	Minimum R-11	3	3	0.16	sq. ft.	3,960	617.76	\$ 0.55	\$ 2,178	\$ 218	30	10,465	\$ 1,637	\$ 0.20	\$ 792	\$ 0.076	\$ 0.232	3.355	\$ 0.187	\$ 0.344	2.265
Insulation-Attic (New Tariff)	Attic Insulation (Tier 1)	Minimum R-30	8	8	0.31	sq. ft.	34,018	10,545.58	\$ 1.35	\$ 45,924	\$ 4,592	30	178,649	\$ 27,946	\$ 0.50	\$ 17,009	\$ 0.095	\$ 0.252	3.094	\$ 0.231	\$ 0.388	2.008
Insulation-Attic (New Tariff)	Attic Insulation (Tier 2)	Minimum R-45	0	0	0.32	sq. ft.	0	0.00	\$ 1.63	\$ -	\$ -	30	0	\$ -	\$ 0.65	\$ -	\$ -	-	\$ -	\$ -	-	-
Insulation-Roof (New Tariff)	Roof Insulation (Tier 1)	Minimum R-21	1	1	0.45	sq. ft.	5,000	2,235.00	\$ 1.83	\$ 9,150	\$ 915	30	37,862	\$ 5,923	\$ 0.60	\$ 3,000	\$ 0.079	\$ 0.236	3.304	\$ 0.217	\$ 0.374	2.082
Insulation-Roof (New Tariff)	Roof Insulation (Tier 2)	Minimum R-30	0	0	0.36	sq. ft.	0	0.00	\$ 2.15	\$ -	\$ -	30	0	\$ -	\$ 0.80	\$ -	\$ -	-	\$ -	\$ -	-	-
Insulation-Wall (New Tariff)	Wall Insulation (Tier 1)	Minimum R-11	3	3	0.22	sq. ft.	12,584	2,768.48	\$ 0.55	\$ 6,921	\$ 692	30	46,900	\$ 7,336	\$ 0.30	\$ 3,775	\$ 0.080	\$ 0.237	3.287	\$ 0.133	\$ 0.289	2.692
Insulation-Wall (New Tariff)	Wall Insulation (Tier 2)	Minimum R-19	3	3	0.24	sq. ft.	7,912	1,922.62	\$ 1.70	\$ 13,450	\$ 1,345	30	32,570	\$ 5,095	\$ 0.40	\$ 3,165	\$ 0.097	\$ 0.254	3.070	\$ 0.372	\$ 0.528	1.474
Domestic Hot Water Tanks	Condensing Tank	Minimum 91% AFUE or 91% Thermal Efficiency	7	10	0.79	kBtu/hr	1,966	1,553.22	\$ 6.06	\$ 11,915	\$ 1,191	15	17,066	\$ 4,116	\$ 2.50	\$ 4,915	\$ 0.288	\$ 0.529	1.567	\$ 0.628	\$ 0.870	0.954
Domestic Tankless with standing pilot	With Standing Pilot	Minimum 70.8% Energy Factor	0	0	21.70	gpm	0	0.00	\$ 84.00	\$ -	\$ -	18	0	\$ -	\$ 30.00	\$ -	\$ -	-	\$ -	\$ -	-	-
Domestic Tankless w/ electronic ignition	With Electronic Ignition	Minimum 73.8% AFUE	8	10	21.70	gpm	105	2,287.18	\$ 117.00	\$ 12,332	\$ 1,233	18	28,558	\$ 6,061	\$ 40.00	\$ 4,216	\$ 0.148	\$ 0.360	2.247	\$ 0.389	\$ 0.601	1.346
Boiler (Old Tariff)	High Efficiency Condensing Boiler with Electronic Ignition	Minimum 90% AFUE and 500 kBtu input	3	3	0.88	kBtu/hr	3,550	3,124.00	\$ 7.72	\$ 27,406	\$ 2,741	20	41,824	\$ 8,279	\$ 2.00	\$ 7,100	\$ 0.170	\$ 0.368	2.177	\$ 0.590	\$ 0.788	1.016
Boiler (New Tariff)	High Efficiency Condensing Boiler with Electronic Ignition	Minimum 90% AFUE and 500 kBtu input	5	8	0.88	kBtu/hr	4,497	3,957.36	\$ 7.72	\$ 34,717	\$ 3,472	20	52,981	\$ 10,487	\$ 4.00	\$ 17,988	\$ 0.340	\$ 0.537	1.489	\$ 0.590	\$ 0.788	1.016
Boiler Vent Damper	Boiler Vent Damper	Minimum 1,000 kBtu input	0	0	0.30	kBtu/hr	0	0.00	\$ 1.50	\$ -	\$ -	12	0	\$ -	\$ 1.00	\$ -	\$ -	-	\$ -	\$ -	-	-
Gas Fryer	Energy Star	None	8	10	548.00	each	17	9,316.00	\$ 1,400.00	\$ 23,800	\$ 2,380	8	62,284	\$ 24,687	\$ 600.00	\$ 10,200	\$ 0.164	\$ 0.560	1.595	\$ 0.344	\$ 0.740	1.207
Gas Convection Oven	Full Sized Oven	None	8	10	564.00	each	10	5,640.00	\$ 2,000.00	\$ 20,000	\$ 2,000	12	52,414	\$ 14,946	\$ 600.00	\$ 6,000	\$ 0.114	\$ 0.400	2.144	\$ 0.343	\$ 0.629	1.363
Gas Griddle	High Efficiency Infrared Gas Griddle	None	0	0	457.90	each	0	0.00	\$ 1,048.00	\$ -	\$ -	12	0	\$ -	\$ 600.00	\$ -	\$ -	-	\$ -	\$ -	-	-
Clothes Washer	Commercial Gas Washer	1.8 MEF	1	6	90.00	each	6	540.00	\$ 200.00	\$ 1,200	\$ 120	10	4,343	\$ 1,431	\$ 180.00	\$ 1,080	\$ 0.249	\$ 0.578	1.513	\$ 0.249	\$ 0.578	1.513
Steam Trap (Single Tier) (New Measure)	Steam Traps Line Size <2"	Minimum 300 kBtuH system size, steam pressures operating at 7 psig or greater, steam trap line size < 2", Min 25 psig Trap Design Pressure	15	228	136.90	each	228	31,213.20	\$ 315.00	\$ 71,820	\$ 7,182	7	186,172	\$ 82,715	\$ 80.00	\$ 18,240	\$ 0.098	\$ 0.542	1.665	\$ 0.347	\$ 0.791	1.141
<b>Custom Projects</b>																						
McClendon's Hardware	10 Ton Trane Gas Pack	10 Ton Trane Gas Pack	1		609.25	/spsack	4	2,437.00	\$ 28,188.00	\$ 28,188.00	\$ 2,819	20	32,627	\$ 4,480	\$ 6,426.00	\$ 6,426	\$ 0.197	\$ 0.334	2.394	\$ 0.778	\$ 0.915	0.875
Bridgeview Auto	Install Trinity TH150 Boiler	Install Trinity TH150 Boiler	1		609.00	/boiler	1	609.00	\$ 6,700.00	\$ 6,700.00	\$ 670	20	8,153	\$ 1,120	\$ 1,606.00	\$ 1,606	\$ 0.197	\$ 0.334	2.394	\$ 0.740	\$ 0.877	0.913
Sidney Museum & Gallery	Crawl-space Underfloor Insulation R-19	Crawl-space Underfloor Insulation R-19	1		136.00	/install	1	136.00	\$ 1,126.00	\$ 1,126.00	\$ 113	30	2,304	\$ 250	\$ 444.00	\$ 444	\$ 0.193	\$ 0.301	2.585	\$ 0.440	\$ 0.548	1.420
Washington Veterans Home	Bldg 10 Run Around Loop Heat Recovery	Bldg 10 Run Around Loop Heat Recovery	1		8,963.00	/heat loop	1	8,963.00	\$ 70,005.00	\$ 70,005.00	\$ 7,001	20	119,997	\$ 16,478	\$ 23,633.00	\$ 23,633	\$ 0.197	\$ 0.334	2.394	\$ 0.525	\$ 0.662	1.208
Washington Veterans Home	Retrocommissioning of HVAC	Retrocommissioning of HVAC	1		38,290.00	/project	1	38,290.00	\$ 120,489.00	\$ 120,489.00	\$ 12,049	5	169,649	\$ 70,394	\$ 39,290.00	\$ 39,290	\$ 0.232	\$ 0.647	1.424	\$ 0.639	\$ 1.054	0.873
Washington Veterans Home	Various upgrades to steam system	Various upgrades to steam system	1		59,669.00	/project	1	59,669.00	\$ 266,627.00	\$ 266,627.00	\$ 26,663	18	745,037	\$ 109,699	\$ 121,844.00	\$ 121,844	\$ 0.164	\$ 0.311	2.601	\$ 0.322	\$ 0.469	1.723
North Kitsap School District	Installation of DDC controls, software changes, retrocomm.	Installation of DDC controls, software changes, retrocomm.	1		19,618.00	/project	1	19,618.00	\$ 129,905.00	\$ 129,905.00	\$ 12,991	11	170,298	\$ 36,067	\$ 35,683.00	\$ 35,683	\$ 0.210	\$ 0.421	2.055	\$ 0.687	\$ 0.898	0.964
Stanwood Camano School District	Air system, install VSD for pool room & solar pool pre-heating	Air system, install VSD for pool room & solar pool pre-heating	1		520.00	/dishwasher	1	520.00	\$ 4,000.00	\$ 4,000.00	\$ 400	18	6,493	\$ 956	\$ 1,287.00	\$ 1,287	\$ 0.198	\$ 0.345	2.340	\$ 0.554	\$ 0.702	1.152
Pacific Crest Assets	High Efficiency Boiler Retrofit	High Efficiency Boiler Retrofit	1		783.00	/project	1	783.00	\$ 10,965.00	\$ 10,965.00	\$ 1,097	25	12,015	\$ 1,440	\$ 2,340.00	\$ 2,340	\$ 0.195	\$ 0.315	2.506	\$ 0.821	\$ 0.941	0.838
Mt Vernon School District	Retrofit existing AHUs to VAV, new term boxes, drives, controls.	Retrofit existing AHUs to VAV, new term boxes, drives, controls.	1		24,548.00	/project	1	24,548.00	\$ 145,000.00	\$ 145,000.00	\$ 14,500	15	269,718	\$ 45,130	\$ 54,706.00	\$ 54,706	\$ 0.203	\$ 0.370	2.240	\$ 0.484	\$ 0.651	1.273
Sound City Foods	Add CO2 demand controls, scheduling changes.	Add CO2 demand controls, scheduling changes.	1		1,161.00	/broiler	1	1,161.00	\$ 7,305.00	\$ 7,305.00	\$ 731	12	10,789	\$ 2,134	\$ 2,247.00	\$ 2,247	\$ 0.208	\$ 0.406	2.110	\$ 0.609	\$ 0.807	1.062
BKB, Inc.	Flexible High Efficiency Batch Broiler	Flexible High Efficiency Batch Broiler	1		1,161.00	/broiler	1	1,161.00	\$ 7,305.00	\$ 7,305.00	\$ 731	12	10,789	\$ 2,134	\$ 2,247.00	\$ 2,247	\$ 0.208	\$ 0.406	2.110	\$ 0.609	\$ 0.807	1.062
Benton King	Flexible High Efficiency Batch Broiler	Flexible High Efficiency Batch Broiler	1		1,161.00	/broiler	1	1,161.00	\$ 7,305.00	\$ 7,305.00	\$ 731	12	10,789	\$ 2,134	\$ 2,247.00	\$ 2,247	\$ 0.208	\$ 0.406	2.110	\$ 0.609	\$ 0.807	1.062
Pacific Restaurant Ventures	Flexible High Efficiency Batch Broiler	Flexible High Efficiency Batch Broiler	1		3,483.00	/broiler	3	3,483.00	\$ 4,200.00	\$ 4,200.00	\$ 420	12	32,368	\$ 6,403	\$ 6,741.00	\$ 6,741	\$ 0.208	\$ 0.406	2.110	\$ 0.117	\$ 0.315	2.724
Bethel Grange	Crawl-space Underfloor Insulation R-19	Crawl-space Underfloor Insulation R-19	1		302.00	/install	1	302.00	\$ 2,822.00	\$ 2,822.00	\$ 282	30	5,116	\$ 555	\$ 986.00	\$ 986.00	\$ 0.193	\$ 0.301	2.585	\$ 0.496	\$ 0.605	1.287
<b>TOTAL PROGRAM</b>																						
			126	392				275,604	\$ 1,262,742	\$ 1,262,742	\$ 126,274	15.50	2,922,813	\$ 598,196	\$ 447,898	\$ 447,898	\$ 0.153	\$ 0.358	2.400	\$ 0.389	\$ 0.593	1.447

Nominal interest rate (post tax cost of cap.) 7.63%  
 Inflation rate 3.32%  
 Long term real discount rate 4.17%

**CASCADE NATURAL GAS CORPORATION**  
**LOW INCOME Program Participant Cost Effectiveness Estimates**

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	46	4,042	\$ 73,478	\$ 7,348	30	68,481	\$ 20,410	\$ 52,403	\$ 0.765	\$ 1.063	0.732	\$ 0.966	\$ 1.264	0.616
Floor Insulation	32	3,974	\$ 56,675	\$ 5,668	30	67,324	\$ 20,065	\$ 47,008	\$ 0.698	\$ 0.996	0.782	\$ 0.758	\$ 1.056	0.738
Wall Insulation	25	2,959	\$ 42,154	\$ 4,215	30	50,125	\$ 14,939	\$ 32,856	\$ 0.655	\$ 0.954	0.817	\$ 0.757	\$ 1.055	0.738
Duct Insulation	17	1,463	\$ 20,695	\$ 2,069	20	19,582	\$ 7,385	\$ 14,414	\$ 0.736	\$ 1.113	0.719	\$ 0.951	\$ 1.328	0.603
Infiltration Reduction	48	2,295	\$ 28,751	\$ 2,875	20	30,728	\$ 11,588	\$ 21,697	\$ 0.706	\$ 1.083	0.739	\$ 0.842	\$ 1.219	0.656
<b>TOTAL PROGRAM</b>	<b>168</b>	<b>14,733</b>	<b>\$ 221,754</b>	<b>\$ 22,175</b>	<b>27.45</b>	<b>236,240</b>	<b>\$ 74,387</b>	<b>\$ 168,378</b>	<b>\$ 0.713</b>	<b>\$ 1.0276</b>	<b>\$ 0.7626</b>	<b>\$ 0.845</b>	<b>\$ 1.160</b>	<b>0.676</b>

Nominal interest rate (post tax cost of cap.) 7.63%  
Inflation rate 3.32%  
Long term real discount rate 4.17%

**Appendix B**  
**Description of Changes in Addendum to 2009 Annual Decoupling Report**

**RESIDENTIAL**

The highlighted sections of the 2009 Residential Achievements Spreadsheet reflect areas in which changes were made following the March 31, 2010 filing of the original document. The revised document reflects the inclusion of 193 measures that were completed in 2009 but were not processed in time to be captured in the initial report.

<b>Measure</b>	<b>Change</b>	<b>Adjusted Therms/\$</b>
PTCS Duct Sealing Zone 1 Zone 3	1 incentive 1 incentive	Inclusion of \$300 in additional incentives and 201 therms saved.
90% AFUE New Gas Furnace (New) Zone 2	1 incentive	Inclusion of \$150 in additional incentives and 81 therms saved.
90% AFUE New Gas Furnace (Existing) Zone 1 Zone 2 Zone 3	33 incentives 8 incentives 5 incentives	Inclusion of \$6900 in additional incentives and 3768 therms saved.
.81 Tankless Water Heater (replace & new) Zone 1 Zone 2 Zone 3	8 incentives 2 incentives 2 incentives	Inclusion of \$2400 in additional incentives and 516 therms saved.
2.0 MEF E* Clothes Washer Zone 3	1 incentive	Inclusion of \$75 in additional incentives and 13 therms saved.
80% AFUE Hearth Zone 2	1 incentive	Inclusion of \$70 in additional incentives and 80 therms saved.
.62 Water Heater Zone 1 Zone 2 Zone 3	10 Incentives 18 Incentives 80 Incentives	Inclusion of \$2700 in additional incentives and 1404 therms saved.
Ceiling Insulation Zone 1 Zone 2 Zone 3	6 incentives (8467 sqft) 1 incentive (1480 sqft) 4 incentives (4924 sqft)	Inclusion of \$3718 in additional incentives and 885 therms saved.
Floor Insulation Zone 1 Zone 3	5 Incentives (5703 sqft) 4 incentives (3498 sqft)	Inclusion of \$4140 in additional incentives and 553 therms saved.
Wall Insulation (Old Tariff) Zone 3	1 incentive (1558 sqft)	Inclusion of \$467 in additional incentives and 118 therms saved.
Wall Insulation (New Tariff) Zone 3	1 incentive (942 sqft)	Inclusion of \$377 in additional incentives and 72 therms saved.



**Appendix B**  
**Description of Changes in Addendum to 2009 Annual Decoupling Report**

**COMMERCIAL PROGRAM**

The highlighted sections of the 2009 Commercial Achievements Spreadsheet reflect areas in which changes were made following the March 31, 2010 report filing. The revised document reflects the inclusion of three projects that were completed in 2009 but were not processed in time to be captured in the initial report. The total change between the original 2009 Annual Report and the 2010 Annual report are the addition of approximately 2,667 therms and \$6,026 in incentives. Administrative costs have been slightly adjusted to reflect additional rebate processing and 2009 related activities that took place following the original report. Overall program cost-effectiveness for the 2009 program year increased due to these amendments.

<b>Customer</b>	<b>Measure</b>	<b>Change</b>	<b>Notes</b>	<b>Adjusted Therms/\$</b>
Mt. Vernon School District	Boiler	Adjustment of the existing boiler incentive listed in our records – changed units installed from 199kbtuh to 1,999kbtuh.	Savings for boiler project was initially underestimated due to a transposed number on the customer’s rebate application form. Conservation staff caught the error and provided customer to the larger incentive to which they were entitled.	Inclusion of \$3,600 in additional incentives and 1584 therms saved.
Bethel Grange	Custom Crawl-Space Insulation (R-19)	Added crawl-space floor insulation project to custom incentives list in 2009 revised report.	Project completed in 2009, but paperwork not finalized until after reporting cut off for 2009 Annual Report	Inclusion of \$986 incentive and 302 therms saved.
De Wagen Wasser	Domestic Tankless Water Heater	Added (1) tankless water heater with electric ignition to records.	Project completed in 2009, but paperwork not finalized until after reporting cut off for 2009 Annual Report	Inclusion of \$1440 incentive and 781.2 therms saved.

# ***APPENDIX C***

***2010 CAP DEFERRALS***

0.2318  
0.2625

**CASCADE NATURAL GAS CORPORATION**  
**CONSERVATION ALLIANCE PLAN USING CASCADE HDD COEFFICIENTS WITH NO ANNUAL CAP UPDATE**  
**DEFERRED ACCOUNTING DETAILS - TWELVE MONTHS ENDED DECEMBER 31, 2010**

DESCRIPTION	January	February	March	April	May	June	July	August	September	October	November	December
<b>RATE SCHEDULE CNGWA503:</b>												
<b>Bellingham  District CNG011 (Bellingham)</b>										PILOT MECHANISM EXPIRES 9/30/10		
Customers	75,480	75,489	75,480	75,468	75,296	75,202	75,364	75,354	75,469			
Actual DD	582.0	520.0	565.0	453.0	362.0	224.0	94.0	96.0	161.0			
Normal DD	756.3	660.8	600.8	458.8	332.3	187.0	93.9	83.6	210.8			
Difference	174.3	140.8	35.8	5.8	(29.7)	(37.0)	(0.1)	(12.4)	49.8			
Coefficient for therms per DE	0.147704545	0.111345229	0.116988104	0.112955738	0.081583995	0.080390205	0.106264819	0.120641285	0.066645888			
<b>Weather normalization adjustment</b>	<b>1,943,225</b>	<b>1,183,472</b>	<b>316,123</b>	<b>49,442</b>	<b>(182,446)</b>	<b>(223,684)</b>	<b>(801)</b>	<b>(112,726)</b>	<b>250,479</b>			
<b>Bremerton  District CNG021 (Bremerton)</b>												
Customers	35,597	35,544	35,597	35,529	35,454	35,369	35,446	35,491	35,563			
Actual DD	568.0	511.0	559.0	494.0	445.0	277.0	228.0	192.0	173.0			
Normal DD	656.5	580.3	544.4	447.8	358.9	239.6	144.5	127.7	171.7			
Difference	88.5	69.3	(14.6)	(46.2)	(86.1)	(37.4)	(83.5)	(64.3)	(1.3)			
Coefficient for therms per DE	0.17041032	0.13049815	0.12800145	0.11503504	0.08321587	0.07692015	0.07524770	0.08135046	0.08027097			
<b>Weather normalization adjustment</b>	<b>536,850</b>	<b>321,443</b>	<b>(66,524)</b>	<b>(188,823)</b>	<b>(254,024)</b>	<b>(101,750)</b>	<b>(222,714)</b>	<b>(185,648)</b>	<b>(3,711)</b>			
<b>Walla Walla  District CNG032 (Tri-Cities)</b>												
Customers	29,425	29,462	29,508	29,514	29,488	29,479	26,955	30,000	30,133			
Actual DD	726.0	595.0	538.0	392.0	291.0	62.0	2.0	14.0	43.0			
Normal DD	908.3	740.3	527.9	345.1	190.5	53.7	8.8	6.5	83.6			
Difference	182.3	145.3	(10.1)	(46.9)	(100.5)	(8.3)	6.8	(7.5)	40.6			
Coefficient for therms per DE	0.12255870	0.10155735	0.11001748	0.08343056	0.05813598	0.04970585	0.23360963	0.29106957	0.08631544			
<b>Weather normalization adjustment</b>	<b>657,427</b>	<b>434,750</b>	<b>(32,789)</b>	<b>(115,485)</b>	<b>(172,289)</b>	<b>(12,162)</b>	<b>42,819</b>	<b>(65,491)</b>	<b>105,598</b>			
<b>Yakima  District CNG034 (Wenatchee), CN</b>												
Customers	27,760	27,708	27,614	27,443	27,222	26,988	29,915	26,934	26,993			
Actual DD	893.0	670.0	648.0	469.0	336.0	104.0	11.0	39.0	104.0			
Normal DD	1,008.0	801.0	655.0	465.7	274.2	102.4	29.2	26.8	151.7			
Difference	115.0	131.0	7.0	(3.3)	(61.8)	(1.6)	18.2	(12.2)	47.7			
Coefficient for therms per DE	0.11783826	0.09759677	0.09643744	0.07871321	0.05725488	0.05337709	0.16968164	0.13733187	0.04830242			
<b>Weather normalization adjustment</b>	<b>376,187</b>	<b>354,252</b>	<b>18,641</b>	<b>(7,128)</b>	<b>(96,321)</b>	<b>(2,305)</b>	<b>92,384</b>	<b>(45,127)</b>	<b>62,193</b>			
<b>Total Washington:</b>												
Customers	168,262	168,203	168,199	167,954	167,460	167,038	167,680	167,779	168,158			
Baseline commodity margin/custome	\$ 32.14	\$ 17.82	\$ 18.33	\$ 16.10	\$ 7.05	\$ 6.44	\$ 4.65	\$ 4.69	\$ 5.30			
Expected commodity margir	\$ 5,407,940.68	\$ 2,997,377.46	\$ 3,083,087.67	\$ 2,704,059.40	\$ 1,180,593.00	\$ 1,075,724.72	\$ 779,712.00	\$ 786,883.51	\$ 891,237.40			
Actual therms	14,838,815	11,593,841	11,088,263	8,726,579	5,967,195	3,475,496	2,580,039	3,580,631	3,624,115			
Actual commodity margir	\$ 3,894,892.16	\$ 3,043,151.39	\$ 2,910,447.27	\$ 2,290,552.46	\$ 1,566,269.34	\$ 912,248.19	\$ 677,208.64	\$ 939,844.02	\$ 951,257.71			
Weather normalization adjustmen	3,513,688	2,293,916	235,452	(261,994)	(705,079)	(339,900)	(88,312)	(408,991)	414,559			
Weather normalized therms	18,352,503	13,887,757	11,323,715	8,464,585	5,262,116	3,135,596	2,491,727	3,171,640	4,038,674			
Weather normalized commodity margir	\$ 4,817,165.05	\$ 3,645,258.49	\$ 2,972,248.59	\$ 2,221,784.20	\$ 1,381,200.21	\$ 823,031.15	\$ 654,028.60	\$ 832,492.15	\$ 1,060,071.09			
<b>Margin change due to weather normalization</b>	<b>\$ 922,272.89</b>	<b>\$ 602,107.10</b>	<b>\$ 61,801.32</b>	<b>\$ (68,768.26)</b>	<b>\$ (185,069.14)</b>	<b>\$ (89,217.04)</b>	<b>\$ (23,180.04)</b>	<b>\$ (107,351.88)</b>	<b>\$ 108,813.38</b>			
<b>T Accounts:</b>												
Do Not Book Weather related Margin los:												
Do Not Book Weather related Margin los:												
<b>Conservation difference-residential</b>	<b>\$ 590,775.63</b>	<b>\$ (647,881.03)</b>	<b>\$ 110,839.08</b>	<b>\$ 482,275.20</b>	<b>\$ (200,607.21)</b>	<b>\$ 252,693.57</b>	<b>\$ 125,683.40</b>	<b>\$ (45,608.64)</b>	<b>\$ (168,833.69)</b>			
<b>T Accounts:</b>												
FERC 4800 - Residential Revenue	\$ (590,775.63)	\$ 647,881.03	\$ (110,839.08)	\$ (482,275.20)	\$ 200,607.21	\$ (252,693.57)	\$ (125,683.40)	\$ 45,608.64	\$ 168,833.69			
FERC 1860	\$ 590,775.63	\$ (647,881.03)	\$ 110,839.08	\$ 482,275.20	\$ (200,607.21)	\$ 252,693.57	\$ 125,683.40	\$ (45,608.64)	\$ (168,833.69)			

**CASCADE NATURAL GAS CORPORATION**  
**CONSERVATION ALLIANCE PLAN USING CASCADE HDD COEFFICIENTS WITH NO ANNUAL CAP UPDATE**  
**DEFERRED ACCOUNTING DETAILS - TWELVE MONTHS ENDED DECEMBER 31, 2010**

DESCRIPTION	January	February	March	April	May	June	July	August	September	October	November	December
<b>RATE SCHEDULE CNGWA504:</b>												
<b>Bellingham (District CNG011 (Bellingham))</b>										PILOT MECHANISM EXPIRES 9/30/10		
Customers	9,146	9,130	9,115	9,172	9,273	9,251	9,266	9,259	9,258			
Actual DD	582	520	565	453	362	224	94	96	161			
Normal DD	756	661	601	459	332	187	94	84	211			
Difference	174	141	36	6	(30)	(37)	(0)	(12)	50			
Coefficient for therms per DE	0.518738513	0.40030118	0.398774115	0.365201477	0.266083778	0.294629715	0.418610051	0.568003092	0.267060364			
<b>Weather normalization adjustment</b>	<b>826,946</b>	<b>514,589</b>	<b>130,127</b>	<b>19,428</b>	<b>(73,282)</b>	<b>(100,848)</b>	<b>(388)</b>	<b>(65,213)</b>	<b>123,128</b>			
<b>Bremerton (District CNG021 (Bremerton))</b>												
Customers	4,702	4,700	4,694	4,731	4,780	4,764	4,759	4,754	4,749			
Actual DD	568	511	559	494	445	277	228	192	173			
Normal DD	657	580	544	448	359	240	145	128	172			
Difference	89	69	(15)	(46)	(86)	(37)	(84)	(64)	(1)			
Coefficient for therms per DE	0.68631889	0.51697762	0.46275795	0.40087850	0.28143112	0.31018069	0.28799331	0.39442053	0.37326253			
<b>Weather normalization adjustment</b>	<b>285,596</b>	<b>168,385</b>	<b>(31,714)</b>	<b>(87,621)</b>	<b>(115,825)</b>	<b>(55,266)</b>	<b>(114,442)</b>	<b>(120,567)</b>	<b>(2,304)</b>			
<b>Walla Walla (District CNG032 (Tri-Cities))</b>												
Customers	4,186	4,192	4,191	4,182	4,212	4,222	6,003	4,223	4,216			
Actual DD	726	595	538	392	291	62	2	14	43			
Normal DD	908	740	528	345	191	54	9	7	84			
Difference	182	145	(10)	(47)	(101)	(8)	7	(8)	41			
Coefficient for therms per DE	0.61512845	0.52681898	0.49955879	0.35222098	0.19470840	0.24305085	0.73051163	3.01703063	0.68106546			
<b>Weather normalization adjustment</b>	<b>469,409</b>	<b>320,884</b>	<b>(21,146)</b>	<b>(69,083)</b>	<b>(82,421)</b>	<b>(8,517)</b>	<b>29,820</b>	<b>(95,557)</b>	<b>116,578</b>			
<b>Yakima (District CNG034 (Wenatchee), CN)</b>												
Customers	6,024	6,023	5,996	5,984	6,015	5,988	4,230	5,990	5,980			
Actual DD	893	670	648	469	336	104	11	39	104			
Normal DD	1,008	801	655	466	274	102	29	27	152			
Difference	115	131	7	(3)	(62)	(2)	18	(12)	48			
Coefficient for therms per DE	0.56443634	0.48094678	0.44511808	0.33032019	0.22754347	0.33906771	1.37487829	1.17475569	0.42479709			
<b>Weather normalization adjustment</b>	<b>391,019</b>	<b>379,473</b>	<b>18,682</b>	<b>(6,523)</b>	<b>(84,584)</b>	<b>(3,249)</b>	<b>105,846</b>	<b>(85,849)</b>	<b>121,172</b>			
<b>RS111</b>												
Customers												
Therms												
<b>Total Washington:</b>												
Customers	24,058	24,045	23,996	24,069	24,280	24,225	24,258	24,226	24,203			
Baseline commodity margin/custome	\$ 131.95	\$ 84.72	\$ 74.05	\$ 62.45	\$ 34.28	\$ 33.74	\$ 28.73	\$ 30.41	\$ 33.30			
Expected commodity margin	\$ 3,174,453.10	\$ 2,037,092.40	\$ 1,776,903.80	\$ 1,503,109.05	\$ 832,318.40	\$ 817,351.50	\$ 696,932.34	\$ 736,712.66	\$ 805,959.90			
Actual therms	10,907,939	8,009,238	7,499,673	5,584,443	4,435,798	2,944,287	2,329,098	3,486,790	3,437,522			
Actual commodity margin	\$ 2,528,351.18	\$ 1,856,461.28	\$ 1,738,349.20	\$ 1,294,418.04	\$ 1,028,173.62	\$ 682,456.28	\$ 539,861.63	\$ 808,203.05	\$ 796,783.22			
Weather normalization adjustment	1,972,970	1,383,331	95,949	(143,799)	(356,112)	(167,880)	20,837	(367,186)	358,573			
Weather normalized therms	12,880,909	9,392,569	7,595,622	5,440,644	4,079,686	2,776,407	2,349,935	3,119,604	3,796,095			
Weather normalized commodity margin	\$ 2,985,665.88	\$ 2,177,103.57	\$ 1,760,589.34	\$ 1,261,086.85	\$ 945,630.38	\$ 643,543.47	\$ 544,691.32	\$ 723,092.92	\$ 879,896.79			
<b>Margin change due to weather normalization</b>	<b>\$ 457,314.70</b>	<b>\$ 320,642.29</b>	<b>\$ 22,240.13</b>	<b>\$ (33,331.19)</b>	<b>\$ (82,543.23)</b>	<b>\$ (38,912.81)</b>	<b>\$ 4,829.69</b>	<b>\$ (85,110.13)</b>	<b>\$ 83,113.57</b>			
<b>T Accounts:</b>												
Do Not Book Weather related Margin los:												
Do Not Book Weather related Margin los:												
<b>Conservation difference-commercial</b>	<b>\$ 188,787.22</b>	<b>\$ (140,011.17)</b>	<b>\$ 16,314.46</b>	<b>\$ 242,022.20</b>	<b>\$ (113,311.98)</b>	<b>\$ 173,808.03</b>	<b>\$ 152,241.02</b>	<b>\$ 13,619.74</b>	<b>\$ (73,936.89)</b>			
<b>T Accounts:</b>												
FERC 4810 - Commercial Revenue	\$ (188,787.22)	\$ 140,011.17	\$ (16,314.46)	\$ (242,022.20)	\$ 113,311.98	\$ (173,808.03)	\$ (152,241.02)	\$ (13,619.74)	\$ 73,936.89			
FERC 1860	\$ 188,787.22	\$ (140,011.17)	\$ 16,314.46	\$ 242,022.20	\$ (113,311.98)	\$ 173,808.03	\$ 152,241.02	\$ 13,619.74	\$ (73,936.89)			
<b>COMBINED RESIDENTIAL &amp; COMMERCIAL</b>												
<b>Monthly Deferral:</b>												
Conservation variance deferral balancc	\$ 779,562.85	\$ (787,892.19)	\$ 127,153.55	\$ 724,297.40	\$ (313,919.19)	\$ 426,501.60	\$ 277,924.43	\$ (31,988.90)	\$ (242,770.58)			
<b>Cumulative Deferred Balance:</b>	<b>\$ 779,562.85</b>	<b>\$ (8,329.34)</b>	<b>\$ 118,824.20</b>	<b>\$ 843,121.61</b>	<b>\$ 529,202.42</b>	<b>\$ 955,704.02</b>	<b>\$ 1,233,628.45</b>	<b>\$ 1,201,639.55</b>	<b>\$ 958,868.97</b>	<b>\$ 958,868.97</b>	<b>\$ 958,868.97</b>	<b>\$ 958,868.97</b>