

# **Connecticut's Joint 2008 Natural Gas Conservation Plan**

**Submitted jointly by:  
Yankee Gas Services Company,**

**Connecticut Natural Gas  
Corporation,**

**and**

**The Southern Connecticut Gas  
Company**

**Docket 07-10-02**

**October 1, 2007**

This Page Intentionally Blank

# TABLE OF CONTENTS

CHAPTER ONE: OVERVIEW .....	1
Introduction .....	1
Synergies of Natural Gas and Electric Programs .....	3
Strategic Focus and Quality Control .....	4
Program Modifications.....	5
BUDGET TABLES.....	7
<i>Table A1 – Combined Company Program Budgets</i> .....	8
<i>Table A1 Pie Chart</i> .....	9
<i>YGS Table A Pie Chart</i> .....	10
<i>CNG Table A Pie Chart</i> .....	11
<i>SCG Table A Pie Chart</i> .....	12
<i>Table B – Summary Comparison</i> .....	13
<i>YGS Table C – Budget Detail</i> .....	14
<i>YGS Table C Pie Chart</i> .....	15
<i>CNG Table C – Budget Detail</i> .....	16
<i>CNG Table C Pie Chart</i> .....	17
<i>SCG Table C – Budget Detail</i> .....	18
<i>SCG Table C Pie Chart</i> .....	19
CHAPTER TWO: RESIDENTIAL PROGRAMS .....	21
Residential Low-Income Weatherization and Heating System .....	21
Home Energy Solutions (formerly the General Weatherization Program).....	31
CHAPTER THREE: COMMERCIAL AND INDUSTRIAL PROGRAMS .....	41
Process Retrofit Pilot .....	41
Integrated Natural Gas/Electric Conservation Program .....	49
CHAPTER FOUR: OTHER PROGRAMS .....	53
Connecticut Housing Investment Fund.....	53
Energy Conservation Management Board, Planning and Evaluation.....	55
CHAPTER FIVE: BENEFIT-COST ANALYSIS.....	57
CHAPTER SIX: INTEGRATED RESOURCE PLANNING .....	59

This Page Intentionally Blank

## CHAPTER ONE: OVERVIEW

### Introduction

In accordance with Connecticut General Statutes § 16-32f as amended by Section 22(b) of Public Act 05-1 (the “Act”), Yankee Gas Services Company (“Yankee Gas”), Connecticut Natural Gas Corporation (“CNG”) and The Southern Connecticut Gas Company (“SCG”) (collectively, the “Companies”) submit this Natural Gas Conservation Plan (“Plan”) for the implementation of cost-effective natural gas energy efficiency programs and market transformation initiatives during 2008. The Companies developed the 2008 Plan in conjunction with the ECMB and its consultants. All options were evaluated and selected within an integrated supply and demand planning framework, which is described more fully in Chapter Six. Additionally, in accordance with Connecticut General Statutes § 16-32f(a), the Companies, on a bi-annual basis, file five-year forecasts of natural gas demand and supply. The Natural Gas Conservation Plan (“Plan”) is an integral part of those filings. The five-year forecasts of natural gas demand and supply documents were last filed in December, 2006 and will be revised and filed during the fourth quarter of 2008. The Companies understand that integrating the forecasts of natural gas supply together with an analysis of resource options is the right strategic direction for customers, the Companies and the State. This integrated resource planning approach brings value to customers in the most cost-effective way, while reducing natural gas consumption.

The Plan in accordance with the directives of the Department of Public Utility Control (“Department” or “DPUC”) in its decisions in prior Dockets relating to natural gas energy efficiency program delivery, considered potential natural gas supply reductions as well as societal benefits. A number of external influences have been felt in Connecticut’s energy markets. The impact of global geopolitics on all of the energy markets, including the natural gas market, has made energy efficiency a critical tool for consumers looking to control increasing energy costs. The increasing awareness of the effect of greenhouse gases on the global climate has thrust energy efficiency to the forefront as a strategy to reduce greenhouse gas emissions. Energy efficiency programs can help meet these multiple needs and serve as a critical tool in helping strengthen Connecticut’s energy portfolio.

The Companies recognize that Connecticut’s energy environment necessitates a strategic approach to achieving energy conservation goals. To balance the needs of all customers and to assist customers with rising energy costs by reducing natural gas consumption, further expansion of existing natural gas conservation programs is essential. With these goals and our customers in mind, as in 2007, the Companies have further expanded their natural gas conservation program offerings to fully integrate the Commercial and Industrial sector for 2008. The proposed 2008 program budget is **\$6.8** million. In addition to the Companies’ proposed budgets, Public Act 07-242, Section 1, institutes up to a \$500 rebate for ENERGY STAR furnaces and boilers. It is estimated that this law will effectively enhance the natural gas conservation programs in Connecticut by up to \$5 million dollars. Thus, total natural gas conservation dollars available to Connecticut natural gas customers in 2008 will be up to \$11.8 million. At these levels, natural

gas energy efficiency program funding in Connecticut will exceed national levels. The median level of natural gas spending nationally is 0.7% of sales<sup>1</sup>. The proposed 2008 budget, excluding impacts of PA 07-242, is at the national median level of 0.7% of revenues spent on conservation efforts. Total conservation funding in Connecticut is nearly double national levels when the estimated impacts of PA 07-242 are included.

The Companies' energy efficiency program budget and expenditure history is provided in Table 1.

**Table 1 – Natural Gas Energy Efficiency Program Budget History**

	<b>2005 Filed Budget<sup>2</sup></b>	<b>2005 Actuals</b>	<b>2006 Filed Budget<sup>3</sup></b>	<b>2006 Actuals</b>	<b>2007 Filed Budget<sup>4</sup></b>	<b>2007 Estimated Year End</b>	<b>2008 Proposed Budget</b>
<b>Yankee</b>	\$397,744	\$402,185	\$882,000	\$575,277	\$1,549,000	\$1,037,833	\$2,683,915
<b>CNG</b>	\$569,000	\$331,194	\$750,000	\$552,828	\$1,254,000	\$795,607	\$2,083,807
<b>SCG</b>	\$300,000	\$280,424	\$750,000	\$344,980	\$1,254,000	\$778,607	\$2,021,781
<b>Total</b>	<b>\$1,266,744</b>	<b>\$1,013,803</b>	<b>\$2,382,000</b>	<b>\$1,473,085</b>	<b>\$4,057,000</b>	<b>\$2,612,047</b>	<b>\$6,789,503</b>

A funding mechanism to support natural gas conservation in the future is provided by Public Act 07-242, An Act Concerning Electricity and Energy Efficiency. The Act provides for a funding mechanism to support natural gas conservation programs that are derived from the amount by which the Companies' annual gross receipts tax exceeds the revenue estimate that appears in the state's budget for a given year, up to \$10 million per year. While the actual level of funding that may result from this potential revenue stream is unknown at this time, the annual excess gross receipts tax will be calculated at the end of the state's fiscal year ending June 30, 2008. The Companies will then allocate the funding that becomes available through this mechanism to support the energy efficiency programs described in this Plan.

The Companies are committed to providing customers with opportunities to implement cost-effective energy efficiency measures. Consistent with that commitment, the Companies will review the market's response to these programs and, with Department approval, consider spending additional funding in 2008 if 1) customer response and natural gas energy efficiency measure opportunities are found to be higher than the Companies originally anticipated and 2) the resulting total 2008 Plan expenditures exceed the funding available through the existing Conservation Adjustment Mechanism ("CAM") and excess gross receipts tax.

<sup>1</sup> *Natural Gas Demand-Side Management Programs: A National Survey*. Suzanne Tegen, Howard Geller for the Southwest Energy Efficiency Project, January 2006.

<sup>2</sup> 2005 Plan Budget filed with the DPUC in Docket 04-10-02.

<sup>3</sup> 2006 Plan budget filed with the DPUC on February 10, 2006 in Docket 04-10-02.

<sup>4</sup> 2007 Plan budget filed with the DPUC on December 1, 2006 in Docket 06-10-03.

Table A1 provides a comparison of the Companies' approved 2007 and proposed 2008 budgets by program. The overall distribution of funds by customer class for 2008 is shown on Table A1 Pie Chart with approximately 44% of the overall budget being directed to residential customers (17% to low-income customers and 27% to non low-income customers) and approximately 50% is directed to the commercial and industrial sector.

In addition to continuing the programs developed and deployed in late 2007, the proposed 2008 Plan reflects a significant increase in conservation funding for the commercial and industrial ("C&I") sector. In 2008, the Companies propose to offer prescriptive and custom natural gas measures that will be integrated into the highly successful and award winning commercial and industrial programs developed and deployed by The Connecticut Light and Power Company ("CL&P") and The United Illuminating Company ("UI") (together referred to as the "electric distribution companies").

This Plan represents the Companies' continued commitment to enhancing energy efficiency in Connecticut. The Plan also continues to leverage existing electric Connecticut Energy Efficiency Fund ("CEEF") programs to serve both natural gas and electric customers and enhances the impact of Connecticut's energy efficiency dollars.

### **Synergies of Natural Gas and Electric Programs**

The electric distribution companies have a long and successful history of developing, deploying and administering energy efficiency programs in Connecticut. The integration, where appropriate, of natural gas and electric programs makes it easier for customers to receive more services and benefits at a lower cost and with greater convenience.

The synergies allow for a more streamlined and leveraged approach to program delivery. For example, many of the same vendors can deliver services to natural gas and electric customers. Combining program delivery also provides opportunities for cross-promotion to common customers resulting in more cost-effective efforts. The General Weatherization Program ("GWP") continues as a partnership between the electric distribution companies. The low-income programs (CL&P's WRAP and UI HELP's) use this partnership approach to coordinate delivery of those services and enables the Companies to leverage their outreach to financially challenged communities and to serve more families.

As previously noted, in 2008 the Companies propose to offer prescriptive and custom natural gas measures that will be integrated into three of the electric distribution companies' conservation programs: Energy Opportunities (retrofit), Energy Conscious Blueprint (lost opportunity) and Operations & Maintenance Services. In addition, small business customers will also have access to prescriptive program incentives through the use of Energy Opportunities and Energy Conscious Blueprint program rebate forms and will be able to obtain cash rebates for the purchase and installation of qualified energy efficient natural gas equipment. These programs are described in the joint filing of The Connecticut Light and Power Company (CL&P) and The

United Illuminating Company (UI); “Conservation and Load Management Plan 2008” (Docket No. 07-10-03).

By improving the integration and coordinated approach of utility energy efficiency program services statewide, program quality and greater customer satisfaction is achieved.

As in 2007, further leveraging of the natural gas and electric companies synergy occurs with the marketing and promotion of programs in 2008. The marketing plan for electric energy efficiency programs includes natural gas conservation components. This includes direct customer contact, seminars, bill inserts, direct mail, website links, some print advertising and trade shows, associations and Chamber events.

As part of the oversight responsibility, the Companies monitor vendor performance and overall program results, including customer satisfaction and market responsiveness. The Companies work with utility Account Executives and Customer Service organizations to promote natural gas conservation programs with customers. The Companies also utilize the vendor and business community to maximize tactical marketing opportunities where appropriate (i.e., MAC, CBIA, Chambers, HBA, CHCC, Small Business vendors, etc.).

### **Strategic Focus and Quality Control**

In both program development and implementation, the Companies work with each other, with CL&P’s Conservation and Load Management (“C&LM”) department, and with other Connecticut stakeholders to determine the appropriate areas, emphasis levels and funding requirements that best serve our customer’s needs. There has been a high level of cooperation and collaboration between the Companies to develop program consistency and common implementation where appropriate. The Energy Conservation Management Board (“ECMB”) consultants have also reviewed this plan and the associated electric “Conservation and Load Management Plan 2008” and have provided valuable comments and insights during its development.

To ensure high quality conservation programs continue to be provided to Connecticut’s natural gas consumers, the Companies use the expertise of CL&P’s professional C&LM staff and management to develop the programs, provide overall program management and to coordinate program delivery between the natural gas and electric distribution companies (Yankee, CNG, SCG, CL&P and UI)

The Companies continually monitor program results and, if deemed appropriate, modify the programs to reflect customer needs and market trends. Using industry accepted guidelines, projects and program energy and economic assumptions are evaluated to determine cost-effectiveness. To assure compliance, projects are reviewed after implementation.

This is the third Natural Gas Conservation Plan filing made by the Companies since passage of the State's energy independence legislation (Public Act 05-1) and inclusion of the local natural gas distribution companies on the ECMB.

The 2008 Plan builds upon the lessons learned from prior years, recognizes some of the immediate challenges facing our customers, and adds new elements to further serve our customers. The 2008 Plan is designed to acquire the energy and demand savings in an effective and efficient manner, and leverage the electric companies' resources and energy efficiency infrastructure. The Companies will continue to monitor overall market response and program effectiveness and maintain the flexibility to reallocate under spent program dollars between programs. This flexibility will allow the Companies to react to market conditions and enhance our capacity to achieve cost-effective savings.

### **Program Modifications**

As previously noted, the Companies' integrated approach to natural gas energy efficiency program delivery will offer prescriptive and custom natural gas measures that will be integrated into the electric distribution companies' commercial and industrial programs.

The Process Retrofit Pilot ("RFP") program, developed and initiated in 2007, specifically targeted the commercial and industrial sector. The RFP has been issued and bids are due from interested parties by November 9, 2007. Bid evaluation will occur during the latter part of 2007 and it is anticipated that selected projects will be implemented in the first half of 2008. Due to the timing of final program approval, deployment of the RFP into the marketplace occurred in August of 2007. As a result, incentive payments for projects accepted in the RFP program will be made in 2008. Thus an anticipated \$1.1M of combined Company funds previously allocated to the RFP program in 2007 will be used to support completion of this program in 2008.

This Page Intentionally Blank

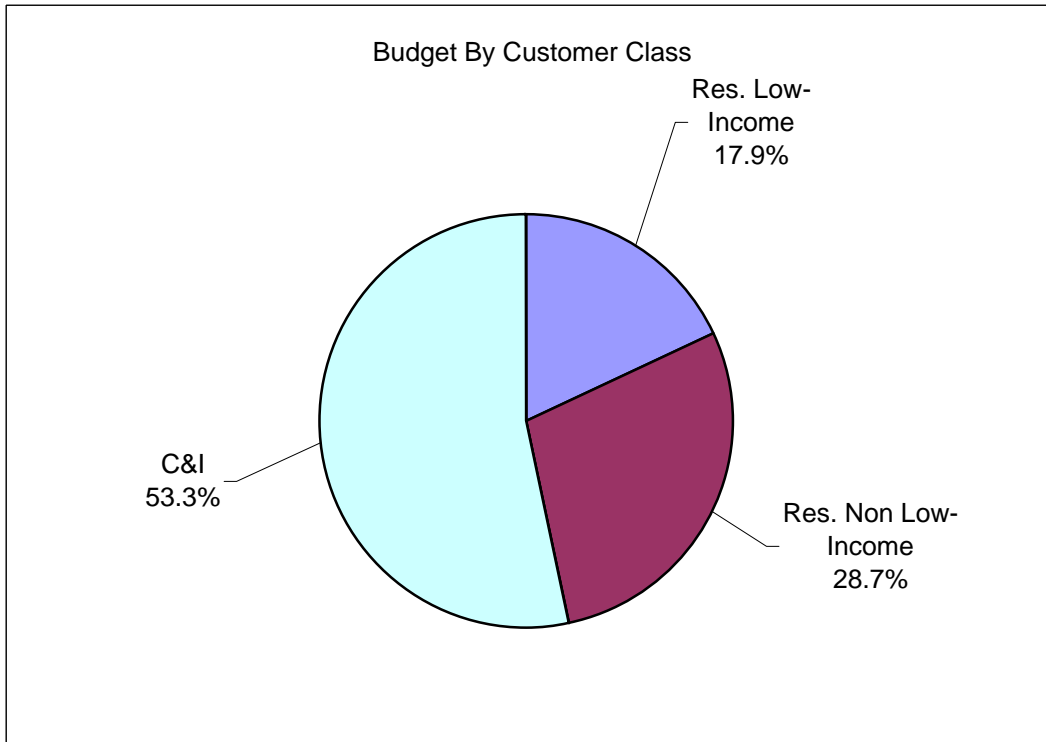
## **BUDGET TABLES**

**Table A1  
YGS, CNG & SCG  
Proposed 2008 Natural Gas Conservation Plan Budget**

Natural Gas C&LM Budget	2007				2008			
	2007 Yankee Approved* Budget	2007 CNG Approved* Budget	2007 SCG Approved* Budget	2007 Combined YGS/CNG/SCG Total	2008 Yankee Proposed Budget	2008 CNG Proposed Budget	2008 SCG Proposed Budget	2008 Combined YGS/CNG/SCG Total
<b>RESIDENTIAL</b>								
Low Income - Weatherization	\$ 400,000	\$ 370,000	\$ 350,000	\$ 1,120,000	\$ 385,000	\$ 370,000	\$ 350,000	\$ 1,105,000
Low Income - Audits	\$ -	\$ 15,000	\$ 15,000	\$ 30,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 45,000
<b>Low Income Total</b>	<b>\$ 400,000</b>	<b>\$ 385,000</b>	<b>\$ 365,000</b>	<b>\$ 1,150,000</b>	<b>\$ 400,000</b>	<b>\$ 385,000</b>	<b>\$ 365,000</b>	<b>\$ 1,150,000</b>
Home Energy Solutions (HES)	\$ 600,000	\$ 430,000	\$ 450,000	\$ 1,480,000	\$ 600,000	\$ 430,000	\$ 450,000	\$ 1,480,000
Water Heating	\$ -	\$ -	\$ -	\$ -	\$ 136,600	\$ 105,400	\$ 121,000	\$ 363,000
<b>Subtotal Residential</b>	<b>\$ 1,000,000</b>	<b>\$ 815,000</b>	<b>\$ 815,000</b>	<b>\$ 2,630,000</b>	<b>\$ 1,136,600</b>	<b>\$ 920,400</b>	<b>\$ 936,000</b>	<b>\$ 2,993,000</b>
<b>COMMERCIAL &amp; INDUSTRIAL</b>								
<b>C&amp;I LOST OPPORTUNITY</b>								
Energy Conscious Blueprint	\$ -	\$ -	\$ -	\$ -	\$ 292,668	\$ 200,584	\$ 174,509	\$ 667,760
<b>Total - Lost Opportunity</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 292,668</b>	<b>\$ 200,584</b>	<b>\$ 174,509</b>	<b>\$ 667,760</b>
<b>C&amp;I LARGE RETROFIT</b>								
Process Retrofit Pilot	\$ 510,000	\$ 400,000	\$ 400,000	\$ 1,310,000	\$ 442,214	\$ 347,393	\$ 347,393	\$ 1,137,000
Energy Opportunities	\$ -	\$ -	\$ -	\$ -	\$ 539,535	\$ 400,775	\$ 361,197	\$ 1,301,507
O&M (RetroCx, Training)	\$ -	\$ -	\$ -	\$ -	\$ 136,969	\$ 94,121	\$ 82,146	\$ 313,236
<b>Total - C&amp;I Large Retrofit</b>	<b>\$ 510,000</b>	<b>\$ 400,000</b>	<b>\$ 400,000</b>	<b>\$ 1,310,000</b>	<b>\$ 1,118,718</b>	<b>\$ 842,290</b>	<b>\$ 790,736</b>	<b>\$ 2,751,743</b>
<b>Subtotal C&amp;I</b>	<b>\$ 510,000</b>	<b>\$ 400,000</b>	<b>\$ 400,000</b>	<b>\$ 1,310,000</b>	<b>\$ 1,411,385</b>	<b>\$ 1,042,873</b>	<b>\$ 965,245</b>	<b>\$ 3,419,503</b>
<b>OTHER - PROGRAMS/REQUIREMENTS</b>								
CHIF Loan Fund	\$ 30,000	\$ 30,000	\$ 30,000	\$ 90,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 90,000
<b>Subtotal Programs/Requirements</b>	<b>\$ 30,000</b>	<b>\$ 30,000</b>	<b>\$ 30,000</b>	<b>\$ 90,000</b>	<b>\$ 30,000</b>	<b>\$ 30,000</b>	<b>\$ 30,000</b>	<b>\$ 90,000</b>
<b>OTHER - ADMINISTRATIVE &amp; PLANNING</b>								
Planning Note 1					\$ 58,930	\$ 50,534	\$ 50,536	\$ 160,000
Evaluation					\$ 38,000	\$ 31,000	\$ 31,000	\$ 100,000
ECMB	\$ 9,000	\$ 9,000	\$ 9,000	\$ 27,000	\$ 9,000	\$ 9,000	\$ 9,000	\$ 27,000
	\$ 9,000	\$ 9,000	\$ 9,000	\$ 27,000	\$ 105,930	\$ 90,534	\$ 90,536	\$ 287,000
<b>PROGRAM SUBTOTALS</b>								
<b>Residential</b>	<b>\$ 1,030,000</b>	<b>\$ 845,000</b>	<b>\$ 845,000</b>	<b>\$ 2,720,000</b>	<b>\$ 1,166,600</b>	<b>\$ 950,400</b>	<b>\$ 966,000</b>	<b>\$ 3,083,000</b>
<b>C&amp;I</b>	<b>\$ 510,000</b>	<b>\$ 400,000</b>	<b>\$ 400,000</b>	<b>\$ 1,310,000</b>	<b>\$ 1,411,385</b>	<b>\$ 1,042,873</b>	<b>\$ 965,245</b>	<b>\$ 3,419,503</b>
<b>Other</b>	<b>\$ 9,000</b>	<b>\$ 9,000</b>	<b>\$ 9,000</b>	<b>\$ 27,000</b>	<b>\$ 105,930</b>	<b>\$ 90,534</b>	<b>\$ 90,536</b>	<b>\$ 287,000</b>
<b>TOTAL</b>	<b>\$ 1,549,000</b>	<b>\$ 1,254,000</b>	<b>\$ 1,254,000</b>	<b>\$ 4,057,000</b>	<b>\$ 2,683,915</b>	<b>\$ 2,083,807</b>	<b>\$ 2,021,781</b>	<b>\$ 6,789,503</b>

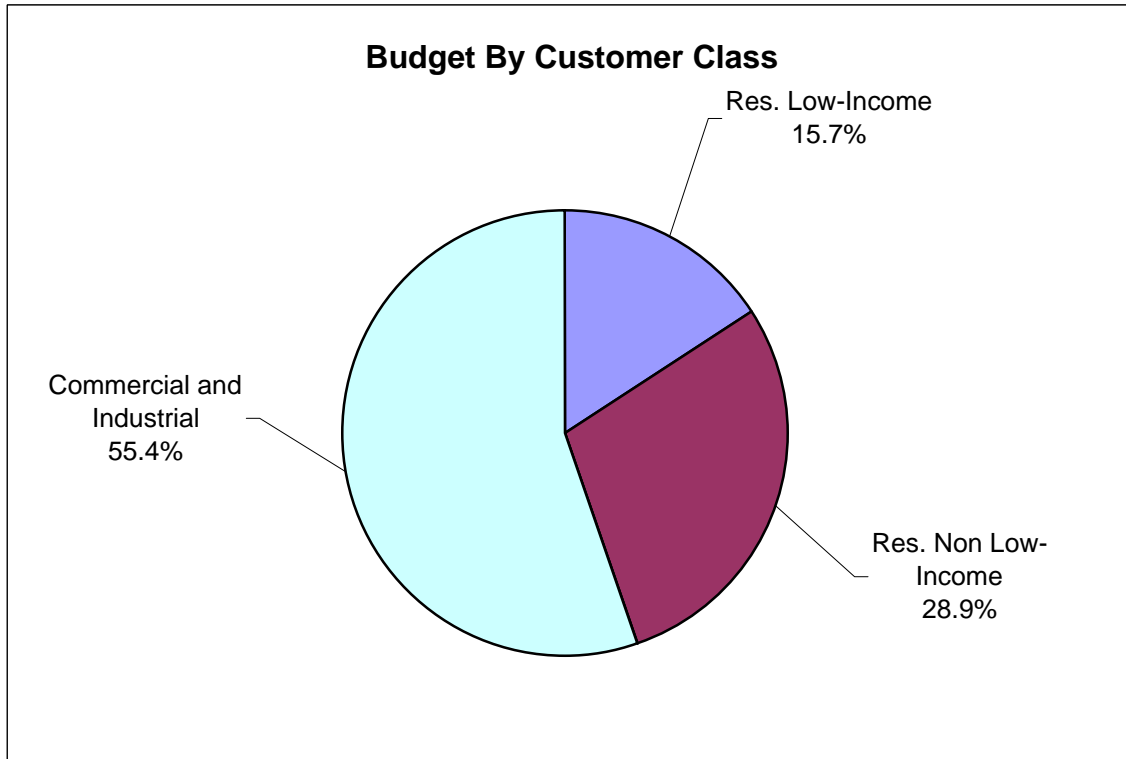
Note 1: Planning includes \$100,000 for Program Development, \$50,000 of which is a roll-over from the 2007 Planned Market Assessment not completed

**Statewide 2008 Budget Analysis  
Table A1 Pie Chart**



Customer Class	Budget (\$,000)	% of Total Conservation Budget	% of Residential & C&I Budget
Res. Low-Income	\$1,150,000	16.94%	17.93%
Res. Non Low-Income	\$1,843,000	27.14%	28.74%
<b>Residential Subtotal</b>	<b>\$2,993,000</b>	<b>44.08%</b>	<b>46.67%</b>
Commercial and Industrial	\$3,419,503	50.36%	53.33%
<b>C&amp;I Subtotal</b>	<b>\$3,419,503</b>	<b>50.36%</b>	<b>53.33%</b>
<b>Residential and C&amp;I Subtotal</b>	<b>\$6,412,503</b>	<b>94.45%</b>	<b>100.00%</b>
<b>Other Expenditures</b>			
Other Expenditures	\$377,000	5.55%	
<b>Other Expenditures Subtotal</b>	<b>\$377,000</b>	<b>5.55%</b>	
<b>TOTAL</b>	<b>\$6,789,503</b>	<b>100.00%</b>	
Yankee	\$2,683,915	39.53%	
CNG	\$2,083,807	30.69%	
SCG	\$2,021,781	29.78%	

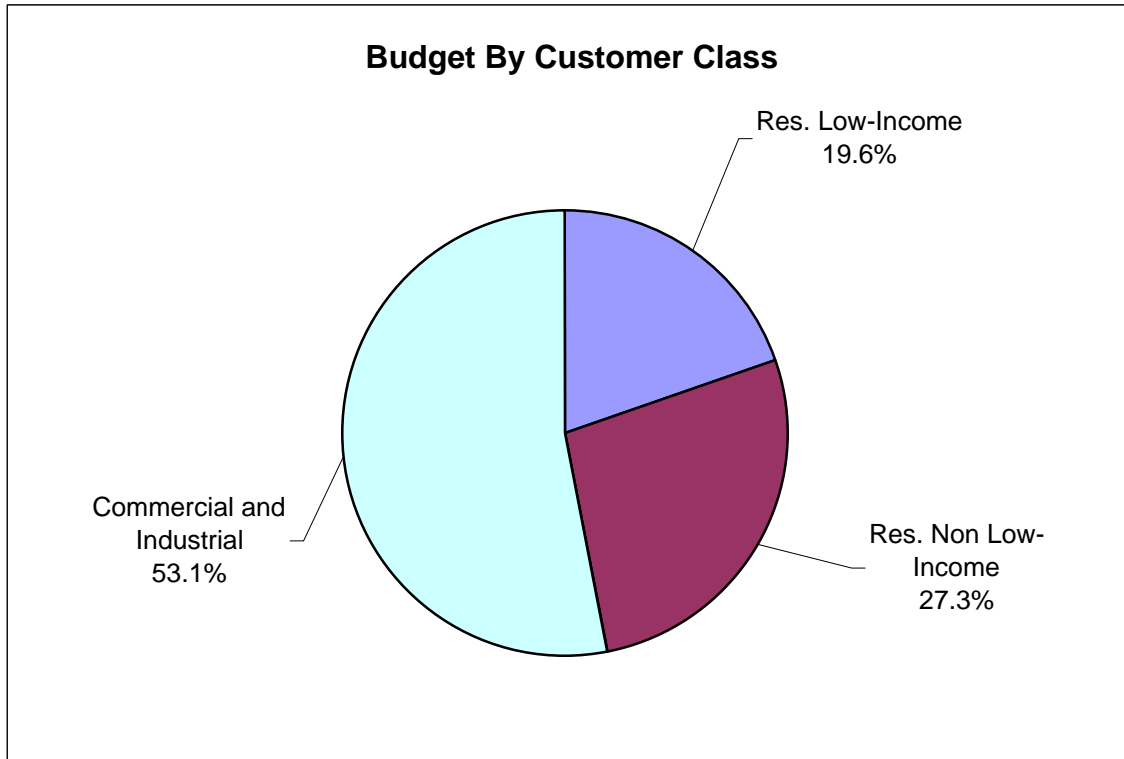
## YGS 2008 Budget Analysis



Customer Class	Budget	% of Total Conservation Budget	% of Residential & C&I Budget
Res. Low-Income	\$400,000	14.90%	15.70%
Res. Non Low-Income	\$736,600	27.44%	28.91%
<b>Residential Subtotal</b>	<b>\$1,136,600</b>	<b>42.35%</b>	<b>44.61%</b>
Commercial and Industrial	\$1,411,385	52.59%	55.39%
<b>C&amp;I Subtotal</b>	<b>\$1,411,385</b>	<b>52.59%</b>	<b>55.39%</b>
<b>Residential and C&amp;I Subtotal</b>	<b>\$2,547,985</b>	<b>94.94%</b>	<b>100.00%</b>
<b>Other Expenditures</b>			
Other Expenditures	\$135,930	5.06%	
<b>Other Expenditures Subtotal</b>	<b>\$135,930</b>	<b>5.06%</b>	
<b>TOTAL</b>	<b>\$2,683,915</b>	<b>100.00%</b>	

Totals may vary due to rounding

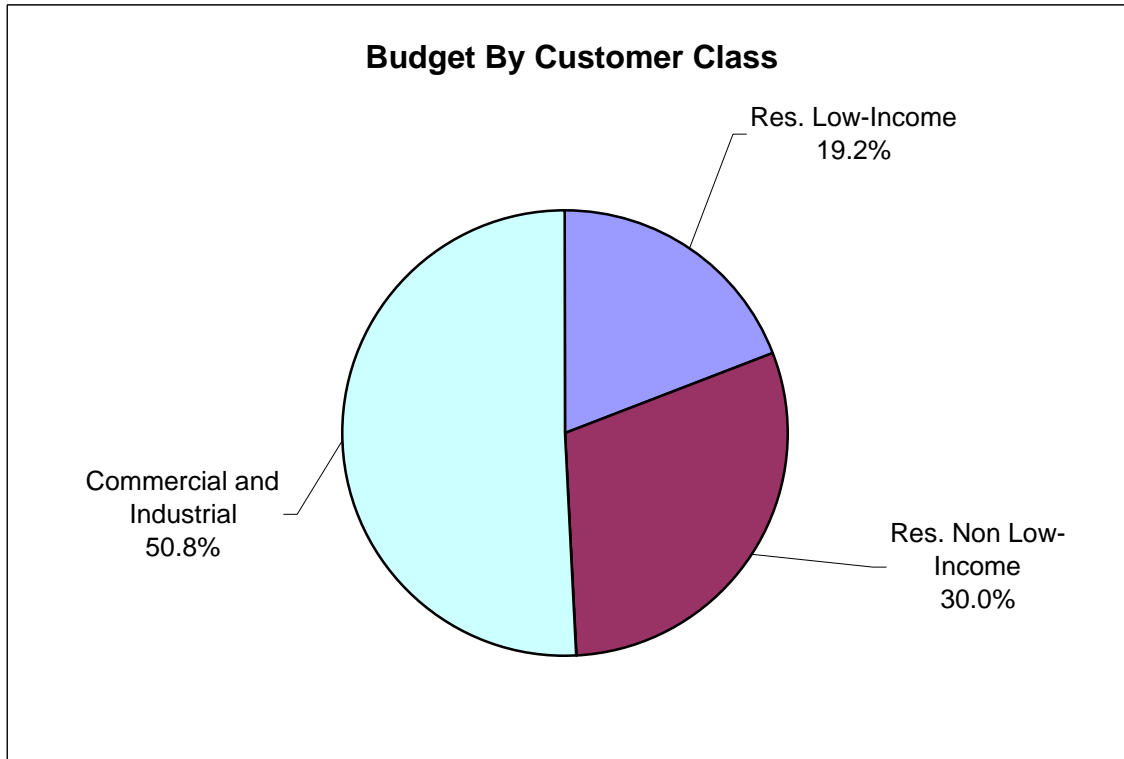
## CNG 2008 Budget Analysis



Customer Class	Budget	% of Total Conservation Budget	% of Residential & C&I Budget
Res. Low-Income	\$385,000	18.48%	19.61%
Res. Non Low-Income	\$535,400	25.69%	27.27%
<b>Residential Subtotal</b>	<b>\$920,400</b>	<b>44.17%</b>	<b>46.88%</b>
Commercial and Industrial	\$1,042,873	50.05%	53.12%
<b>C&amp;I Subtotal</b>	<b>\$1,042,873</b>	<b>50.05%</b>	<b>53.12%</b>
<b>Residential and C&amp;I Subtotal</b>	<b>\$1,963,273</b>	<b>94.22%</b>	<b>100.00%</b>
<b>Other Expenditures</b>			
Other Expenditures	\$120,534	5.78%	
<b>Other Expenditures Subtotal</b>	<b>\$120,534</b>	<b>5.78%</b>	
<b>TOTAL</b>	<b>\$2,083,807</b>	<b>100.00%</b>	

Totals may vary due to rounding

## SCG 2008 Budget and Parity Analysis



Customer Class	Budget	% of Total Conservation Budget	% of Residential & C&I Budget
Res. Low-Income	\$365,000	18.05%	19.20%
Res. Non Low-Income	\$571,000	28.24%	30.03%
<b>Residential Subtotal</b>	<b>\$936,000</b>	<b>46.30%</b>	<b>49.23%</b>
Commercial and Industrial	\$965,245	47.74%	50.77%
<b>C&amp;I Subtotal</b>	<b>\$965,245</b>	<b>47.74%</b>	<b>50.77%</b>
<b>Residential and C&amp;I Subtotal</b>	<b>\$1,901,245</b>	<b>94.04%</b>	<b>100.00%</b>
<b>Other Expenditures</b>			
Other Expenditures	\$120,536	5.96%	
<b>Other Expenditures Subtotal</b>	<b>\$120,536</b>	<b>5.96%</b>	
<b>TOTAL</b>	<b>\$2,021,781</b>	<b>100.00%</b>	

Totals may vary due to rounding

Summary  
Table B  
2008 COMPARISON OF CONSERVATION PROGRAMS

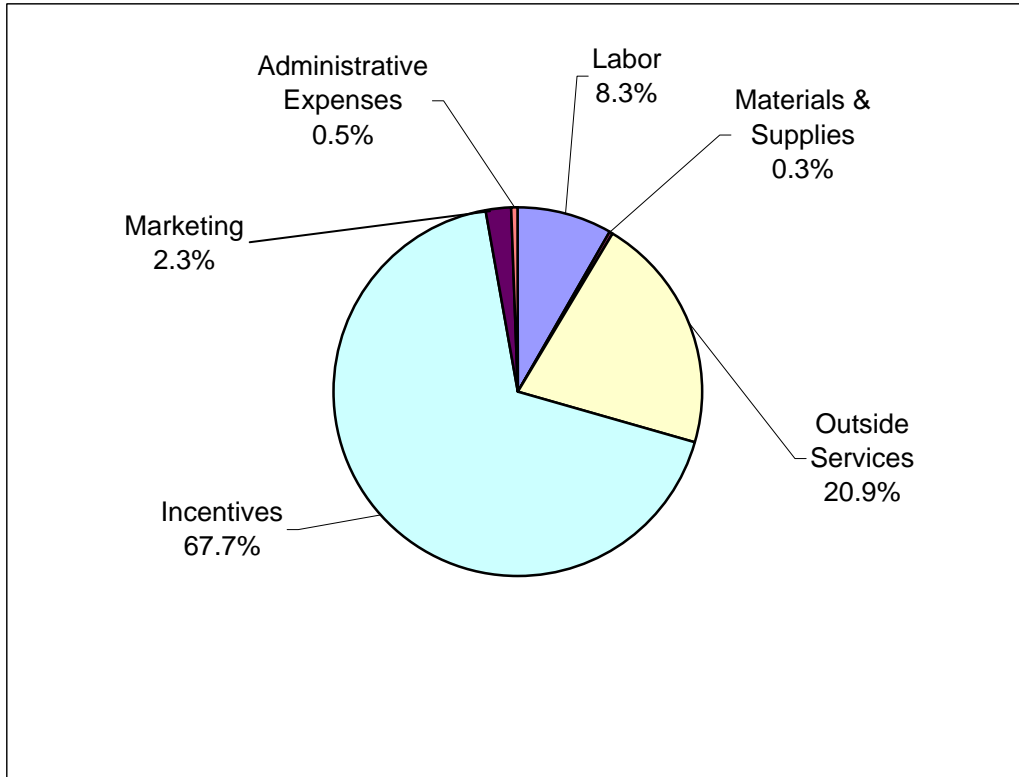
Program	2008 Budget	Customer Cost 2008	Total Resource Cost 2008	Gas Benefit	Total Resource Benefit	% of 2008 Budget	Gas System B/C Ratio	Total Resource Ratio B/C	Goals/# Units	Units of Measure	Annualized Savings (ccf)	Lifetime Savings (ccf)	Annual Cost Rate (\$/ccf)	Lifetime Cost Rate (\$/ccf)
<b>RESIDENTIAL</b>														
YGS Low Income Weatherization	\$ 400,000	\$ -	\$ 400,000	\$ 987,487	\$ 1,017,259	14.9%	2.47	2.54	1,225	Homes	74,675	970,771	\$ 5.36	\$ 0.41
CNG Low Income Weatherization	\$ 385,000	\$ -	\$ 385,000	\$ 912,488	\$ 939,998	18.5%	2.37	2.44	1,132	Homes	69,003	897,042	\$ 5.58	\$ 0.43
SCG Low Income Weatherization	\$ 365,000	\$ -	\$ 365,000	\$ 859,771	\$ 885,692	18.1%	2.36	2.43	1,067	Homes	65,017	845,218	\$ 5.61	\$ 0.43
<b>Sub Total Low Income</b>	<b>\$ 1,150,000</b>	<b>\$ -</b>	<b>\$ 1,150,000</b>	<b>\$ 2,759,746</b>	<b>\$ 2,842,949</b>	<b>16.9%</b>	<b>2.40</b>	<b>2.47</b>	<b>3,424</b>	<b>Homes</b>	<b>208,695</b>	<b>2,713,031</b>	<b>\$ 5.51</b>	<b>\$ 0.42</b>
YGS Home Energy Solutions	\$ 600,000	\$ 106,700	\$ 706,700	\$ 1,448,317	\$ 1,486,712	22.4%	2.41	2.10	1,554	Homes	84,717	1,524,912	\$ 7.08	\$ 0.39
CNG Home Energy Solutions	\$ 430,000	\$ 76,469	\$ 506,469	\$ 1,017,119	\$ 1,044,083	20.6%	2.37	2.06	1,092	Homes	59,495	1,070,910	\$ 7.23	\$ 0.40
SCG Home Energy Solutions	\$ 450,000	\$ 80,025	\$ 530,025	\$ 1,070,385	\$ 1,098,761	22.3%	2.38	2.07	1,149	Homes	62,611	1,126,993	\$ 7.19	\$ 0.40
<b>Sub Total Home Energy Solutions</b>	<b>\$ 1,480,000</b>	<b>\$ 263,195</b>	<b>\$ 1,743,195</b>	<b>\$ 3,535,821</b>	<b>\$ 3,629,555</b>	<b>21.8%</b>	<b>2.39</b>	<b>2.08</b>	<b>3,795</b>	<b>Homes</b>	<b>206,823</b>	<b>3,722,815</b>	<b>\$ 7.16</b>	<b>\$ 0.40</b>
YGS Water Heating	\$ 136,600	\$ 174,000	\$ 310,600	\$ 326,881	\$ 326,881	5.1%	2.39	1.05	290	Homes	17,630	352,592	\$ 7.75	\$ 0.39
CNG Water Heating	\$ 105,400	\$ 174,000	\$ 279,400	\$ 236,707	\$ 236,707	5.1%	2.25	0.85	210	Homes	12,766	255,325	\$ 8.26	\$ 0.41
SCG Water Heating	\$ 121,000	\$ 174,000	\$ 295,000	\$ 281,794	\$ 281,794	6.0%	2.33	0.96	250	Homes	15,198	303,958	\$ 7.96	\$ 0.40
<b>Sub Total Water Heating</b>	<b>\$ 363,000</b>	<b>\$ 522,000</b>	<b>\$ 885,000</b>	<b>\$ 845,383</b>	<b>\$ 845,383</b>	<b>5.3%</b>	<b>2.33</b>	<b>0.96</b>	<b>750</b>	<b>Homes</b>	<b>45,594</b>	<b>911,875</b>	<b>\$ 7.96</b>	<b>\$ 0.40</b>
<b>Subtotal Residential</b>	<b>\$ 2,993,000</b>	<b>\$ 785,195</b>	<b>\$ 3,778,195</b>	<b>\$ 7,140,949</b>	<b>\$ 7,317,887</b>	<b>44.1%</b>	<b>2.39</b>	<b>1.94</b>	<b>\$ 7,969</b>	<b>Homes</b>	<b>\$ 461,111</b>	<b>\$ 7,347,721</b>	<b>\$ 6.49</b>	<b>\$ 0.41</b>
<b>Commercial and Industrial C&amp;I Lost Opportunity</b>														
YGS Energy Conscious Blueprint	\$ 292,668	\$ -	\$ 292,668			10.9%								
CNG Energy Conscious Blueprint	\$ 200,584	\$ -	\$ 200,584			9.6%								
SCG Energy Conscious Blueprint	\$ 174,509	\$ -	\$ 174,509			8.6%								
<b>Sub Total Lost Opportunity</b>	<b>\$ 667,760</b>	<b>\$ -</b>	<b>\$ 667,760</b>	<b>\$ -</b>	<b>\$ -</b>	<b>9.8%</b>								
<b>Commercial and Industrial Large Retrofit</b>														
YGS Process Retrofit Pilot (RFP)	\$ 442,214		\$ 442,214			16.5%								
CNG Process Retrofit Pilot (RFP)	\$ 347,393		\$ 347,393			16.7%								
SCG Process Retrofit Pilot (RFP)	\$ 347,393		\$ 347,393			17.2%								
<b>Sub Total Process Retrofit Pilot (RFP)</b>	<b>\$ 1,137,000</b>	<b>\$ -</b>	<b>\$ 1,137,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>16.7%</b>								
YGS Energy Opportunities	\$ 539,535		\$ 539,535			20.1%								
CNG Energy Opportunities	\$ 400,775		\$ 400,775			19.2%								
SCG Energy Opportunities	\$ 361,197		\$ 361,197			17.9%								
<b>Sub Total Energy Opportunites</b>	<b>\$ 1,301,507</b>	<b>\$ -</b>	<b>\$ 1,301,507</b>	<b>\$ -</b>	<b>\$ -</b>	<b>19.2%</b>								
YGS O&M	\$ 136,969		\$ 136,969			5.1%								
CNG O&M	\$ 94,121		\$ 94,121			4.5%								
SCG O&M	\$ 82,146		\$ 82,146			4.1%								
<b>Sub Total O&amp;M</b>	<b>\$ 313,236</b>	<b>\$ -</b>	<b>\$ 313,236</b>	<b>\$ -</b>	<b>\$ -</b>	<b>4.6%</b>			<b>0</b>		<b>0</b>	<b>0</b>		
<b>Subtotal Commercial &amp; Industrial</b>	<b>\$ 3,419,503</b>	<b>\$ -</b>	<b>\$ 3,419,503</b>	<b>\$ -</b>	<b>\$ -</b>	<b>50.4%</b>			<b>0</b>		<b>0</b>	<b>0</b>		
<b>OTHER</b>														
YGS CHIF Loan Program	\$ 30,000		\$ 30,000			1.1%								
CNG CHIF Loan Program	\$ 30,000		\$ 30,000			1.4%								
SCG CHIF Loan Program	\$ 30,000		\$ 30,000			1.5%								
<b>Sub Total Other - CHIF</b>	<b>\$ 90,000</b>	<b>\$ -</b>	<b>\$ 90,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>1.3%</b>								
YGS Planning, Evaluation and ECMB	\$ 105,930		\$ 105,930			3.9%								
CNG Planning, Evaluation and ECMB	\$ 90,534		\$ 90,534			4.3%								
SCG Planning, Evaluation and ECMB	\$ 90,536		\$ 90,536			4.5%								
<b>Sub Total Other - Evaluation</b>	<b>\$ 287,000</b>	<b>\$ -</b>	<b>\$ 287,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>4.2%</b>								
<b>Subtotal Other</b>	<b>\$ 377,000</b>	<b>\$ -</b>	<b>\$ 377,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>5.6%</b>								
<b>PROGRAM SUBTOTALS</b>														
<b>YGS Residential</b>	<b>\$ 1,136,600</b>	<b>\$ 280,700</b>	<b>\$ 1,417,300</b>	<b>\$ 2,762,685</b>	<b>\$ 2,830,852</b>	<b>42.3%</b>					<b>177,022</b>	<b>2,848,275</b>	<b>\$ 6.42</b>	<b>\$ 0.40</b>
<b>CNG Residential</b>	<b>\$ 920,400</b>	<b>\$ 250,469</b>	<b>\$ 1,170,869</b>	<b>\$ 2,166,314</b>	<b>\$ 2,220,789</b>	<b>44.2%</b>					<b>141,264</b>	<b>2,223,277</b>	<b>\$ 6.52</b>	<b>\$ 0.41</b>
<b>SCG Residential</b>	<b>\$ 936,000</b>	<b>\$ 254,025</b>	<b>\$ 1,190,025</b>	<b>\$ 2,211,950</b>	<b>\$ 2,266,247</b>	<b>46.3%</b>					<b>142,825</b>	<b>2,276,169</b>	<b>\$ 6.55</b>	<b>\$ 0.41</b>
<b>Residential Total</b>	<b>\$ 2,993,000</b>	<b>\$ 785,195</b>	<b>\$ 3,778,195</b>	<b>\$ 7,140,949</b>	<b>\$ 7,317,887</b>	<b>44.1%</b>					<b>461,111</b>	<b>7,347,721</b>	<b>\$ 6.49</b>	<b>\$ 0.41</b>
<b>YGS C&amp;I</b>	<b>\$ 1,411,385</b>	<b>\$ -</b>	<b>\$ 1,411,385</b>	<b>\$ -</b>	<b>\$ -</b>	<b>52.6%</b>					<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>CNG C&amp;I</b>	<b>\$ 1,042,873</b>	<b>\$ -</b>	<b>\$ 1,042,873</b>	<b>\$ -</b>	<b>\$ -</b>	<b>50.0%</b>					<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>SCG C&amp;I</b>	<b>\$ 965,245</b>	<b>\$ -</b>	<b>\$ 965,245</b>	<b>\$ -</b>	<b>\$ -</b>	<b>47.7%</b>					<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>C&amp;I Total</b>	<b>\$ 3,419,503</b>	<b>\$ -</b>	<b>\$ 3,419,503</b>	<b>\$ -</b>	<b>\$ -</b>	<b>50.4%</b>					<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>YGS Other</b>	<b>\$ 135,930</b>	<b>\$ -</b>	<b>\$ 135,930</b>	<b>\$ -</b>	<b>\$ -</b>	<b>5.1%</b>					<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>CNG Other</b>	<b>\$ 120,534</b>	<b>\$ -</b>	<b>\$ 120,534</b>	<b>\$ -</b>	<b>\$ -</b>	<b>5.8%</b>					<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>SCG Other</b>	<b>\$ 120,536</b>	<b>\$ -</b>	<b>\$ 120,536</b>	<b>\$ -</b>	<b>\$ -</b>	<b>6.0%</b>					<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Other Total</b>	<b>\$ 377,000</b>	<b>\$ -</b>	<b>\$ 377,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>5.6%</b>					<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>YGS TOTAL</b>	<b>\$ 2,683,915</b>	<b>\$ 280,700</b>	<b>\$ 2,964,615</b>	<b>\$ 2,762,685</b>	<b>\$ 2,830,852</b>	<b>39.5%</b>					<b>177,022</b>	<b>2,848,275</b>	<b>\$ 6.42</b>	<b>\$ 0.40</b>
<b>CNG TOTAL</b>	<b>\$ 2,083,807</b>	<b>\$ 250,469</b>	<b>\$ 2,334,276</b>	<b>\$ 2,166,314</b>	<b>\$ 2,220,789</b>	<b>30.7%</b>					<b>141,264</b>	<b>2,223,277</b>	<b>\$ 6.52</b>	<b>\$ 0.41</b>
<b>SCG TOTAL</b>	<b>\$ 2,021,781</b>	<b>\$ 254,025</b>	<b>\$ 2,275,807</b>	<b>\$ 2,211,950</b>	<b>\$ 2,266,247</b>	<b>29.8%</b>					<b>142,825</b>	<b>2,276,169</b>	<b>\$ 6.55</b>	<b>\$ 0.41</b>
<b>GRAND TOTAL</b>	<b>\$ 6,789,503</b>	<b>\$ 785,195</b>	<b>\$ 7,574,698</b>	<b>\$ 7,140,949</b>	<b>\$ 7,317,887</b>	<b>100.0%</b>	<b>1.05</b>	<b>0.97</b>			<b>461,111</b>	<b>7,347,721</b>	<b>\$ 6.49</b>	<b>\$ 0.41</b>

**Table C  
YGS 2008 Budget Details**

<b>GAS CONSERVATION BUDGET (\$000)</b>	<b>Labor</b>	<b>Materials &amp; Supplies</b>	<b>Outside Services</b>	<b>Incentives</b>	<b>Marketing</b>	<b>Administrative Expenses</b>	<b>TOTAL</b>
<b>RESIDENTIAL</b>							
Low Income Weatherization and Heating System	\$ 30,200	\$ 2,000	\$ 121,488	\$ 226,912	\$ 3,000	\$ 1,400	\$ 385,000
Low Income Audits			\$ 15,000				\$ 15,000
Low Income Total	\$ 30,200	\$ 2,000	\$ 136,488	\$ 226,912	\$ 3,000	\$ 1,400	\$ 400,000
Home Energy Solutions (HES)	\$ 20,000	\$ 3,000	\$ 182,915	\$ 388,085	\$ 4,000	\$ 2,000	\$ 600,000
Water Heating	\$ 20,000	\$ 2,000	\$ 17,400	\$ 87,000	\$ 8,700	\$ 1,500	\$ 136,600
<b>Subtotal Residential</b>	<b>\$ 70,200</b>	<b>\$ 7,000</b>	<b>\$ 336,803</b>	<b>\$ 701,997</b>	<b>\$ 15,700</b>	<b>\$ 4,900</b>	<b>\$ 1,136,600</b>
<b>COMMERCIAL &amp; INDUSTRIAL LOST OPPORTUNITY</b>							
Energy Conscious Blueprint	\$ 33,264	\$ 302	\$ 24,401	\$ 218,069	\$ 15,120	\$ 1,512	\$ 292,668
<b>Subtotal C&amp;I - Lost Opportunity</b>	<b>\$ 33,264</b>	<b>\$ 302</b>	<b>\$ 24,401</b>	<b>\$ 218,069</b>	<b>\$ 15,120</b>	<b>\$ 1,512</b>	<b>\$ 292,668</b>
<b>COMMERCIAL &amp; INDUSTRIAL LARGE RETROFIT</b>							
Process Retrofit Pilot	\$ 28,000	\$ 1,000	\$ -	\$ 411,214	\$ -	\$ 2,000	\$ 442,214
Energy Opportunities	\$ 50,490	\$ 459	\$ 70,225	\$ 393,117	\$ 22,950	\$ 2,295	\$ 539,535
Operations & Maintenance	\$ 20,837	\$ 139	\$ 13,892	\$ 93,766	\$ 6,946	\$ 1,389	\$ 136,969
<b>Subtotal C&amp;I - Retrofit</b>	<b>\$ 99,327</b>	<b>\$ 1,598</b>	<b>\$ 84,117</b>	<b>\$ 898,096</b>	<b>\$ 29,896</b>	<b>\$ 5,684</b>	<b>\$ 1,118,718</b>
<b>Subtotal C&amp;I</b>	<b>\$ 132,591</b>	<b>\$ 1,900</b>	<b>\$ 108,517</b>	<b>\$ 1,116,165</b>	<b>\$ 45,016</b>	<b>\$ 7,196</b>	<b>\$ 1,411,385</b>
<b>OTHER - PROGRAMS/REQUIREMENTS &amp; PLANNING</b>							
CHIF Loan Fund			\$ 30,000				\$ 30,000
Planning	\$ 20,000		\$ 38,930				\$ 58,930
Evaluation			\$ 38,000				\$ 38,000
ECMB			\$ 9,000				\$ 9,000
<b>Subtotal Other</b>	<b>\$ 20,000</b>	<b>\$ -</b>	<b>\$ 115,930</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 135,930</b>
<b>PROGRAM SUBTOTALS</b>							
<b>Residential</b>	<b>\$ 70,200</b>	<b>\$ 7,000</b>	<b>\$ 366,803</b>	<b>\$ 701,997</b>	<b>\$ 15,700</b>	<b>\$ 4,900</b>	<b>\$ 1,166,600</b>
<b>C&amp;I</b>	<b>\$ 132,591</b>	<b>\$ 1,900</b>	<b>\$ 108,517</b>	<b>\$ 1,116,165</b>	<b>\$ 45,016</b>	<b>\$ 7,196</b>	<b>\$ 1,411,385</b>
<b>Other</b>	<b>\$ 20,000</b>	<b>\$ -</b>	<b>\$ 85,930</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 105,930</b>
<b>TOTAL BUDGET</b>	<b>\$ 222,791</b>	<b>\$ 8,900</b>	<b>\$ 561,250</b>	<b>\$ 1,818,162</b>	<b>\$ 60,716</b>	<b>\$ 12,096</b>	<b>\$ 2,683,915</b>

Totals may vary due to rounding

**YGS**  
**2008 Gas Conservation**  
**Budget By Expense Class**



Expense Classes	Budget	% of Budget
Labor	\$ 222,791	8.3%
Materials & Supplies	\$ 8,900	0.3%
Outside Services	\$ 561,250	20.9%
Incentives	\$ 1,818,162	67.7%
Marketing	\$ 60,716	2.3%
Administrative Expenses	\$ 12,096	0.5%
<b>Total</b>	<b>\$ 2,683,915</b>	<b>100.00%</b>

Totals may vary due to rounding

**Table C  
CNG 2008 Budget Details**

<b>GAS CONSERVATION BUDGET (\$000)</b>	<b>Labor</b>	<b>Materials &amp; Supplies</b>	<b>Outside Services</b>	<b>Incentives</b>	<b>Marketing</b>	<b>Administrative Expenses</b>	<b>TOTAL</b>
--	--------------	---------------------------------	-------------------------	-------------------	------------------	--------------------------------	--------------

**RESIDENTIAL**

Low Income Weatherization and Heating System	\$ 27,800	\$ 2,000	\$ 126,122	\$ 209,678	\$ 3,000	\$ 1,400	\$ 370,000
Low Income Audits			\$ 15,000				\$ 15,000
Low Income Total	\$ 27,800	\$ 2,000	\$ 141,122	\$ 209,678	\$ 3,000	\$ 1,400	\$ 385,000
Home Energy Solutions (HES)	\$ 20,000	\$ 3,000	\$ 128,457	\$ 272,543	\$ 4,000	\$ 2,000	\$ 430,000
Water Heating	\$ 20,000	\$ 2,000	\$ 12,600	\$ 63,000	\$ 6,300	\$ 1,500	\$ 105,400
<b>Subtotal Residential</b>	<b>\$ 67,800</b>	<b>\$ 7,000</b>	<b>\$ 282,179</b>	<b>\$ 545,221</b>	<b>\$ 13,300</b>	<b>\$ 4,900</b>	<b>\$ 920,400</b>

**COMMERCIAL & INDUSTRIAL LOST OPPORTUNITY**

Energy Conscious Blueprint	\$ 22,904	\$ 208	\$ 16,242	\$ 149,778	\$ 10,411	\$ 1,041	\$ 200,584
<b>Subtotal C&amp;I - Lost Opportunity</b>	<b>\$ 22,904</b>	<b>\$ 208</b>	<b>\$ 16,242</b>	<b>\$ 149,778</b>	<b>\$ 10,411</b>	<b>\$ 1,041</b>	<b>\$ 200,584</b>

**COMMERCIAL & INDUSTRIAL LARGE RETROFIT**

Process Retrofit Pilot	\$ 21,996	\$ 786	\$ -	\$ 323,041	\$ -	\$ 1,570	\$ 347,393
Energy Opportunities	\$ 34,765	\$ 316	\$ 51,719	\$ 296,593	\$ 15,802	\$ 1,580	\$ 400,775
Operations & Maintenance	\$ 14,347	\$ 96	\$ 9,565	\$ 64,375	\$ 4,782	\$ 956	\$ 94,121
<b>Subtotal C&amp;I - Retrofit</b>	<b>\$ 71,108</b>	<b>\$ 1,198</b>	<b>\$ 61,284</b>	<b>\$ 684,009</b>	<b>\$ 20,584</b>	<b>\$ 4,106</b>	<b>\$ 842,290</b>
<b>Subtotal C&amp;I</b>	<b>\$ 94,012</b>	<b>\$ 1,406</b>	<b>\$ 77,526</b>	<b>\$ 833,787</b>	<b>\$ 30,995</b>	<b>\$ 5,147</b>	<b>\$ 1,042,873</b>

**OTHER - PROGRAMS/REQUIREMENTS & PLANNING**

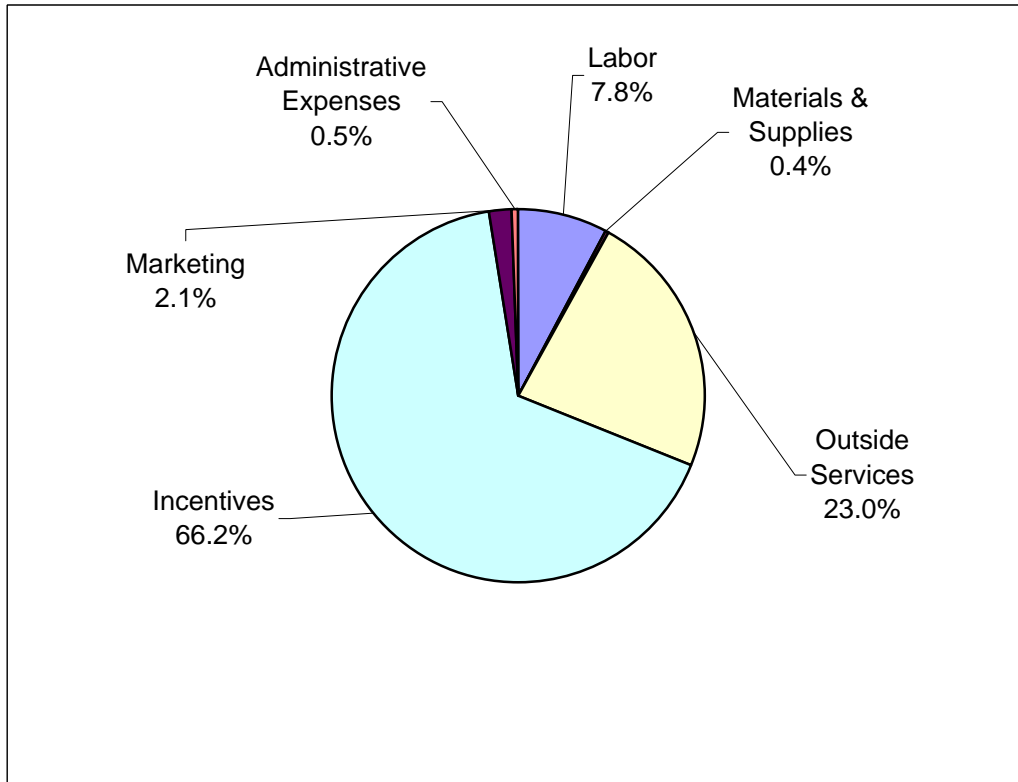
CHIF Loan Fund			\$ 30,000				\$ 30,000
Planning			\$ 50,534				\$ 50,534
Evaluation			\$ 31,000				\$ 31,000
ECMB			\$ 9,000				\$ 9,000
<b>Subtotal Other</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 120,534</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 120,534</b>

**PROGRAM SUBTOTALS**

<b>Residential</b>	<b>\$ 67,800</b>	<b>\$ 7,000</b>	<b>\$ 312,179</b>	<b>\$ 545,221</b>	<b>\$ 13,300</b>	<b>\$ 4,900</b>	<b>\$ 950,400</b>
<b>C&amp;I</b>	<b>\$ 94,012</b>	<b>\$ 1,406</b>	<b>\$ 77,526</b>	<b>\$ 833,787</b>	<b>\$ 30,995</b>	<b>\$ 5,147</b>	<b>\$ 1,042,873</b>
<b>Other</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 90,534</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 90,534</b>
<b>TOTAL BUDGET</b>	<b>\$ 161,812</b>	<b>\$ 8,406</b>	<b>\$ 480,239</b>	<b>\$ 1,379,008</b>	<b>\$ 44,295</b>	<b>\$ 10,047</b>	<b>\$ 2,083,807</b>

Totals may vary due to rounding

**CNG**  
**2008 Gas Conservation**  
**Budget By Expense Class**



<b>Expense Classes</b>	<b>Budget</b>	<b>% of Budget</b>
Labor	\$ 161,812	7.8%
Materials & Supplies	\$ 8,406	0.4%
Outside Services	\$ 480,239	23.0%
Incentives	\$ 1,379,008	66.2%
Marketing	\$ 44,295	2.1%
Administrative Expenses	\$ 10,047	0.5%
<b>Total</b>	<b>\$ 2,083,807</b>	<b>100.00%</b>

Totals may vary due to rounding

**Table C**  
**SCG 2008 Budget Details**

<b>GAS CONSERVATION BUDGET (\$000)</b>	<b>Labor</b>	<b>Materials &amp; Supplies</b>	<b>Outside Services</b>	<b>Incentives</b>	<b>Marketing</b>	<b>Administrative Expenses</b>	<b>TOTAL</b>
--	--------------	---------------------------------	-------------------------	-------------------	------------------	--------------------------------	--------------

**RESIDENTIAL**

Low Income Weatherization and Heating System	\$ 27,200	\$ 2,000	\$ 118,836	\$ 197,564	\$ 3,000	\$ 1,400	\$ 350,000
Low Income Audits			\$ 15,000				\$ 15,000
Low Income Total	\$ 27,200	\$ 2,000	\$ 133,836	\$ 197,564	\$ 3,000	\$ 1,400	\$ 365,000
Home Energy Solutions (HES)	\$ 20,000	\$ 2,000	\$ 135,184	\$ 286,816	\$ 4,000	\$ 2,000	\$ 450,000
Water Heating	\$ 20,000	\$ 2,000	\$ 15,000	\$ 75,000	\$ 7,500	\$ 1,500	\$ 121,000
<b>Subtotal Residential</b>	<b>\$ 67,200</b>	<b>\$ 6,000</b>	<b>\$ 284,020</b>	<b>\$ 559,380</b>	<b>\$ 14,500</b>	<b>\$ 4,900</b>	<b>\$ 936,000</b>

**COMMERCIAL & INDUSTRIAL LOST OPPORTUNITY**

Energy Conscious Blueprint	\$ 20,036	\$ 182	\$ 13,634	\$ 130,639	\$ 9,107	\$ 911	\$ 174,509
<b>Subtotal C&amp;I - Retrofit</b>	<b>\$ 20,036</b>	<b>\$ 182</b>	<b>\$ 13,634</b>	<b>\$ 130,639</b>	<b>\$ 9,107</b>	<b>\$ 911</b>	<b>\$ 174,509</b>

**COMMERCIAL & INDUSTRIAL LARGE RETROFIT**

Process Retrofit Pilot	\$ 21,996	\$ 786	\$ -	\$ 323,041	\$ -	\$ 1,570	\$ 347,393
Energy Opportunities	\$ 30,411	\$ 276	\$ 45,782	\$ 269,523	\$ 13,823	\$ 1,382	\$ 361,197
Operations & Maintenance	\$ 12,551	\$ 84	\$ 8,367	\$ 56,123	\$ 4,184	\$ 837	\$ 82,146
<b>Subtotal C&amp;I - Lost Opportunity</b>	<b>\$ 64,958</b>	<b>\$ 1,146</b>	<b>\$ 54,149</b>	<b>\$ 648,687</b>	<b>\$ 18,007</b>	<b>\$ 3,789</b>	<b>\$ 790,736</b>
<b>Subtotal C&amp;I</b>	<b>\$ 84,994</b>	<b>\$ 1,328</b>	<b>\$ 67,783</b>	<b>\$ 779,326</b>	<b>\$ 27,114</b>	<b>\$ 4,700</b>	<b>\$ 965,245</b>

**OTHER - PROGRAMS/REQUIREMENTS & PLANNING**

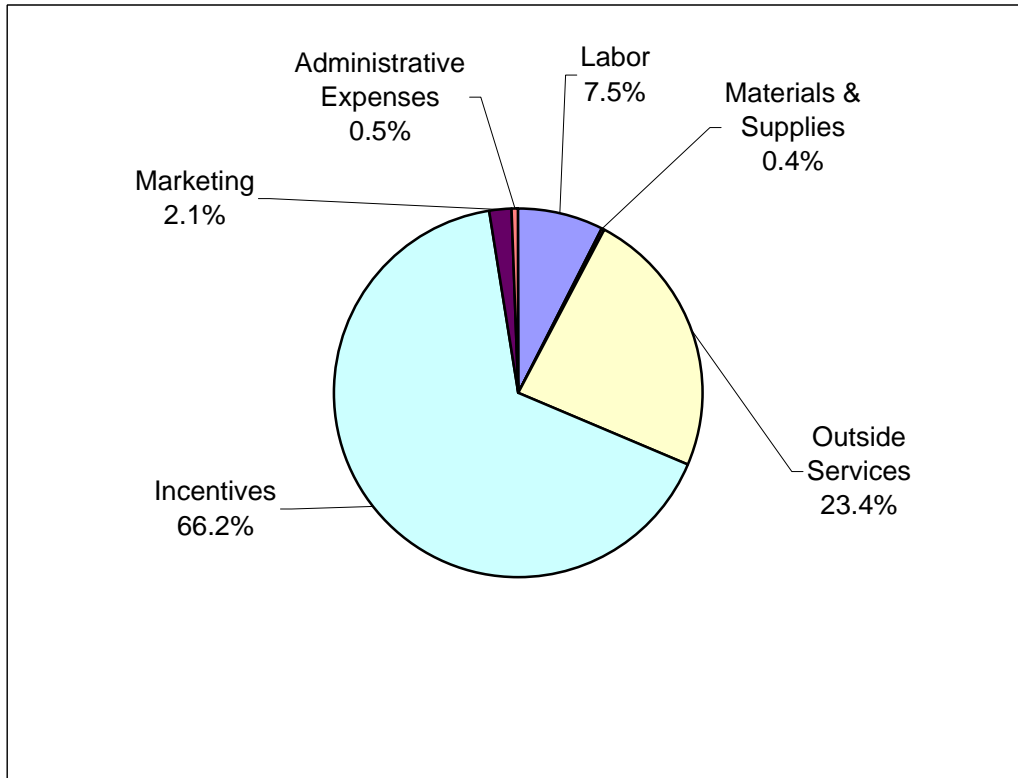
CHIF Loan Fund			\$ 30,000				\$ 30,000
Planning			\$ 50,536				\$ 50,536
Evaluation			\$ 31,000				\$ 31,000
ECMB			\$ 9,000				\$ 9,000
<b>Subtotal Other</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 120,536</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 120,536</b>

**PROGRAM SUBTOTALS**

<b>Residential</b>	<b>\$ 67,200</b>	<b>\$ 6,000</b>	<b>\$ 314,020</b>	<b>\$ 559,380</b>	<b>\$ 14,500</b>	<b>\$ 4,900</b>	<b>\$ 966,000</b>
<b>C&amp;I</b>	<b>\$ 84,994</b>	<b>\$ 1,328</b>	<b>\$ 67,783</b>	<b>\$ 779,326</b>	<b>\$ 27,114</b>	<b>\$ 4,700</b>	<b>\$ 965,245</b>
<b>Other</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 90,536</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 90,536</b>
<b>TOTAL BUDGET</b>	<b>\$ 152,194</b>	<b>\$ 7,328</b>	<b>\$ 472,339</b>	<b>\$ 1,338,706</b>	<b>\$ 41,614</b>	<b>\$ 9,600</b>	<b>\$ 2,021,781</b>

Totals may vary due to rounding

**SCG**  
**2008 Gas Conservation**  
**Budget By Expense Class**



<b>Expense Classes</b>	<b>Budget</b>	<b>% of Budget</b>
Labor	\$ 152,194	7.5%
Materials & Supplies	\$ 7,328	0.4%
Outside Services	\$ 472,339	23.4%
Incentives	\$ 1,338,706	66.2%
Marketing	\$ 41,614	2.1%
Administrative Expenses	\$ 9,600	0.5%
<b>Total</b>	<b>\$ 2,021,781</b>	<b>100.00%</b>

Totals may vary due to rounding

This Page Intentionally Blank

## CHAPTER TWO: RESIDENTIAL PROGRAMS

### Residential Low-Income Weatherization and Heating System

**Objective:** The objectives of the Companies' Low Income Weatherization Residential Assistance Partnership with Heating System Replacement ("WRAP-HS") program are to reduce the utility bills of low-income customers and make their houses more energy efficient and comfortable by:

- Installing weatherization measures and performing energy conservation services at no cost to the participant.
- Providing energy efficiency education to raise customer awareness of conservation and to encourage them to take behavioral and other steps beyond weatherization to further reduce energy consumption.
- Having a streamlined program delivery mechanism by working in conjunction with the electric efficiency Weatherization Residential Assistance Partnership ("WRAP") and UI Helps, administered by the electric distribution companies and delivered through Community Action Agencies ("CAAs") within the State and/or vendors.
- Replacing older, inefficient heating and water heating systems.

**Target**

**Market:** Customers participating in WRAP-HS must meet the following eligibility criteria:

- Owner-occupied one to four residential dwelling units, or renters who pay for their own natural gas heat and have a natural gas account in their name.
- Consistent with WRAP program eligibility guidelines:
  - Household income less than 60 percent of the State median income.

**Program**

**Description:** The WRAP-HS program will utilize existing electric company agreements with the CAAs and/or vendors that deliver the electric efficiency WRAP Program.

Qualified, low-income, residential customers will receive free energy efficiency services through the following process:

- 1) Leads are primarily generated by CAAs, direct mailings generated by WRAP and UI Helps personnel, and customers calling requesting WRAP services. As a result of program awareness campaigns, leads are also generated by bill inserts, media advertising, Energy Forums, and the Companies' call centers.

- 2) An appointment is made with the customer.
- 3) A qualified CAA Energy Auditor conducts a walk-through needs analysis or an Energy Audit to identify potential energy saving measures.
- 4) *HomeCheck*<sup>5</sup> audit software is used to assess the energy savings potential and cost-effectiveness of various measures. Health and safety factors are also considered in the audit. Using *HomeCheck*, the audit will address a comprehensive assortment of energy saving measures outlined below:
  - a) Building Envelope
    - A blower-door test is performed to quantify the amount of air leakage. If required, air sealing measures are installed to decrease air leakage from the house. A follow-up post blower door test is conducted to measure the effectiveness of the air sealing measure.
    - The audit determines the need for additional insulation based on cost-effectiveness criteria using the Total Resource Benefit/Cost Test<sup>6</sup>. Necessary insulation is installed at a follow-up appointment. Appropriate ventilation is installed when necessary to prevent moisture problems (i.e., ridge and eave vents in attics).
    - A visual assessment of the basement is performed to identify moisture problems and determine whether pipes or ducts need to be insulated. Appropriate actions are taken to rectify any identified problem areas, which may or may not entail a follow-up appointment.
  - b) Domestic Hot Water
    - Domestic hot water measures are assessed, including the installation of low-flow showerheads and faucet aerators.
    - If a freestanding hot water heater exists, it is tested and the unit may be wrapped and/or the set-point adjusted to improve efficiency and prevent a scalding hazard. Older,

---

<sup>5</sup> *HomeCheck* software is proprietary, approved by the U.S. DOE and is the residential audit tool used in CL&P's WRAP Program.

<sup>6</sup> Refer to Chapter 5: Benefit-Cost Analysis.

inefficient water heaters will be identified and replaced with new, energy-efficient models, where cost effective. In particular, water heaters with an energy factor less than 0.5 and/or water heaters that pre-date the 1992 Federal Energy Policy Act will be targeted.

c) Heating System

- An assessment is conducted on the heating system, including combustion efficiency testing. If needed the system is cleaned and tuned.
- If deemed cost-effective or necessary for health and safety reasons, old, inefficient natural gas furnaces and boilers will be replaced with similar, more efficient units. EnergyStar<sup>®</sup> rated equipment will be provided when such units are available and practical. EnergyStar<sup>®</sup> rated equipment will have priority and will be used in all instances where the benefit-cost ratio equals or exceeds 1.0. However, some dwellings may have certain site characteristics which limit the use of Energy Star<sup>®</sup> equipment. In these instances, the Companies will provide equipment with the best available cost-effective criteria that accommodates the site characteristics. Boilers that are replaced will be equipped with indirect hot water systems, where cost effective.
- In situations where heating systems are replaced, Program Administrators will seek bids from three contractors. Each contractor will submit a price for an Energy Star<sup>®</sup> unit and a price for the highest AFUE standard non Energy Star<sup>®</sup> unit<sup>7</sup> they have on hand.
- The Program Administrator will verify the following before the contractor is paid for the service:
  - The contractor has provided documented evidence of compliance with local and state building standards including copies of required local permits.
  - The town building official has conducted a field inspection.

---

<sup>7</sup> If a situation arises during the winter months where the system is deemed unsafe or inoperable (“emergency situations”), the multiple bid requirement can be waived. In such situations, bid(s) that are obtained will be screened and approved by the Program Administrator to ensure that they are reasonable before any work is authorized.

- CAA or WRAP Personnel will inspect before payment is issued.
  - The installation of the system complies with program rules including verification that the installed efficiency (AFUE) meets program guidelines.
- d) Energy Education  
Energy efficiency education will be provided to every participating household. Additionally, referrals to the appropriate CAA and/or the utility's Community Relations function will be made if household budget management counseling is requested by the customer.
- e) Electric Program Synergies  
Since the WRAP-HS program works in conjunction, and is synergistic with the WRAP program of the electric companies, the walk-through needs analysis or audit will also seek to identify and provide cost-effective measures that reduce electric energy usage and cost. Therefore, measures such as energy-efficient compact fluorescent lighting will be provided as appropriate. The costs and savings associated with electric measures will not be included in the Companies' natural gas programs. Instead, they will be allocated to and installed under the Connecticut Energy Efficiency Fund ("CEEF") electric conservation programs<sup>8</sup>.

Marketing Strategy:

Existing, proven promotional mechanisms from the electric WRAP program will be utilized to promote and generate awareness for the Companies' WRAP-HS program. These include CAAs, social service agencies, senior citizen organizations, family welfare agencies, landlords, and public housing authorities. WRAP-HS will also have leads generated via the distribution of brochures, bill inserts, targeted mailings, and through call centers of Yankee, CNG, SCG and the electric utilities. WRAP-HS will also be promoted to customers at area Home Shows and Energy Forums in which the Companies participate.

Incentive Strategy:

Incentives are designed to pay for 100 percent of all cost-effective weatherization measures as determined by the B/C ratio.

---

<sup>8</sup> Please refer to the 2007 Connecticut Light and Power Conservation Plan (Docket No. 06-10-02) for information on electric measures installed through the electric WRAP Program.

Incentives for replacement of inefficient heating systems, when appropriate, will be up to the full replacement costs, or maximum of \$4,000.00. Full replacement cost includes labor and material associated with removing existing and installing new equipment. If additional related costs based on site-specific conditions, such as: (a) the presence of asbestos, (b) tight working space requiring the dismantling and removal of existing equipment, and (c) the need to provide return air ducting, and the full replacement costs exceed the maximum (\$4,000), the owner will then need to agree to pay the difference.

Goals: Refer to standard filing requirement for program goals.

New  
Program  
Issues:

Based on preliminary results and recommendations from a recently conducted WRAP process evaluation, the Companies anticipate that program changes will be developed and implemented to further improve program effectiveness. Upon issuance of the final report and identification of specific program changes, an updated program plan reflecting these changes will be filed with the Department.

## A. High Efficiency Natural Gas Water Heating Program

**Objective:** The objective of the Companies' High Efficiency Natural Gas Water Heating program is to encourage customers to purchase and install high-efficiency on-demand tankless water heaters and indirect water heaters.

**Target Market:** All residential customers in the Yankees Gas, Connecticut Natural Gas and Southern Connecticut Gas territories.

### **Program**

**Description:** Qualified natural gas residential customers will receive a \$300 rebate for installing high-efficiency water heating systems - either indirect or on-demand tankless. All the installations must be installed by a licensed contractor. All the installations must conform to all the applicable codes and standards and be installed in accordance with the rebate program guidelines. The rebate form must be filled out completely, signed and accompanied by dated receipts.

The following two types of technologies qualify:

- Indirect water heating systems that are connected to ENERGY STAR rated natural gas-fired boilers.
- On-demand tankless water heaters with an electronic ignition and an efficiency (EF) of 82% or greater.

### **Marketing Strategy:**

The program will be marketed through contractor networks, distributors, the Companies' and the CEEF websites, call centers, home shows, synergies with other residential energy conservation programs and leveraged direct promotions.

**Incentives:** A \$300 rebate will be offered to natural gas residential customers who purchase and install either high-efficiency on-demand tankless water heaters or indirect water heaters attached to their natural gas boiler<sup>9</sup>.

**Budget and Goals:** The budget, savings and benefits of the Companies' High Efficiency Natural Gas Water Heating Program are presented in the following two tables:

---

<sup>9</sup> Retrofit units may require exterior wall "power venting" and may result in an additional expense for the movement of gas/water lines and power to support unit operation. These added costs will affect overall program cost effectiveness.

**Table 1 - High Efficiency Natural Gas Water Heating Program Budget**

	<b>Yankee Gas</b>	<b>CNG</b>	<b>SCG</b>	<b>TOTAL</b>
Admin	\$20,000	\$20,000	\$20,000	\$60,000
OS	\$17,400	\$12,600	\$15,000	\$45,000
MS	\$2,000	\$2,000	\$2,000	\$6,000
Incentives	\$87,000	\$63,000	\$75,000	\$225,000
Marketing	\$8,700	\$6,300	\$7,500	\$22,500
Admin Expenses	\$1,500	\$1,500	\$1,500	\$4,500
<b>TOTAL</b>	<b>\$136,600</b>	<b>\$105,400</b>	<b>\$121,000</b>	<b>\$363,000</b>

**Table 2 - High Efficiency Natural Gas Water Heating Savings and Benefits**

		<b>Yankee Gas</b>	<b>CNG</b>	<b>SCG</b>
Total Program Cost	a	\$136,600	\$105,400	\$121,000
Annual gas savings (ccf)	b	17,630	12,766	15,198
Lifetime gas savings(ccf)	c	352,592	255,325	303,958
Cost rate (\$ per ccf)	d = a / c	\$0.39	\$0.41	\$0.40
Total Resource Benefit	e	\$326,881	\$236,707	\$281,794
Benefit-Cost (B/C) Ratio	f = e / a	2.4	2.2	2.3
Number of Homes Served	g	290	210	250

## YGS Standard Filing Requirement

### Low Income Weatherization and Heating System

<u>Budget Projections</u>	<u>2006 Actuals</u>	<u>2007 Budget</u>	<u>2008 Budget</u>	
Labor	\$ 39,223	\$ 30,200	\$ 30,200	
Outside Services	\$ 28,379	\$ 136,488	\$ 136,488	
Material & Supplies	\$ 261	\$ 2,000	\$ 2,000	
Incentives	\$ 334,759	\$ 226,912	\$ 226,912	
Marketing	\$ 1,284	\$ 3,000	\$ 3,000	
Administrative Expense	\$ 543	\$ 1,400	\$ 1,400	
Total	\$ 404,449	\$ 400,000 <sup>1</sup>	\$ 400,000	a

Note 1: Includes \$50,000 for Furnace Replacements

<u>Energy Savings Information</u>	<u>2006 Actuals</u>	<u>2007 Goals</u>	<u>2008 Goal</u>	
Annual Energy Savings (ccf Reduction Goal)	45,734	56,432	74,675	b
Lifetime Energy Savings (ccf Reduction Goal)	941,555	1,128,642	970,771	c
Annual Cost Rate (\$/ccf)	\$ 8.84	\$ 7.09	\$ 5.36	d=a/b
Lifetime Cost Rate (\$/ccf)	\$ 0.43	\$ 0.35	\$ 0.41	e=a/c
Total Gas Benefit	\$ 664,294	\$ 835,929	\$ 987,487	f
Total Gas System Benefit-Cost Ratio	\$ 1.64	\$ 2.09	\$ 2.47	g=f/a
Homes Served	574	660	1,225	h
Lifetime Savings per Home (ccf)	1,640	1,710	792	i=c/h
Program Cost per Home	\$ 705	\$ 606	\$ 326	k=a/h
Benefit per Home	\$ 1,157	\$ 1,267	\$ 806	l=f/h

## CNG Standard Filing Requirement

### Low Income Weatherization and Heating System

<u>Budget Projections</u>	<u>2006 Actuals</u>	<u>2007 Budget</u>	<u>2008 Budget</u>	
Labor	\$ 33,320	\$ 27,800	\$ 27,800	
Outside Service	\$ 151,163	\$ 126,122	\$ 126,122	
Material & Supply	\$ 2,397	\$ 2,000	\$ 2,000	
Incentives	\$ 251,308	\$ 209,678	\$ 209,678	
Marketing	\$ 3,596	\$ 3,000	\$ 3,000	
Administrative Expense	<u>\$ 1,678</u>	<u>\$ 1,400</u>	<u>\$ 1,400</u>	
Total	\$ 443,461	\$ 370,000	\$ 370,000	a

<u>Energy Savings Information</u>	<u>2006 Actuals</u>	<u>2007 Goals</u>	<u>2008 Goal</u>	
Annual Energy Savings (ccf Reduction Goal)	43,949	52,146	69,003	b
Lifetime Energy Savings (ccf Reduction Goal)	904,811	1,042,922	897,042	c
Annual Cost Rate (\$/ccf)	\$ 10.09	\$ 7.10	\$ 5.36	d=a/b
Lifetime Cost Rate (\$/ccf)	\$ 0.49	\$ 0.35	\$ 0.41	e=a/c
Total Gas Benefit	\$ 638,367	772,348	\$ 912,488	f
Total Gas System Benefit-Cost Ratio	\$ 1.44	\$ 2.09	\$ 2.47	g=f/a
Homes Served	582	610	1,132	h
Lifetime Savings per Home (ccf)	1,555	1,710	792	i=c/h
Program Cost per Home	\$ 762	\$ 607	\$ 327	k=a/h
Benefit per Home	\$ 1,097	\$ 1,266	\$ 806	l=f/h

## SCG Standard Filing Requirement

### Low Income Weatherization and Heating System

<u>Budget Projections</u>	<u>2006 Actuals</u>	<u>2007 Budget</u>	<u>2008 Budget</u>	
Labor	\$ 19,494	\$ 27,200	\$ 27,200	
Outside Service	\$ 85,169	\$ 118,836	\$ 118,836	
Material & Supply	\$ 1,433	\$ 2,000	\$ 2,000	
Incentives	\$ 141,593	\$ 197,564	\$ 197,564	
Marketing	\$ 2,150	\$ 3,000	\$ 3,000	
Administrative Expense	<u>\$ 1,003</u>	<u>\$ 1,400</u>	<u>\$ 1,400</u>	
Total	\$ 250,843	\$ 350,000	\$ 350,000	a

<u>Energy Savings Information</u>	<u>2006 Actuals</u>	<u>2007 Goals</u>	<u>2008 Goals</u>	
Annual Energy Savings (ccf Reduction Goal)	34,052	49,134	65,017	b
Lifetime Energy Savings (ccf Reduction Goal)	579,135	982,670	845,218	c
Annual Cost Rate (\$/ccf)	\$ 7.37	\$ 7.12	\$ 5.38	d=a/b
Lifetime Cost Rate (\$/ccf)	\$ 0.43	\$ 0.36	\$ 0.41	e=a/c
Total Gas Benefit	\$ 438,322	727,728	\$ 859,771	f
Total Gas System Benefit-Cost Ratio	\$ 1.75	\$ 2.08	\$ 2.46	g=f/a
Homes Served	253	574	1,067	h
Lifetime Savings per Home (ccf)	2,289	1,712	792	i=c/h
Program Cost per Home	\$ 991	\$ 610	\$ 328	k=a/h
Benefit per Home	\$ 1,732	\$ 1,268	\$ 806	l=f/h

## Home Energy Solutions (formerly the General Weatherization Program)

**Objective:** The objective of the Companies' Home Energy Solutions ("HES") is to reduce residential energy use through comprehensive treatment of residential dwellings. HES is a joint natural gas and electric conservation program and is available to customers that heat their home with either natural gas or electricity.

HES is an in-home services audit program that provides comprehensive energy services to customers which include home performance testing, air sealing, duct sealing, installation of efficient lights, induced replacement of appliances, and an educational "kitchen table" wrap-up. Since Home Energy Solutions is a joint natural gas and electric offering, it offers electric and natural gas conservation offerings bundled under a single delivery mechanism. Customers can obtain "one-stop shopping" for their energy services needs. This helps reduce costs for the customers, as well as for the participating electric and natural gas companies.

HES emphasizes HVAC systems in their entirety as well as lighting, building shell measures, real-time feedback devices and the induced replacement of old, inefficient appliances and HVAC systems. The Companies provide recommendations and access to financing and train contractors to supply all cost-effective home efficiency upgrades. HES serves both single family and multi-family homes.

**Target Market:** HES does not limit eligibility based on income. This program is available to owner-occupied, one to four unit residential customers of the Companies. Customers of the Companies who have natural gas heat supplied by a furnace or boiler are the primary criterion for targeting customers.

**Program Description:** HES is a comprehensive "umbrella" program that includes an in-home services direct install and audit program geared towards conservation of both natural gas and electricity. The electric utilities have agreements in place with various qualified contractors to deliver the in-home services and those contractors are utilized to deliver the additional natural gas related weatherization services. The following implementation process is followed to deliver the HES program:

- 1) Leads are generated primarily through the Companies' Call Centers, bill inserts, direct mail, Energy Forums and Home Shows. Direct mail

offerings are coordinated with the participating electric companies in order to identify key customers (e.g. high use electric and/or natural gas customers). In addition, CAAs or vendors may refer customers who do not meet Low Income Program participation guidelines to the HES program.

- 2) An appointment is made with the customer.
- 3) A qualified audit contractor conducts a walk-through to identify potential energy saving measures outlined below:

a) Weatherization:

The contractor conducts blower door and duct leakage tests and performs air sealing and duct sealing as appropriate based on test results. Air sealing focuses on treating attic by-passes and other large, cost-effective opportunities. Duct mastic sealer and poly butyl rubber adhesive is used to seal exposed ducts in duct systems that are tested to have adequate air flow over the coils.

b) Domestic Hot Water:

Domestic Hot Water saving measures (low flow showerheads and aerators) are installed when appropriate. Also where appropriate, water heaters are wrapped and/or temperature set-points adjusted to improve efficiency.

c) Insulation:

The contractor performs an assessment to identify potential insulation opportunities. Utility rebates for insulation are offered to customers. Based on cost-effectiveness screening, the following criteria must be met to qualify for 50 cents per square foot insulation rebate.

- Walls with no insulation (final R-value must be 13 or greater)
- Ceilings with less the R-19 (final R-value must be 30 or greater)
- Floors over unheated garages or cantilevered floors (final R-value of 30 or greater)

Depending on the situation, utility rebates may not cover the full cost of adding insulation to a home. Customers are encouraged to take advantage of federal tax credits, state sales tax exemptions and low interest loans available through the State to help offset the cost of upgrades that may not be covered through the program. Customers qualifying for a rebate (e.g., no insulation in walls), are

given an insulation rebate application. The insulation incentives are available to customers who use either electricity or natural gas as their primary heating fuel. Windows are assessed for replacement opportunities. Financing options including the CHIF Loan, as well as any available tax credits, will be discussed. Insulation rebates are only available when insulation is installed by licensed contractors. Insulation rebates are not transferable and must be used by the qualified customer. Insulation rebates are spot-checked to ensure that insulation installation complies with program guidelines.

d) Lighting:

Since HES includes electric and natural gas conservation programs, the walk-through will also seek to identify and provide cost-effective measures which reduce electric energy usage and cost, as well as the coincident reduction of natural gas and other fossil fuels used for electric generation. The contractor will review all cost-effective lighting (“CFL”) installations with the customer and will install CFLs approved by the customer and the program.

e) Real time energy and power feedback devices

Real time feedback devices can provide the homeowner with information regarding their electricity consumption. Consumption can be displayed in current and cumulative kWh. These devices will be offered to customers that appear to have an interest, based on the HES pre-work interview, of knowing the usage of all their appliances and then taking action to minimize unneeded usage.

f) Equipment Replacement:

As part of the walk-through process, the contractors explain other energy savings opportunities that may be available and customers are encouraged to take advantage of existing sales tax exemptions, tax credits and low interest loans that are available. Customers are encouraged to leverage the Residential High Efficiency Natural Gas Water Heater Program to replace old inefficient water heaters with new high efficiency models.

- g) “Kitchen table” Wrap-up  
Finally, during a “kitchen table” wrap-up session with the customer, the contractor will provide the following:
- A summary of the direct installation measures installed;
  - The findings and recommendations from the walk-through energy assessment, specifically including the key customer-specific energy savings strategies;
  - A full explanation of all available HES program resources (measures, incentives, and services) to implement the identified energy savings strategies;
  - Information on additional non-HES resources available to implement the identified energy savings strategies including loans (e.g., CHIF Loan) and tax incentives.
  - A call to action which stresses comprehensiveness and urgency; and,
  - Assistance with paperwork to get started.

Marketing  
Strategy:

The HES Program will market in conjunction with the CEEF electric conservation programs. Customer leads will also be supplied as a result of customers not meeting Low Income Program eligibility requirements, in addition to leads coming through the Call Centers of Yankee, CNG, SCG and participating electric utilities.

To the extent that budgets allow, marketing may include some, or all of, the following:

- Direct mailings to produce leads for entry into the direct install program via the existing participating vendors. This is effective for targeting ideal (high use) customers. Direct mail typically has a high response rate and it can be throttled up or down depending on program activity.
- Mass market advertising to educate consumers about the need and the opportunity, with a strong call to action to improve comfort, benefit the environment and save energy through participation
- Distributor and contractor outreach
- The Companies’ and the CEEF websites.
- Referrals from the Companies’ customer service representatives.

- Co-promotion with participating contractors via cooperative advertising

Incentives: The incentive strategy for a comprehensive program of this nature is necessarily complex and may require adjustment as the program develops. The companies may include a co-payment to help defray costs and to be used as tool to throttle program activity as necessary. This co-payment may be waived in some instances in order to induce participation by targeted customer groups such as high-use households.

For natural gas-electric customers, the costs are split 50:50 as presented on the following table:

<b>Measure</b>	<b>Natural Gas</b>	<b>Electric</b>
General “per home” admin fee	Natural Gas Company pays 50% for all customers that have a residential natural gas account.	Participating electric company pays 50% of admin fee for homes that have natural gas.
Weatherization (blower door, duct blasting)	Natural Gas Company pays 50% for all customers who use natural gas as their primary heat.	Participating electric company pays 50% of admin fee for homes that have natural gas.
Water measures	Natural Gas Company pays 100% for all customers who use natural gas as their primary source of domestic hot water.	Participating Electric Company pays 100% for all customers who use electricity as their primary source of domestic hot water.
Electric Measures (lighting, etc.)	Natural gas company does not pay.	Participating Electric Company pays 100% of all measures that do not directly impact natural gas savings (i.e. lighting, power monitors, etc.).
Insulation	Natural Gas Company pays the insulation rebate (and other processing fees) for homes that have natural gas heat.	Participating Electric Company pays the insulation rebate (and other processing fees) for homes that have electric heat.

Goals: Refer to Standard Filing Requirements for Program goals.

New  
Program  
Issues:

The Companies will establish a working group of staff, ECMB consultants, and contractors to meet periodically. The working group will carefully monitor the HES, and will discuss and resolve “growing pain” issues. The Companies and ECMB may periodically reevaluate the program design and notify the DPUC of any necessary adjustments to ensure that the program is cost effective and is meeting its objectives.

## YGS Standard Filing Requirement

### General Weatherization

<u>Budget Projections</u>	<u>2006 Actuals</u>	<u>2007 Budget</u>	<u>2008 Budget</u>	
Labor	\$ 22,989	\$ 20,000	\$ 20,000	
Outside Service	\$ 30,474	\$ 182,915	\$ 182,915	
Material & Supply	\$ 424	\$ 3,000	\$ 3,000	
Incentives	\$ 37,466	\$ 388,085	\$ 388,085	
Marketing	\$ 3,173	\$ 4,000	\$ 4,000	
Administrative Expense	<u>\$ 290</u>	<u>\$ 2,000</u>	<u>\$ 2,000</u>	
Total	\$ 94,816	\$ 600,000	\$ 600,000	a

<u>Energy Savings Information</u>	<u>2006 Actuals</u>	<u>2007 Goals</u>	<u>2008 Goals</u>	
Annual Energy Savings (ccf Reduction Goal)	11,295	65,898	84,717	b
Lifetime Energy Savings (ccf Reduction Goal)	213,599	1,551,974	1,524,912	c
Annual Cost Rate (\$/ccf)	\$ 8.39	\$ 9.10	\$ 7.08	d=a/b
Lifetime Cost Rate (\$/ccf)	\$ 0.44	\$ 0.39	\$ 0.39	e=a/c
Total Gas Benefit	\$ 157,867	\$ 1,136,365	\$ 1,448,317	f
Total Gas System Benefit-Cost Ratio	\$ 1.66	\$ 1.89	\$ 2.41	g=f/a
Homes Served	393	1,524	1,554	h
Lifetime Savings per Home (ccf)	544	1,018	981	i=c/h
Program Cost per Home	\$ 241	\$ 394	\$ 386	k=a/h
Benefit per Home	\$ 402	\$ 746	\$ 932	l=f/h

## CNG Standard Filing Requirement

### General Weatherization

<u>Budget Projections</u>	<u>2006 Actuals</u>	<u>2007 Budget</u>	<u>2008 Budget</u>	
Labor	\$ 5,183	\$ 18,590	\$ 20,000	
Outside Service	\$ 15,732	\$ 56,423	\$ 128,457	
Material & Supply	\$ -	\$ -	\$ 3,000	
Incentives	\$ 30,156	\$ 108,157	\$ 272,543	
Marketing	\$ 967	\$ 3,470	\$ 4,000	
Administrative Expense	\$ -	\$ -	\$ 2,000	
Total	\$ 52,038	\$ 186,640	\$ 430,000	a

<u>Energy Savings Information</u>	<u>2006 Actuals</u>	<u>2007 Goals</u>	<u>2008 Goals</u>	
Annual Energy Savings (ccf Reduction Goal)	14,163	46,279	59,495	b
Lifetime Energy Savings (ccf Reduction Goal)	213,599	1,089,915	1,070,910	c
Annual Cost Rate (\$/ccf)	\$ 3.67	\$ 4.03	\$ 7.23	d=a/b
Lifetime Cost Rate (\$/ccf)	\$ 0.24	\$ 0.17	\$ 0.40	e=a/c
Total Gas Benefit	\$ 166,163	\$ 798,043	\$ 1,017,119	f
Total Gas System Benefit-Cost Ratio	\$ 3.19	\$ 4.28	\$ 2.37	g=f/a
Homes Served	366	1,070	1,092	h
Lifetime Savings per Home (ccf)	584	1,019	981	i=c/h
Program Cost per Home	\$ 142	\$ 174	\$ 394	k=a/h
Benefit per Home	\$ 454	\$ 746	\$ 932	l=f/h

## SCG Standard Filing Requirement

### General Weatherization

<u>Budget Projections</u>	<u>2006 Actuals</u>	<u>2007 Budget</u>	<u>2008 Budget</u>	
Labor	\$ 1,845	\$ 20,000	\$ 20,000	
Outside Service	\$ 12,469	\$ 135,184	\$ 135,184	
Material & Supply	\$ 184	\$ 2,000	\$ 2,000	
Incentives	\$ 26,456	\$ 286,816	\$ 286,816	
Marketing	\$ 369	\$ 4,000	\$ 4,000	
Administrative Expense	<u>\$ 184</u>	<u>\$ 2,000</u>	<u>\$ 2,000</u>	
Total	\$ 41,508	\$ 450,000	\$ 450,000	a

<u>Energy Savings Information</u>	<u>2006 Actuals</u>	<u>2007 Goals</u>	<u>2008 Goals</u>	
Annual Energy Savings (ccf Reduction Goal)	14,238	48,702	62,611	b
Lifetime Energy Savings (ccf Reduction Goal)	280,421	1,146,993	1,126,993	c
Annual Cost Rate (\$/ccf)	\$ 2.92	\$ 9.24	\$ 7.19	d=a/b
Lifetime Cost Rate (\$/ccf)	\$ 0.15	\$ 0.39	\$ 0.40	e=a/c
Total Gas Benefit	\$ 206,809	\$ 839,836	\$ 1,070,385	f
Total Gas System Benefit-Cost Ratio	\$ 4.98	\$ 1.87	\$ 2.38	g=f/a
Homes Served	88	1,127	1,149	h
Lifetime Savings per Home (ccf)	3,187	1,018	981	i=c/h
Program Cost per Home	\$ 472	\$ 399	\$ 392	k=a/h
Benefit per Home	\$ 2,350	\$ 745	\$ 932	l=f/h

This Page Intentionally Blank

## CHAPTER THREE: COMMERCIAL AND INDUSTRIAL PROGRAMS

### Process Retrofit Pilot

**Objective:** The Process Retrofit Pilot program is a request for proposal (RFP) program<sup>10</sup> that began in 2007. The overall objective of the Companies' joint program is to promote competitive natural gas energy efficiency activities in the marketplace by encouraging customers and/or third parties to bid to undertake natural gas efficiency projects on a competitive basis. The Process Retrofit Pilot program is aimed at energy efficiency potential from commercial and industrial ("C&I") customers and favors process applications that consume natural gas resources (e.g., manufacturing, food service, laundry services, etc.). This program is being offered as a "pilot" in order to test and establish market interest and potential. The knowledge and insight gained will help in the establishment of a longer-term strategy, guide development of future program designs, and help the Companies more effectively meet customer needs. To improve overall program effectiveness, where applicable, the Process Retrofit Pilot program will leverage resources by linking to the utility administered electric energy efficiency programs.

#### Target

**Market:** Firm natural gas customers<sup>11</sup> of the Companies, energy service companies and other third party service providers representing customers are eligible to participate in this program.

The respondents to the RFP may be any customer, organization, group or individual who contracts with the Companies to provide energy savings from an approved, energy efficiency project. It is expected that bidders typically may be of two types:

- 1) customers with significant in-house technical capability, or
- 2) customers allied with firms that specialize in implementing energy efficiency projects and have a staff of professionals trained to identify energy efficiency opportunities, calculate potential savings, design system modifications, manage construction and installation of energy efficiency measures and measure energy savings.

#### Program

**Description:** The Process Retrofit Pilot program offers incentives for measurable energy savings achieved by the installation of energy efficiency measures as specified in a Letter of Agreement (LOA).

---

<sup>10</sup> Marketed as the "Request for Proposal Natural Gas Efficiency Program"

<sup>11</sup> Excludes customers who do not contribute to the gas conservation funds.

Depending on the market's response to the Companies' initial offering, additional bidding rounds may be issued and the qualification criteria modified as needed to stimulate the market.

Eligible improvements include energy efficient equipment, products, and measures that meet minimum benefit to cost ratio (b/c) requirements<sup>12</sup>. The estimated savings are measured from a baseline that is established either by existing conditions or what a typical customer would install without utility participation. The estimated savings are verified by the Companies and an independent third party engineering consultant.

Some eligible measures include installing and replacing boilers, energy management systems, natural gas burner controls and upgrades, efficiency improvements to industrial process applications, heat recovery systems, and replacing low efficiency natural gas fired process equipment with high efficiency process equipment.

Measures that are not eligible include any new construction or major renovation projects, any power producing project such as cogeneration, and, except for renewable energy, switching from natural gas to another fuel (fuel switching).

This program does not have published incentives because one of the goals of the Process Retrofit Pilot program is to assess the degree to which projects require incentives. Each proposal needs to identify the required incentive amount. All bids are evaluated based upon a comparison of energy (Ccf) savings and other evaluation criteria as described below.

The following criteria are used to assess a project's ranking:

- Requested incentive level (as a percentage of total project cost)
- Natural Gas Benefit to Cost Ratio<sup>8</sup> (natural gas benefit to incentive cost ratio)
- Comprehensiveness<sup>8</sup> (total resource benefit to total installed cost ratio)
- Project Timeline (how quickly savings can be realized)
- Participation in a documented Department of Energy (DOE) Industrial Technologies Program (<http://www1.eere.energy.gov/industry/saveenergynow/>).

The following table represents the event timing for program deployment:

Marketing	July – October 2007
Legal Notices	August 8 – 9, 2007

---

<sup>12</sup> Refer to Chapter 5: Benefit-Cost Analysis.

Bidders' Conference	August 21, 2007
Bids Due	November 9, 2007
Bid Evaluation	4 weeks after Bids due
Bid Award and LOA	2 weeks after Bid Evaluation complete
Project Installation	Varies based on project size and complexity
Incentive Payment	2 – 4 weeks after completion of project installation and verification.

Marketing Strategy:

The Companies targeted commercial and industrial firm natural gas customers. Methods of customer contact included mail, email, and personal contacts through the Companies' Account Executives. The Companies also marketed the program through newspapers, trade shows and the utility websites. Collateral materials have been made available to educate these groups on the Process Retrofit Pilot program. Potential bidders were invited to participate in a "pre-bidders' conference" held on August 21, 2007 to learn how to participate in the program. Potential bidders were also provided with information on opportunities to participate in a DOE Industrial Technologies Program.

Marketing for the Process Retrofit Pilot program leveraged resources by co-marketing with utility administered electric energy efficiency programs. Program marketing activities occurred prior to the initial offering and will be repeated for any subsequent bidding rounds offered. The marketing plan is designed to be flexible in order to maximize results. Typically, marketing expenditures are minimal, covering any direct mail costs, advertising and meeting facilities.

C&I Market Assessment

In 2007, a C&I Market Assessment was proposed by the Companies and approved by the Department. A Request For Proposal (RFP) to conduct a market assessment of the commercial/industrial (C&I) market segment was developed by the Companies and the ECMB's consultants and issued on August 24, 2007. The RFP was issued to a broad list of qualified vendors with vendor selection and work commence anticipated in September 2007. No bids were submitted for evaluation and, as a result, the assessment will not be conducted as originally envisioned. However, the companies, using internal resources, have conducted an informal survey of natural gas conservation programs in the region and propose to use, with Department approval, the funds previously allocated to the market

assessment to support research and development of the Integrated Natural Gas/Electric program structure and details including determination and identification of appropriate rebate levels, associated energy savings and cost benefits, plus identification and initial assessment of key target markets for gas energy efficiency. Additionally, the companies will use information gained from the Process Retrofit Pilot program to aid with future C&I program planning.

Incentive  
Strategy:

Incentives are intended to be market driven such that bidders request the incentive level needed to motivate the customer to implement a retrofit or replacement energy-efficient project. The inherent design of the program rewards successful bidders for minimizing incentives requested and maximizing savings achieved, while reducing free riders.

In this strategy, competition is achieved by having a bidder's project compete for the available incentive dollars. This competition may result in the incentive requests exceeding the program budget. Thus, the program strives to achieve the most energy savings for the least dollars spent. For the initial offering, the maximum incentive allowed for qualifying projects is 75% of the project cost or a maximum \$50,000 per customer account per program year. The cap will be increased to \$75,000 for projects that have undergone, and are implementing recommendations resulting from, a documented assessment using the DOE Steam System Assessment Tool, the DOE Process Heating and Assessment Tool, and/or an equivalent methodology that entails a comprehensive natural gas demand assessment for the proposed project system and/or equipment.

If needed, evaluation and project qualification criteria for subsequent bidding rounds will be adjusted based on market conditions.

Goals:

The Process Retrofit Pilot program is designed to help commercial and industrial customers save energy and identify energy efficiency opportunities in these markets for future program designs.

New  
Program  
Issues:

The program, developed and initiated in 2007, specifically targeted the commercial and industrial sector. The RFP has been issued and bids are due from interested parties by November 9, 2007. Bid evaluation will occur during the latter part of 2007 and it is anticipated that selected projects will be implemented in the first half of 2008. Due to the timing of final program approval, deployment of the RFP into the marketplace occurred in August of 2007. As a result, incentive payments for projects accepted in the RFP program will be made in 2008.

While a key challenge for the companies remains making customers aware of and participating in the new program, initial interest was good with over 25 customers/companies represented at the bidders conference held on August 21, 2007.

## YGS Standard Filing Requirement

### Process Retrofit Pilot

<u>Budget Projections</u>	2006 <u>Actuals</u>	2007 <u>Budget</u>	2008 <u>Budget</u>
Labor		\$ 26,300	\$ 28,000
Outside Service		\$ 42,966 <sup>1</sup>	\$ -
Material & Supply		\$ 8,800	\$ 1,000
Incentives		\$ 419,634	\$ 411,214
Marketing		\$ 8,800	\$ -
Administrative Expense		<u>\$ 3,500</u>	<u>\$ 2,000</u>
Total	\$ -	\$ 510,000	\$ 442,214 <sup>2</sup>

Note 1: Includes \$19,465 for a Market Assessment.

Note 2: From 2007 Carry Over Funds

### Energy Savings Information

This is a Pilot Program with project specific energy savings to be determined by market participants.

## CNG Standard Filing Requirement

### Process Retrofit Pilot

<u>Budget Projections</u>	2006 <u>Actuals</u>	2007 <u>Budget</u>	2008 <u>Budget</u>
Labor		\$ 20,600	\$ 21,996
Outside Service	1	\$ 33,667	\$ -
Material & Supply		\$ 6,900	\$ 786
Incentives		\$ 329,188	\$ 323,041
Marketing		\$ 6,900	\$ -
Administrative Expense		<u>\$ 2,745</u>	<u>\$ 1,570</u>
Total	\$ -	\$ 400,000	\$ 347,393 2

Note 1: Includes \$15,267 for a Market Assessment.

Note 2: From 2007 Carry Over Funds

### Energy Savings Information

This is a Pilot Program with project specific energy savings to be determined by market participants.

## SCG Standard Filing Requirement

### Process Retrofit Pilot

<u>Budget Projections</u>	<u>2006 Actuals</u>	<u>2007 Budget</u>	<u>2008 Budget</u>
Labor		\$ 20,600	\$ 21,996
Outside Service		\$ 33,667 <sup>1</sup>	\$ -
Material & Supply		\$ 6,900	\$ 786
Incentives		\$ 329,188	\$ 323,041
Marketing		\$ 6,900	\$ -
Administrative Expense		\$ <u>2,745</u>	\$ <u>1,570</u>
Total	\$ -	\$ 400,000	\$ 347,393 <sup>2</sup>

Note 1: Includes \$15,267 for a Market Assessment.

Note 2: From 2007 Carry Over Funds

### Energy Savings Information

This is a Pilot Program with project specific energy savings to be determined by market participants.

## COMMERCIAL AND INDUSTRIAL PROGRAMS (Cont.)

### Integrated Natural Gas/Electric Conservation Program

**Objective:** The Integrated Natural Gas/Electric Program is a partnership of the natural gas and electric utilities that enables the delivery of coordinated energy conservation services and enhances the quality of the services provided. The program leverages the electric distribution companies' extensive experience and successful history of developing, deploying and administering energy efficiency programs in Connecticut to make it easier for natural gas customers to receive more services and benefits at a lower cost with greater convenience.

**Target**

**Market:** Firm natural gas customers of the Companies are eligible to participate in this pilot program.

**Program**

**Description:** The Integrated Natural Gas/Electric Program will offer rebates and incentives for installation of qualified energy efficient natural gas equipment at a customers' facility. The program will primarily be delivered to customers via the electric distribution companies lost opportunity (Energy Conscious Blueprint) and retrofit (Energy Opportunity) programs.

Natural gas distribution company customers, using rebate forms, will be able to obtain cash rebates for the purchase and installation of qualified energy efficient natural gas equipment. Small business customers will also have access to prescriptive program incentives through the use of Energy Opportunities and Energy Conscious Blueprint program rebate forms and will be able to obtain cash rebates for the purchase and installation of qualified energy efficient natural gas equipment. Equipment<sup>13</sup> qualifying for rebates may include, but not be limited to:

- High-Efficiency Unitary Equipment
- High-Efficiency HVAC Unit Heaters
- Infrared heaters
- High Efficiency Warm-Air Furnace
- High-Efficiency Domestic Water Heaters
- High efficiency Boilers
- Boiler vent dampers
- ENERGY STAR C&I appliances (Gas fryer, etc.)
- Programmable thermostats
- Natural gas cooling equipment

---

<sup>13</sup> This is a representative list. Various types of equipment are currently being evaluated for gas savings, appropriate incentive levels and cost effectiveness.

Additionally, natural gas distribution customers participating in the electric energy efficiency commercial and industrial programs will have the ability to include natural gas conservation measures in their projects. Natural gas measures will be eligible for prescriptive incentives and, where appropriate, custom natural gas efficiency measures will be evaluated and incentives offered consistent with the existing electric program incentive structures.

Marketing  
Strategy:

Marketing for the Integrated Natural Gas/Electric Program will leverage resources by co-marketing with utility administered electric energy efficiency programs. Natural gas and electric company personnel will market the program to customers through direct contact. Tools, such as the Companies' Web sites, comprehensive information packets, direct mail, seminars, and trade shows, may be used by Company representatives. Selected advertising, memberships, and sponsorships are also used to leverage contacts or to deliver the program benefits in a cost-effective manner. Active participation and involvement with the vendor community will help influence building trade organizations, vendors, contractors, and energy services companies who can help deliver qualified leads for this program.

Many of the marketing materials will be jointly produced, allowing the natural gas and electric distribution companies to benefit from "economies of scale" and further enhance cost-effective opportunities.

Incentive  
Strategy:

Incentives will be offered consistent with the existing electric program incentive structures. For lost opportunity projects (new construction) incentives are typically based on the energy efficiency of a design and incremental costs between less expensive, standard efficiency equipment and a more expensive, high-efficiency option. Incremental costs are qualified with cost-effectiveness criteria to ensure that enough energy savings are attained to justify the incentive. Consistent with the lost opportunity electric program, incentives up to 100% of the incremental cost will be offered for qualified equipment/projects. A simple form that is completed by the customer or their contractor will expedite the rebate process.

The retrofit program will employ incentive strategies designed to meet the needs of the companies' diverse customer base. In the electrical distribution company retrofit programs, flexibility has proven to be vital for implementing cost-effective, energy-efficient projects in diverse service territories. Under the retrofit program, prescriptive and custom incentives will be offered for natural gas energy efficiency measures. A simple form that is completed by the customer or their contractor will expedite the rebate process. Custom incentives will also be

offered in the retrofit program. These incentives will be applicable to a wide and diverse range of energy-saving technologies. Qualifying projects or measures will be eligible to earn incentives that represent a percentage of the project costs up to a maximum dollar value based on the natural gas savings. The percentage and value per MCF saved will be set to influence implementation and may be adjusted to reflect market response. The incentive calculations are based on the following:

- a) Energy savings (MCF),
- b) Project cost,
- c) Simple payback for the measure,
- d) Measure life,
- e) Age of existing equipment,
- f) Non-electric benefits.

The Companies may also employ a maximum incentive cap per customer Federal Tax ID, per customer account, or per project, in order to make funds available to more customers.

Goals: TBD

New  
Program  
Issues:

This is a new program and it is the first time that natural gas energy efficiency measures have been specifically incorporated into the commercial and industrial electric conservation programs. In addition to the efforts needed to develop the program and its infrastructure, a key challenge for the companies is the logistical issues associated with the programmatic and contractual interaction of the five participating companies.

As described in the “Process Retrofit Pilot” section of this Plan, the Companies, using internal resources, have conducted an informal survey of natural gas conservation programs in the region. As a result of the survey, the Companies propose to use, with Department approval, the funds previously allocated to the market assessment to support research and development of the Integrated Natural Gas/Electric program structure. This includes developing specific program and measure details and identification of appropriate rebate levels, associated energy savings and cost benefits plus identification and initial assessment of key target markets for gas energy efficiency.

This Page Intentionally Blank

## CHAPTER FOUR: OTHER PROGRAMS

### Connecticut Housing Investment Fund

The Companies will continue to provide subsidies for the Connecticut Department of Economic and Community Development (“DECD”) to support Connecticut’s Energy Conservation Loan Program, administered by the Connecticut Housing Investment Fund (“CHIF”), for residential customers and provide funding for a residential audit program. This plan is based on the budget levels that were authorized by the State of Connecticut and/or the DPUC.

Furthermore, the Companies, as part of their customer outreach activities, will help educate customers on conservation (i.e., energy saving tips). Also, customers will be encouraged to leverage various programs that are currently available outside of the Companies’ conservation program. These programs include:

- Connecticut Energy Assistance Program
- Energy Conservation Loan Program
- Home Energy Assistance Reimbursements for Tune-Ups on Heating Equipment grant program (“HEARTH”) established by Public Act 05-02, October 25, 2005 Special Session, *An Act Concerning Emergency Home Heating Assistance*
- Sales tax exemptions on certain energy efficient products
- Company sponsored information seminars (“Energy Forums”) and budget payment plans (“Money Matters”)

Information on these programs and conservation tips will continue to be made available through the Companies’ websites.

This Page Intentionally Blank

## **Energy Conservation Management Board, Planning and Evaluation**

### ***Energy Conservation Management Board (ECMB)***

In 1998, the ECMB was created by legislation (CGS §16-245m) to advise and assist the electric utilities in the development and implementation of conservation programs and initiatives. In 2005, Public Act 05-1 expanded the ECMB to include each of the natural gas distribution companies and the municipal electric companies.

The ECMB retains expert consultants who work with the utilities to assist in the development of new program initiatives, program budgets and goals. They also provide technical support to the ECMB members. The cost of the ECMB consultants is allocated between the electric and natural gas utilities, as appropriate.

As required by the Department and the Connecticut General Statutes §16-32f (c)(1), the Companies developed the 2007 Plan with advice and assistance from the ECMB and its consultants. This collaborative process engages the various stakeholders and the Companies have considered the following in the program planning and development process:

- Proposed budget
- Historical program performance data
- Program evaluation results and realization rates
- Changes to building codes and standards
- Market factors and influences
- Program design changes
- Avoided costs

The resulting programs are then implemented either directly by the utility or via third party implementation with utility oversight. New or modified program changes are communicated to implementers by working with and educating the impacted parties. These modifications may include changes to codes, manufacturer buy-downs, builder option packages, etc. The Companies also work closely with the vendor community, trade allies (ASHRAE, etc) and contractor associations to communicate new or changed program initiatives and to ramp-up program implementation.

### ***Evaluation***

An integral part of creating, delivering and maintaining quality programs is performing independent evaluations of programs and the markets they serve. While this activity is necessarily limited due to competing budget priorities, leveraging existing evaluations and participation in joint evaluations can be effective in stretching program funds. To ensure independence in the evaluation process, the ECMB oversees and coordinates (with utility input)

the evaluation process including the selection of independent third party evaluators and review and approval of the evaluation results.

Through collaboration with regional agencies and utilities with similar interests, the Companies have the opportunity to gather information in the most cost-effective manner. The Companies have an ongoing working relationship with the ECMB consultants to help identify specific areas for evaluation and for conducting the evaluation studies through third party contractors. In 2006, a process evaluation of the low-income “WRAP” program was undertaken. The results of that evaluation are currently being reviewed by the ECMB and the distribution companies for incorporation into the program. The results of this evaluation may have an impact on the delivery mechanisms for the low-income programs. Additionally, as described in Chapter Three, the Companies and the ECMB consultants recommend undertaking a market assessment in the Commercial and Industrial sector to assist the Companies in the implementation of the current program and in the development of future C&I program offerings.

## **CHAPTER FIVE: BENEFIT-COST ANALYSIS**

As with the 2007 Natural Gas Conservation Plan, the Companies use common cost effectiveness testing methodologies that are based on those developed and approved for use with the electric conservation programs. The cost effectiveness testing used in the 2008 Plan relies on industry-accepted methodologies. The Companies have continued to use common cost-effectiveness screening tools and consistent values or similar assumptions for key variables including: avoided cost of energy and other resource savings; discount rate; and inflation rate.

The Companies continue to use the Connecticut Program Savings Document (“PSD”) to calculate savings for measures and programs. Use of common cost-effectiveness testing methodologies and savings assumptions allows the Department, the ECMB, and others to compare the benefits, costs, and benefit/cost ratios (“BCRs”) of the companies on a consistent basis.

### **The Companies use the same conservation program-screening tool.**

The program-screening tool is based on the present value of future savings divided by the program costs to yield a BCR. The Companies use the same screening tool and the same input assumptions including savings per unit and avoided costs.

### **The Companies use the same cost-effectiveness tests.**

For the analysis of the proposed 2008 programs, the Companies used both the **Natural Gas Utility System Test** and the **Total Resource Cost Test**. The Natural Gas Utility Test is a measure of savings from the local distribution companies (LDC) perspective and is used for integrated resource planning. The Total Resource Cost Test provides a comprehensive measure of overall economic impact of conservation programs.

The Natural Gas Utility System Test compares the present value of local distribution companies (“LDC”) savings to the costs necessary to implement the program (i.e., the program budget). The natural gas savings represents the LDC avoided costs that are a result of the conservation programs. These savings (avoided costs) include the cost of the natural gas itself as well as the non-natural gas costs of transportation, distribution, storage and peak shaving.

The Total Resource Cost Test compares the present value of future natural gas as well as other customer savings (e.g., water savings) to the total of the conservation expenditures plus any customer costs that are related to the program (e.g., customer co-payments for measures or service).

### **The Companies use the same discount rate.**

The discount rate is the interest rate used to discount the value of future savings in a standard, present worth economic analysis. A higher rate discounts the present value of future savings

more deeply than a lower rate. Thus higher rates result in lower BCRs and lower rates result in higher BCRs. For 2008, the Companies used the same discount rate for both tests, which was the Prime Rate, the rate that banks charge their best customers. A rolling, five-year average of 5.5 percent from the Federal Reserve Web site was used.

**The Companies use the same inflation rate.**

The inflation rate is used to adjust the discount rate in future years. The Financial Trend Forecaster Web site was used as a reference source. A consumer price index for all items in U.S. cities was used to calculate a five-year rolling average inflation rate of 2.3 percent.

**The Companies use common avoided energy costs.**

The values of avoided cost are based on “Avoided Energy Supply Costs in New England: 2007 Final Report”, Synapse Energy Economics, Inc. August 2007. The avoided cost values are values for Southern New England (Connecticut and Rhode Island) are average annual avoided costs and represent a blend of residential heating and water heating values. The value of water savings is approximately 1/2 cent per gallon and was estimated using Tighe and Bond water and sewer data and average Hartford prices of water. All avoided costs in this plan are expressed in 2008 dollars.

## CHAPTER SIX: INTEGRATED RESOURCE PLANNING

In accordance with Connecticut General Statutes § 16-32f as amended by Section 22(b) of Public Act 05-1, the Companies have evaluated and selected conservation options within an integrated supply and demand planning framework. Additionally, in accordance with Connecticut General Statutes § 16-32f(a), the Companies file, on a bi-annual basis, five-year forecasts of natural gas demand and supply. The Natural Gas Conservation Plan ("Plan") is an integral part of those filings. The five-year forecasts of natural gas demand and supply documents were last filed in December 2006 and will be revised and filed during the fourth quarter of 2008.

Integrated Resource Planning ("IRP") is a methodology used within conservation planning to identify and target natural gas efficiency opportunities which ultimately will be integrated into conservation program design. The targeted savings must be acquired through utility intervention and be used to cost-effectively displace other supply side options. The following basic Integrated Resource Planning process steps were used in the development of this conservation plan:

- A comprehensive list of significant natural gas efficiency measures and/or initiatives was developed. These measures had to be readily available and had to provide significant and meaningful natural gas savings. Consideration was given to proven technologies versus newer measures that were not yet thoroughly evaluated. These measures fell into the following general categories:
  - Weatherization (existing homes)
  - Residential New Construction
  - Washer Rebates
  - Heating equipment rebates (new)
  - Heating system replacement (existing)
  - Water Heater rebates (indirect and instantaneous)
  - C&I Conservation
- The measures were evaluated using the Natural Gas Utility System Test, which measures the avoided costs that result from the conservation programs, in order to provide a measuring stick of LDC avoided costs.
- Consistent with integrated resource planning principles, the measures were also screened using the Total Resource Cost Test. The Total Resource Cost Test is a comprehensive measure of the overall economic impact and includes savings such as fossil fuel and water savings and enhances the portfolio net value (the Natural Gas Utility System Test does not take into consideration the overall economic impact, an important objective of programs).
- Free-ridership was considered in order to screen out initiatives where it was determined that high levels of savings would occur without natural gas utility intervention. The

measures that were screened out generally already had high levels of naturally occurring conservation (e.g., high efficiency furnaces), or there were already existing programs or incentives to move the market towards higher levels of efficiency (e.g., washing machine rebates, residential new construction).

- Based on the above analysis, measures and initiatives were bundled together to produce conservation programs that would be accepted by the marketplace and would achieve a greater degree of benefits. Initiatives that were not selected for inclusion in this conservation plan may be considered in future program planning.

In particular, instantaneous (tankless) natural gas water heaters have the potential to save significant amounts of energy compared to standard storage type water heaters. This technology is not new but recently has been improved to offer adequate control, high efficiency and larger quantities of hot water. Tankless water heaters can be used in a number of residential and commercial applications. The technology is more attractive in areas with low mineral content. In areas of higher mineral content, it is important for owners to flush the units on a regular basis with vinegar. Since homeowners typically do not perform maintenance on water heaters, there is some skepticism about their performing a new maintenance procedure for tankless water heaters. The companies will evaluate this measure and develop a plan that contemplates instantaneous natural gas water heating in the 2008 conservation plan.

- Finally, non-incentive costs such as marketing and administration costs were estimated and the overall cost-effectiveness of the programs was calculated (including the non-incentive costs). Priority was given to customer segments that needed the most assistance (e.g., low income). Program size was determined based on the potential savings and the ability of the marketplace to deliver the programs. For the residential programs there are obvious synergies with the electric conservation programs and therefore, the residential natural gas conservation programs were designed to piggy-back on those electric programs.

The Companies and ECMB monitor the performance of programs throughout the year. The Companies may periodically reevaluate the program design and notify the DPUC of any necessary adjustments to ensure that the program is cost effective and is meeting its objectives.