

March 27, 2009

Ms. Susan M. Hudson, Clerk Vermont Public Service Board 112 State Street Drawer 20 Montpelier, VT 05620-2701

Dear Ms. Hudson:

As required by the Board in Docket 5270-VGS-2, enclosed please find an original and three copies of Vermont Gas Systems, Inc.'s 2008 Annual Demand Side Management Report. This report presents the 2008 achievements of Vermont Gas Systems' six demand side management (DSM) programs, collectively referred to as the Energy Extenders.

I am proud to report that in 2008 the Energy Extenders programs had another record savings year, installing measures estimated to save almost 98,400 Mcf annually, 1,857 individuals, families, and businesses completed installations of energy conservation measures through the Energy Extenders programs in 2008, at a total program cost of approximately \$1,881,459.

If you have any questions regarding this filing, please contact me directly at (802) 863-4511 extension 372.

Sincerely,

Scott Harrington

Manager, Energy Services

**Enclosures** 

cc: Department of Public Service



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#### **EXECUTIVE SUMMARY**

This report presents the 2008 achievements of Vermont Gas Systems' (VGS) six demand side management (DSM) programs.

#### **OVERALL ACCOMPLISHMENTS**

In 2008, the VGS' energy efficiency programs collectively achieved the following:

- saved nearly 98,400 annualized Mcf, a record high savings since program inception. These savings will eliminate over 5,700 tons of carbon dioxide per year for the next two decades
- will save over 1,866,694 Mcf over the lifetime of the installed measures, enough to provide for the natural gas needs of over 19,600 average residential customers for a year.
- > saved over 532 Mcf on peak day, VGS' most critical period;
- > invested over \$1,881,459 in energy-efficiency projects;
- > installed energy-efficiency measures in 1,857 homes and businesses;

#### **PROGRAM HIGHLIGHTS**

#### **HomeBase Programs:**

In 2008, the HomeBase programs installed measures for 1,780 customers that will save 31,052 Mcf annually, at a cost to VGS of \$1,230,542.

The HomeBase Equipment Replacement program completed 1,517 projects in 2008. This resulted in 12,508 annualized Mcf saved at a total program cost of \$432,463.

The HomeBase New Construction program, under the banner of Vermont ENERGY STAR® Homes, had 99 completions and saved an annualized 10,480 Mcf in 2008. There were 7 multi-family or master-metered completions, representing 252 units with 8,228 Mcf in annual savings.

410 audits were conducted, and 164 customers had energy saving measures installed through VGS' HomeBase Retrofit program. Customers installed measures that are estimated to save 8,064 Mcf per year and approximately 95 Mcf on peak day.

For a detailed discussion of each HomeBase program, please refer to each program's individual report in subsequent sections.

#### WorkPlace Programs:

In 2008, 77 customers installed measures through the WorkPlace programs that will save 67,347 Mcf annually, an all time record savings for the 3 programs, at a cost to VGS of \$650,916.

VGS' WorkPlace New Construction program completed 19 projects in 2008. This resulted in 11,618 annualized Mcf saved at a total program cost of \$196,646. Completions were slightly below the target amount due to a sluggish economy

35 customers installed projects through the WorkPlace Equipment Replacement program in 2008. Measures installed in 2008 are estimated to save a total of 33,620 Mcf annually, exceeding the 2008 budget by 10%. Lifetime savings for installed measures are estimated to exceed 605,169 Mcf.

In the WorkPlace Retrofit program, a total of 41 building audits were completed and 23 VGS customers installed measures saving 22,109 annualized Mcf for 2008. This year's success was enhanced by a completion of a project by a large industrial customer in Franklin county. Even without this large project, savings levels would have exceeded 2007 levels by 14%.

For a detailed discussion of each WorkPlace program, please refer to each program's individual report in subsequent sections.

#### **OTHER DSM ACTIVITIES**

#### Integration to Home Performance with Energy Star

In 2008 VGS collaborated with Efficiency Vermont with the launch of the Home Performance with Energy Star home weatherization program. VGS, through its HomeBase Retrofit program, began installing energy efficient bulbs and including recommendations on electrical savings measures as part of its home energy audits. VGS auditors are also providing customers with a free self-install GasEco savings kits. In addition, natural gas customers who elect to receive energy audits through Efficiency Vermont or Burlington Electric's consortium of Home Performance with Energy Star contractors can now take advantage of VGS incentives.

#### **Interruptible Contracts:**

As reported in previous Annual Reports, one of VGS' most cost-effective and critical DSM initiatives continues to be its contracts for interruptible gas service. In aggregate, interruptible customers are estimated to avoid approximately 28,130 Mcf on peak day, including 13,000 Mcf related to the McNeil generating plant. Please note that the DSM peak day savings reported in this DSM Annual Report do not reflect peak day savings from interruptible contracts.

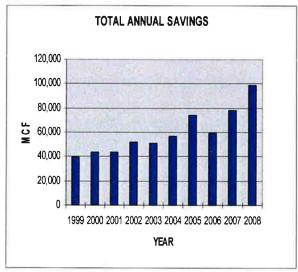
#### Departmental Software Upgrade:

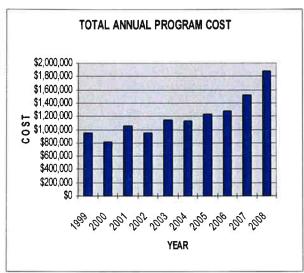
Due to a very busy summer and fall, VGS delayed the final launch of our software upgrade. In the second quarter of 2009, VGS' will complete the replacement of its DSM database software. Once completed, the DSM department will acquire many enhanced efficiencies and support that were lacking with the current program that has been in use since the program inception.

#### Consortium for Energy Efficiency

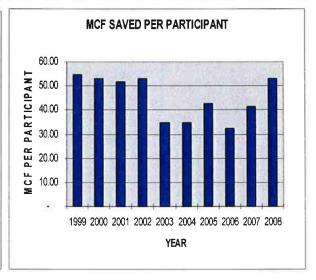
Vermont Gas Systems through it's energy efficiency program manager and commercial energy efficiency engineer has continued active membership in the Consortium for Energy Efficiency (CEE). CEE is a national, non-profit organization seeking to create, strengthen, and transform energy efficiency markets through the development of broad-based market initiatives representing the interests of its member organizations. VGS was an active participant via committee meetings for commercial boilers and kitchen equipment initiatives launched in 2008; it is the intent of CEE to spur manufacturers to produce equipment that meets Energy Star certification. In addition to this initiative, VGS continues to play an active role in the development of other gas-related initiatives through membership and participation on other CEE committees.

#### HISTORICAL PROGRAM COSTS AND SAVINGS









#### PROPOSED PROGRAM BUDGETS

Proposed program budgets are again included in this report in a VGS fiscal year format. Fiscal year 2009 (FY09) began on October 1, 2008 and will end on September 30, 2009.

#### **SUMMARY**

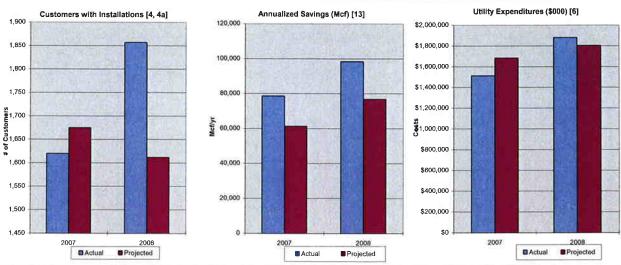
The 98,400 Mcf in reported annual savings for 2008 represents another record year for savings since program inception, continuing to demonstrate Vermont Gas' strong commitment to energy efficiency. VGS' DSM programs continue to be a vital, cost-effective and productive element of the company's business operation.

### **Energy Extenders Program Summary**

	Actual [1] 2007	Actual [1] 2008	Projected 2008	Projected Fiscal Year 2009	Total Program Reported to Date [18]
SUMMARY OF PARTICIPATION			APT STREET		
# Pending [2, 2a, 2b]	76	100	n/a	n/a	n/a
# of Analysis/Audits No Installs [3]	388	446	n/a	n/a	n/a
# Customers with Installations [4, 4a]	1,620	1,857	1,612	1,502	17,953
# Analyses/Audits [5, 5a]	944	1,371	859	989	10,986
SUMMARY OF COSTS					
Utility [6]	\$1,512,455	\$1,881,459	\$1,803,906	\$1,848,191	\$18,374,724
Administrative [7]	\$400,248	\$439,748	\$433,329	\$527,905	\$4,041,764
Incentives [8]	\$886,230	\$1,145,140	\$1,007,822	\$977,644	\$11,460,305
Audit [9]	\$223,367	\$272,485	\$313,757	\$241,146	\$2,632,622
Evaluation [10]	\$2,610	\$24,085	\$48,999	\$101,496	\$240,035
Participant [11, 27, 27a]	\$0	\$0	\$0	\$0	\$732,740
Total	\$1,512,455	\$1,881,459	\$1,803,906	\$1,848,191	\$19,107,464
SUMMARY OF BENEFITS [12]		Var SPEETUS			
Annualized Mcf [13]	78,670.6	98,400.5	76,755.8	69,391.9	800,446.3 [19]
Lifetime Mcf [14]	1,376,280	1,866,694	1,372,269	1,254,911	15,981,720 [19]
Peak Day Mcf [15]	559	532.3	432.1	462.4	5,536.0 [19]
Annualized Mcf/Participant [16]	48.6	53.0	47.6	46.2	44.6
Weighted Lifetime (years) [17]	17.5	19.0	16.8	18.3	19.6

2008 ACTIVITY (JANUARY - DECEMBER)

END-USE BREAKDOWN	Annualized Mcf Saved [13]	Peak Day Mcf Savings [15]	Number of Customers with Installations [20]	Weighted Lifetime [17]
Air Infiltration	12,693.1	23,5	147	15,1
Heat Recovery	2,191.7	15.3	10	17.7
Heating	44,077.7	310.1	1057	18.7
Process	20,792,3	27.9	28	20,1
Shell (envelope)	13,316.8	125.7	285	24.1
Slam Dunk	133.1	0.4	33	10.0
Water Heating	5,195.8	29.4	1139	14.2
Total	98,400.5	532.4	2,698 [23]	19.0



FOOTNOTES			
Number	Description		
[1]	Verified activity for the reporting year. For savings this figure will be the estimated savings for measures actually implemented and verified for the period January 1 through December 31. Savings are in Mcf.		
[2]	Number of customers who requested service who are still waiting to receive it on December 31 of the year specified in the column heading.		
[2a]	The HomeBase New Construction program no longer tracks pending units.		
[2b]	For the WorkPlace Equipment Replacement program, this represents the number of customers who requested information, were mailed program information, but have not yet had program eligibility confirmed. For the HomeBase Equipment Replacement program, this represents the number of customers who have requested information but have not yet received it. Note: not all inquiries will result in customer eligibility.		
[3]	Number of customers who had analyses or audits completed during the reporting year, but who have not yet had verified installations by December 31 of the year specified in the column heading.		
[4]	Number of customers with verified installations in the period January 1 to December 31.		
[4a]	For the HomeBase Retrofit programs, does not include customers who have received "slam dunk" measures installed but have not yet had additional measures installed.		
[5]	Number of customers who had analyses or audits completed between January 1 and December 31.		
[5a]	For the HomeBase New Construction program this reflects the number of analysis/custom projects that were done.		
[6]	Costs incurred. Sum of [7] + [8] + [9] + [10]. All costs in nominal dollars.		
[7]	All costs incurred related to the program including: management, tracking, reporting, marketing, program development and infrastructure, and overhead; excluding [8], [9], [10]. Any administrative costs associated with delivering customers loans (shared savings) are also included.		
[8]	Incentive payments to customers and/or trade allies, including direct installation costs (if utility pays). Not included are utility loans reported in footnote 11.		
[9]	Payments to utility staff or contractors for performing analyses, audits, inspections, and verifications. Also, includes cost for energy ratings.		
[10]	Evaluation costs, excluding tracking and reporting expenses.		
[11]	Only customer capital expenditures under a loan or shared savings agreements.		
[12]	Savings adjusted by the free rider percentage where applicable.		
[13]	The estimated annual savings for measures installed and verified during the reporting year for a one year period.		

[14] The lifetime estimated Mcf savings for measures installed and verified during the reporting year. Estimated annualized savings times the estimated life of the measure. [15] Estimated impact of measure on peak day. Since measures are installed throughout the year, does not reflect Mcf avoided on peak day of the reporting year. [16] The total Mcf saved divided by the total participants. [17] Average lifetime, in years, of measures in the program weighted by savings. [18] Cumulative activity from program start date until December 31. Individual program start dates are listed on the upper right-hand corner of each summary sheet. [19] Reported program to date savings, not including savings for measures beyond their lifetime. [20] Number of customers with verified installations of measures within that end-use. Where a customer had more than one measure installed with-in an end-use, i.e. both wall and attic insulation within the "shell" end-use, they are only counted once. [21] Footnote not used. [22] Footnote not used. [23] The sum of customers installing measures by end-use will probably not equal the total number of customers with installations since customers could be adopting measures for more than one end-use. [24] Footnote not used. [25] Footnote not used. [26] Footnote not used. [27] DPS generic footnotes requested. VGS utility to report all customer capital expenditures. Unable to identify customer capital expenditures outside of utility loans made during reporting year. Please refer to footnote 27a. [27a] Utility loans made during the current reporting year. [27b] Footnote not used. [27c] Footnote not used. [27d] Footnote not used. [27e] Footnote not used.

#### HOMEBASE EQUIPMENT REPLACEMENT PROGRAM

DPS PROGRAM CODE:

RER

**REPORT DATE:** 

April 1, 2009

PROGRAM MANAGER:

Scott Harrington

LAST EVALUATION:

April 1, 2008

#### **TOTAL ELIGIBLE MARKET:**

All residential customers, new and existing, who are replacing failed or end-of-life space and/or water heating equipment with new natural gas-fired equipment.

#### **PROGRAM DESCRIPTION:**

The HomeBase Equipment Replacement Program is designed to encourage customers to purchase and install water and space heating equipment that exceeds both the current standards established by the National Appliance Energy Conservation Act (NAECA), and the defacto baselines in the region. These replacements typically occur when equipment has failed and can no longer be repaired, or has reached the end of its useful life; or when the fuel source for heating a home is being switched to natural gas.

Eligible customers receive cash rebates to offset most of the average incremental cost of purchasing and installing high-efficiency equipment. The simple payback on the customer's portion of the incremental cost will vary depending on the usage and equipment chosen. Fixed rebates have been established for equipment that has a societal benefit-to-cost ratio greater than one across a wide band of usage levels. Custom screenings are done for larger or staged heating systems that may be appropriate in applications where a single high-efficiency system can not meet the load requirements. The fixed rebate schedule is as follows:

#### **Fixed Rebate Schedule**

Eligible Equipment (must be purchased new)	Required Efficiency (as listed in GAMA)	Minimum usage criterion (normalized heating usage)	Rebate
Hot Air Furnace	90% to 92% AFUE	None	\$100.00
Hot Air Furnace	92.1% to 93.9% AFUE	None	\$300.00
Hot Air Furnace	94%+ AFUE	None	\$400.00
Hot Water Boiler	87% to 91.9% AFUE	None	\$400.00
Hot Water Boiler	92%+ AFUE	Must have outdoor air temp. reset control	\$600.00
Steam Boiler	82%+ AFUE	None	\$150.00
Water Heater 40/50 gal.	.62 EF	None	\$100.00
Tankless Water Heater	.80+ EF	None	\$100.00
Indirect-Fired storage tank	Heated by an 87%+ AFUE boiler		\$100.00
Drain Water Heat Recovery	s	\$200.00	

VGS offers financing for replacing furnaces and boilers to HomeBase Retrofit program participants at the full cost up to \$5000 in reduced-interest loans offered through the Opportunities or Green Mountain Credit Union. To qualify for this financing, customers must have an older furnace or boiler which is near or at end of life and may have been red tagged by VGS for safety reasons. VGS also extends this financing to customers who are newly converting to natural gas.

#### **VGS Water Heater Rental Program:**

Customers and contractors can both purchase and rent water heaters from VGS. VGS stocks several sizes, types and efficiencies of water heaters for residential and commercial applications.

High-efficiency water heaters (.62 energy factor or greater) are available from VGS as rental units for chimney-vented and power-vent applications. Customers who purchase high-efficiency water heaters directly from VGS that meet or exceed the efficiency requirement continue to receive their rebate in the form of a reduced invoice purchase price.

#### **PROGRAM HIGHLIGHTS:**

#### Summary:

The HomeBase Equipment Replacement program had a record year in terms of both participation and Mcf saved. 1,517 projects were installed in 2008, resulting in 12,508 annualized Mcf saved at a total program cost of \$432,463.

#### **Program Modifications:**

In October of 2008, VGS, as proposed in our IRP, added additional tiers for high efficient furnaces and boilers to encourage customers and contractors to select the highest efficiency equipment that is currently available. (See table above) Recent data to date indicates that many customers are selecting this equipment knowing that a higher rebate is available to offset the incremental difference. VGS continues to work with contractors, customers and external consortiums on the introduction and integration of Drain Water Heat Recovery devices that were added to the program in 2006. It is our hope that this technology will be more widely accepted in the coming years in the RER and RNC programs.

#### PROGRAM/DOCUMENT HISTORY:

Program/document history from 2001 through 2008 is presented below; program history from inception through 2000 is available in prior Annual Reports

November 1, 2001	Integrated Resource Plan filed with the PSB
April 1, 2002	2001 DSM Annual Report filed with the PSB
April 1, 2003	2002 DSM Annual Report filed with the PSB
April 1, 2004	2003 DSM Annual Report filed with the PSB
November 30, 2004	Integrated Resource Plan filed with the PSB
April 1, 2005	2004 DSM Annual Report filed with the PSB
April 1, 2006	2005 DSM Annual Report filed with the PSB

April 1, 2007 2006 DSM Annual Report filed with the PSB

April 1, 2008 2007 DSM Annual Report filed with the PSB

June 30, 2008 Integrated Resource Plan filed with the PSB

#### PROGRAM MARKETING:

Program information is available on VGS' internet site at www.vermontgas.com. In 2008, VGS made changes to the internet site to provide more information to our customers on finding solutions to utilizing natural gas more efficiently. VGS also has an efficiency e-mail (efficiency@vermontgas.com) where customers can direct their energy efficiency questions.

VGS has a residential energy efficiency brochure that features pertinent information on all of the residential programs. Brochures are distributed by multiple outlets within Vermont Gas and externally through trade shows and Efficiency Vermont and Burlington Electric

VGS' Call Center, Marketing and Energy Services Representatives, and Service Technicians continue to be the primary sources of referrals to the program. VGS service vans are regularly stocked with the new residential program brochures so that the service technicians can hand interested customers the pertinent information on the spot. As part of the inspection program for rental burners, VGS service technicians provide the customer with information about the RER program to encourage our customers to replace aging furnace or boiler systems with state of the art energy efficient equipment.

Numerous local plumbing and heating contractors provide program referrals. Contractors have also been supplied with program literature that they can give to customers at the time they deliver quotes for high efficiency equipment.

Several informational articles referencing VGS' rebates for high efficiency equipment replacements were presented in "The Natural", VGS' newsletter for customers. (appendix #1)

RIR program participants are advised of their eligibility for equipment rebates, both at the time of their energy audit and in the written audit report.

VGS operated a booth at the 2008 Vermont Home and Garden Show at which RER program literature was dispensed. VGS staff were on hand to explain the programs to all who were interested.

Vermont Gas was a Premier sponsor for the Better Buildings by Design conference hosted by Efficiency Vermont at the Sheraton Hotel in South Burlington in February. (Included as appendix #2) VGS staffed the booth and provided information about our services to conference attendees. Climate Energy was provided space at our booth to display the Honda FreeWatt residential combined heat and power unit.

#### **VARIANCE DISCUSSION:**

#### Participants:

The HomeBase Equipment Replacement program had 1,517 participants in 2008, exceeding budget participation levels by 18%, or 236 participants. 340 rebates were issued for the installation of 90+% AFUE furnaces. The 340 total consists of 40 units at 90-92% AFUE and 300 units at 92.1- 94+% AFUE. VGS had more robust boiler participation in 2008. 411 customers received rebates for installing 87+% AFUE boilers, as compared with 232 in 2007, 217 in 2006 and 138 in 2005.

#### Mcf Saved:

12,508 Mcf were saved in 2008, a record level for the program. This savings level eclipses the prior level of 10,982 that was achieved in 2006, and clearly surpasses the 2008 budgeted savings projection of 6,760 Mcf.

#### **Program Costs:**

Program expenses were over budget primarily due to higher than expected incentive levels. Incentive levels were up for two reasons. First more customers than anticipated chose to use the program's financing option, resulting in more loan buy-downs. Many of these participants were new customers converting from fuel oil and propane. In 2008 VGS experienced record customer growth spurred by VGS' robust price advantage during the summer and fall. This had a significant ripple effect on the equipment replacement program. Second, many of the prescriptive incentives paid out to customers who chose to purchase equipment at the higher tier efficiency with correspondingly higher incentives.

#### **PROPOSED PROGRAM CHANGES:**

After last year's installation at a Champlain College dorm building, in 2009, VGS will continue to investigate the possibility of incorporating the Controlled Energy Freewatt residential Micro-Generator into the program with collaboration with Efficiency Vermont and Burlington Electric.

VGS intends to review the two tier furnace rebate in 2009 to determine if a three tier incentive is viable given the market availability of furnaces with an efficiency of less than 90%.

VGS is planning to be an active participant in discussions and program enhancements around disbursement of ARRA Stimulus funds and associated tax incentives for Energy Efficiency programs in the coming years.

#### **EVALUATION DISCUSSION:**

VGS employed the services of Summit Blue consulting this year to determine baseline and incremental boiler and furnace pricing for our immediate service territory, the results of the study indicated that VGS's rebates are generally in line with incremental pricing up-charges for high and mid efficiency equipment.

Based upon the data contained in the Summit Blue study and information mined in VGS' own database, VGS in the last quarter of 2008 adjusted the baseline efficiencies on boilers, furnaces and water heaters. this change going forward will result in lower savings per participant.

VGS includes a survey along with each rebate check to ensure customer satisfaction. Questions are asked regarding how the customer learned about VGS' rebate program, how satisfied the customer is with service received, inspections, installation contractors, the amount and timeliness of the rebate, and with the actual equipment. Across the board, the responses continue to indicate a very high level of satisfaction with the program. It should be noted that although the surveys are formally tabulated once a year, they are also reviewed by the Energy Services staff as they are received. Any issues highlighted by the respondents are addressed at that time.

In 2008 VGS was very successful in reporting of the Service Quality and Reliability measure related to the timeliness of processing rebate checks. VGS attained a 98.1% rating for the period, a marked improvement since inception of the quality measure in 2007.

### HomeBase Equipment Replacement Program Summary

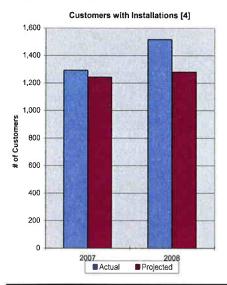
Program Start Date:
Gross to Net Adjustment Factor:

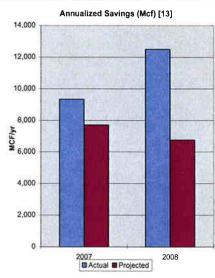
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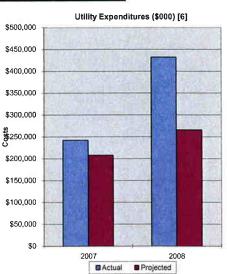
	Actual [1] 2007	Actual [1] 2008	Projected 2008	Projected Fiscal Year 2009	Total Program Reported to Date [18]
SUMMARY OF PARTICIPATION					
# Pending [2, 2b]	39	49	n/a	n/a	n/a
# of Analysis/Audits No Installs [3]	67	81	n/a	n/a	n/a
# Customers with Installations [4]	1293	1,517	1280	1168	12,376.0
# Analyses/Audits [5]	455	861	465	594	4,720.0
SUMMARY OF COSTS					
Utility [6]	\$242,309	\$432,463	\$266,099	\$269,605	\$2,514,039
Administrative [7]	\$54,472	\$64,192	\$58,111	\$59,139	\$404,224
Incentives [8]	\$187,458	\$356,527	\$199,822	\$193,550	\$2,077,192
Audit [9]	\$0	\$0	\$0	\$0	\$249
Evaluation [10]	\$379	\$11,744	\$8,167	\$16,916	\$32,374
Participant [11, 27, 27a]	\$0	\$0	\$0	\$0	\$0
Total	\$242,309	\$432,463	\$266,099	\$269,605	\$2,514,039
SUMMARY OF BENEFITS [12]					
Annualized Mcf [13]	9,341.0	12,508.1	6,759.6	6,757.3	98,460.6 [19]
Lifetime Mcf [14]	165,336	253,914	116,941	125,461	1,726,997 [19]
Peak Day Mcf [15]	75.4	123.0	56.0	51.1	808.6 [19]
Annualized Mcf/Participant [16]	7.2	8.2	5,3	5.8	8.0
Weighted Lifetime (years) [17]	17.7	20.3	17.3	18.6	17.5

2008 ACTIVITY (JANUARY - DECEMBER)

2000 AG ITTITI (GAITOAKT - BEGEINBER)				
END-USE BREAKDOWN	Annualized Mcf Saved [13]	Peak Day Mcf Savings [15]	Number of Customers with Installations [20]	Weighted Lifetime [17]
Heating	9,039.6	101.8	752	22.8
Water Heating	3,468.5	21.3	1033	13.8
Total	12,508.1	123.0	1,785 [23]	20.3







### HOMEBASE NEW CONSTRUCTION PROGRAM VERMONT ENERGY STAR® HOMES

**DPS PROGRAM CODE:** 

**RNC** 

REPORT DATE:

April 1, 2009

PROGRAM MANAGER:

Scott Harrington

LAST EVALUATION:

April 1, 2008

### **TOTAL ELIGIBLE MARKET:**

All developers, builders or homeowners of residential new construction using natural gas as the primary fuel for space heating.

#### PROGRAM DESCRIPTION:

The statewide Vermont ENERGY STAR® Homes (VESH) service is implemented jointly by Vermont Gas Systems (VGS) and Efficiency Vermont (EVT). Vermont Gas delivers the service for its customers and EVT delivers the service in the remainder of the state. All residential new construction projects in Vermont are eligible for technical assistance and incentives from EVT, but projects that will use natural gas are also eligible for enhanced services and rebates from VGS. This report describes the natural gas savings achieved through this service for VGS' customers.

The VESH service has two participant tracks. The single family track is for individually metered (for gas) stand alone single family homes, and for individually metered attached dwellings, such as condominiums and row houses. All participants receive a Home Energy Rating at no cost. To qualify for the ENERGY STAR® label and rebated incentives in the single family track, participants must build to a 5 Star Home Energy Rating, install controlled mechanical ventilation, and install a minimum of four energy efficient lights (hardwired compact fluorescent). Additional bonus incentives are available from VGS and EVT for an enhanced package of at least ten qualifying efficient lights and three ENERGY STAR® labeled appliances (including the heating system).

The multi-family building track is for large, master metered, centrally heated multi-family buildings. Master-metered buildings are treated on a custom basis, though participants are still encouraged to have their buildings receive energy ratings. VGS performs analyses of mechanical, thermal, and domestic hot water energy efficiency measures where these multi-family buildings are heated by natural gas, and partners with EVT in negotiating the total energy efficiency incentives with builders to maximize the savings opportunities in these projects. Multi-family projects that are designated for occupancy by low-income populations, formerly treated under the auspices of the Residential Energy Efficiency Program (REEP) receive essentially similar treatment under this administrative structure, though the REEP moniker is no longer in common use.

The following detailed VESH program information was developed by EVT to provide details of available services to prospective participants.

#### **Vermont ENERGY STAR® Homes**

#### What is an ENERGY STAR® labeled home?

An ENERGY STAR@labeled home is tested to ensure it meets quality and efficiency specifications for thermal, ventilation, and lighting performance. An Energy Star@labeled home achieves the following:

#### **Thermal Specifications**

The home must achieve a high level of thermal energy performance verified by a Home Energy Rating, the rating score must be 80 points or less. Efficient building shell and space and water heating systems (and air conditioning when applicable) are the primary factors in achieving a Home Energy Rating. The home must pass a thermal bypass checklist as one of the key primary factors. Other factors include high quality application of conventional building practices, and must have Energy Star heating equipment installed. Forced hot air heating and/or air conditioning systems must have hard-ducted air returns above the first floor deck; the duct must also pass duct leakage criteria when applicable.

#### **Ventilation & Combustion Safety Specifications**

A mechanical ventilation system that meets the 2005 update to the ventilation standard of the Vermont Residential Energy Code is required in all participating homes.

#### **Lighting Specifications**

A minimum of four (4) efficient, high-performance pin-based fluorescent light fixtures must be installed in mid to high use locations in the home. ENERGY STAR® labeled light fixtures are recommended for all fluorescent applications to ensure that fixtures are warranted to achieve high performance.

#### Who Can Enroll?

Vermont ENERGY STAR® Homes services and benefits are available to builders, developers and home buyers who are building new single-family and multi-family homes. There is no cost to enroll.

#### **Base Rebate**

All Energy Star@Labeled Homes in Vermont receive \$150

ENERGY STAR@Labeled Homes using Vermont Gas Systems service for heat and hot water receive *an additional* \$500

Additional rebates are provided for up to 20 hard-wired fluorescent lighting fixtures in qualifying locations, and for a combined package of ENERGY STAR@labeled appliances and high efficiency lighting fixtures.

#### **PROGRAM HIGHLIGHTS:**

#### Summary:

VGS had 99 completions for a total annual Mcf savings of 10,480. VGS achieved these savings while spending \$281,730. VGS had 7 program completions consisting of multiple living units in large master metered buildings in 2008. The 7 large multi-family buildings represented approximately 252 living units and 8,228 Mcf in annual savings.

#### **PROGRAM/DOCUMENT HISTORY:**

Program/document history from 2001 through 2008 is presented below; program history from inception through 2000 is available in prior Annual Reports.

November 1, 2001	VGS partners with Efficiency Vermont in offering Vermont ENERGY STAR Homes.
November 1, 2001	Integrated Resource Plan filed with the PSB
April 1, 2002	2001 DSM Annual Report filed with the PSB
June 30, 2002	HomeBase New Construction Program retired
April 1, 2003	2002 DSM Annual Report filed with the PSB
April 1, 2004	2003 DSM Annual Report filed with the PSB
November 30, 2004	Integrated Resource Plan filed with the PSB
April 1, 2005	2004 DSM Annual Report filed with the PSB
April 1, 2006	2005 DSM Annual Report filed with the PSB
April 1, 2007	2006 DSM Annual Report filed with the PSB
April 1, 2008	2007 DSM Annual Report filed with the PSB
June 30, 2008	Integrated Resource Plan filed with the PSB

#### **PROGRAM MARKETING:**

Vermont Gas' Marketing and Energy Services Representatives market the VESH program directly to builders at the time of their application for natural gas service for any given project. This remains the primary marketing method for VESH in VGS' territory.

Program information is available on VGS' internet site at www.vermontgas.com. In 2008, VGS made minor changes to the internet site to provide a cleaner description of the VESH service, and a link to the Efficiency Vermont website is provided for users seeking more information. VGS also has an efficiency email (efficiency@vermontgas.com) where customers can direct their energy efficiency questions.

VGS has a residential energy efficiency brochure that features pertinent information on all of the residential programs. Brochures are distributed by multiple outlets within Vermont Gas and externally through trade shows and Efficiency Vermont and Burlington Electric

Vermont Gas had a display booth at the "2008 Vermont Home and Garden Show" sponsored by the Home Builders and Remodelers Association of Northern Vermont (HBRA) in April, 2008 at the Champlain Valley Fair Grounds. The booth contained DSM program information, especially information pertaining to the HomeBase programs and the VESH program.

VGS formulated an internal software query that is being used as a lead generator for the new homes program by capturing new construction sign ups and referring them to the Energy Star program administrator for the appropriate program follow up.

Vermont Gas was a Premier sponsor for the Better Buildings by Design conference hosted by Efficiency Vermont at the Sheraton Hotel in South Burlington in February. (included as appendix 2) VGS staffed the booth and provided information about our services to conference attendees. Climate Energy was provided space at our booth to display the Honda FreeWatt residential combined heat and power unit.

#### **VARIANCE DISCUSSION:**

#### Participants:

Due to a continued drop in construction this year for single family homes, participants were below budget by 31%. However, it should be noted that the 7 multi-family completions actually represent 252 living units.

#### Mcf Savings:

In 2008, Vermont Gas achieved 10,480 Mcf annual savings through the VESH service and multifamily residential new construction program within VGS' service territory. This savings amount is 26% above the targeted budget. Mcf savings per participant were higher this year compared to 2007 due to the size and the complexity of the measures installed for the multi-family projects.

#### **Program Costs:**

Vermont Gas' costs for the VESH service and multi-family residential new construction within VGS' service territory were 100% of plan.

#### **PROPOSED PROGRAM CHANGES:**

No major program changes are planned at this time. VGS will continue to closely monitor the decline in the new homes construction industry in our service territory. VGS through our new leads program will continue to reach out to contractors to make sure that they are in tune with the VESH requirements. If participation rates continue to decline, VGS will consider modifications to the program. Any modifications and builder training sessions will be coordinated with Efficiency Vermont.

VGS is planning to be an active participant in discussions and program enhancements around disbursement of ARRA Stimulus funds and associated tax incentives for Energy Efficiency programs in the coming years.

#### **EVALUATION DISCUSSION:**

Vermont Gas did not conduct any evaluation activities regarding Vermont ENERGY STAR® Homes or residential multi-family construction in 2008.

### **HomeBase New Construction Program Summary**

Program Start Date:

1/1/1993

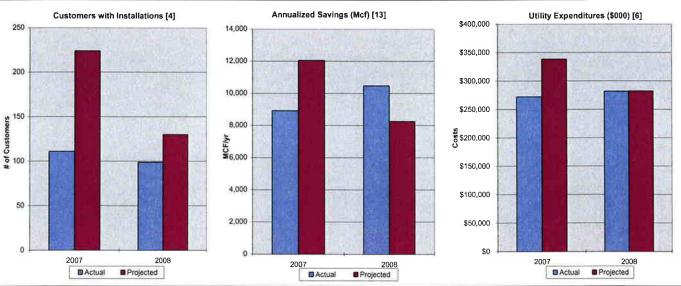
Gross to Net Adjustment Factor:

11/1993

	Actual [1] 2007	Actual [1] 2008	Projected 2008	Projected Fiscal Year 2009	Total Program Reported to Date [18]
SUMMARY OF PARTICIPATION					
# Pending [2, 2a]	n/a	n/a	n/a	n/a	n/a
# of Analysis/Audits No Installs [3]	5	3	n/a	n/a	n/a
# Customers with Installations [4]	111	99	130	122	2716
# Analyses/Audits [5, 5a]	6	4	n/a	n/a	113
SUMMARY OF COSTS					
Utility [6]	\$271,982	\$281,730	\$282,120	\$300,801	\$4,127,910
Administrative [7]	\$61,166	\$67,180	\$73,294	\$72,911	\$867,816
Incentives [8]	\$161,314	\$162,134	\$133,786	\$144,100	\$2,500,425
Audit [9]	\$49,502	\$52,416	\$66,873	\$66,873	\$709,667
Evaluation [10]	\$0	\$0	\$8,167	\$16,916	\$50,003
Participant [11, 27, 27a]	\$0	\$0	\$0	\$0	\$0
Total	\$271,982	\$281,730	\$282,120	\$300,801	\$4,127,910
SUMMARY OF BENEFITS [12]				3	
Annualized Mcf [13]	8,930.3	10,480.2	8,266.0	8,030.0	100,508.0 [19]
Lifetime Mcf [14]	181,286	241,043	183,505	176,660	2,325,062 [19]
Peak Day Mcf [15]	83.4	96.8	71.5	71.6	971.1 [19]
Annualized Mcf/Participant [16]	80.5	105.9	63.6	65.8	37.0
Weighted Lifetime (years) [17]	20.3	23.0	22.2	22.0	23.1

2008 ACTIVITY (JANUARY - DECEMBER)

2008 ACTIVITY (JANUARY - DECEMBER)				
END-USE BREAKDOWN	Annualized Mcf Saved [13]	Peak Day Mcf Savings [15]	Number of Customers with Installations [20]	Weighted Lifetime [17]
Air Infiltration	122.6	1.2	1	15.0
Heat Recovery	1,648.1	11,5	6	17.5
Heating	3,590.1	36.5	98	25.0
Shell (envelope)	4,500.6	45.0	96	25.0
Water Heating	618.7	2.6	97	13.0
Total	10,480.2	96.8	<b>298</b> [23]	23.0



#### **HOMEBASE RETROFIT PROGRAM**

DPS PROGRAM CODE:

RHU

**REPORT DATE:** 

April 1, 2009

PROGRAM MANAGER:

Scott Harrington

**LAST EVALUATION:** 

April 1, 2008

#### **TOTAL ELIGIBLE MARKET:**

All residential dwellings that consume in excess of 60,000 btus per square foot per year. Priority for program participation is given to customers with the highest annual natural gas usage, and then to customers who are elderly, disabled, and/or low income. For customers who are considerably below the usage requirements, VGS provides a complimentary copy of the Consumers Guide to Home Energy Savings published by ACEEE (Appendix #3). For low income projects there is a nominal 900 Ccf per year minimum usage requirement, although no low income projects were denied a screening in 2008 due to insufficient usage.

#### PROGRAM DESCRIPTION:

The HomeBase Retrofit Program is designed to reduce natural gas consumption and peak day demand in residential buildings that use natural gas for space heating. When appropriate, domestic hot water conservation measures are also installed.

An energy audit is performed on each participating building to identify cost-effective energy saving measures. The building's previous consumption patterns and potential improvements are modeled using a computer audit tool developed by VGS. Building owners are then provided a written report summarizing the audit results and detailing the financial incentives available for cost-effective measures. VGS auditors also install compact fluorescent light bulbs and identify electric saving measures as part of VGS' Home Performance with Energy Star partnership with Efficiency Vermont and Burlington Electric. As another way to encourage customers to save energy, VGS also provides free of charge, a self install Gas EcoKit (a description of the EcoKit's contents is included as Appendix #6).

In addition to financial incentives, building owners are provided with technical assistance and project management services at no cost to encourage the installation of the cost effective measures identified in the audit report. Customers have the choice of obtaining competitive bids, or having VGS assign a prescreened contractor through the "FastTrack" option. For the past several years, almost all customers have chosen the "FastTrack" option. VGS offers assistance in obtaining bids for those customers who prefer not to use the "FastTrack" option.

VGS provides cash incentives to property owners who install the measures recommended in the audit reports generated by this program. Incentives equal 331/3% of the installed measure cost if the building owner pays the heating bill for the property. Where tenants pay the gas bill in rental properties, the incentive to the owner is 50% of the installed measure cost. In either case VGS will also offer reduced interest financing for the balance of the installed measure cost through the Opportunities Credit Union or Green Mountain Credit Union. Currently customers are offered a choice of rates and terms from 0% for three years, 2% for five years, or 4% for seven years.

VGS offers financing through the credit unions for replacing furnaces and boilers to HomeBase Retrofit program participants. To qualify for this financing, customers must have an older furnace or boiler which is fully operational, but for which replacement does not qualify for incentives through traditional retrofit screening methods. VGS offers to include the full cost of the replacement furnace or boiler up to \$5000 in a reduced-interest loan provided the customer also commits to installing all of the recommended retrofit shell work. This leverages increased retrofit savings with very little additional administrative or audit costs, and is offered in lieu of a rebate through the HomeBase Equipment Replacement program.

Low-income customers who live in one to four unit buildings and are interested in participating in the HomeBase Retrofit program are referred to Champlain Valley Office of Economic Opportunity Weatherization (CVOEO-Wx) for priority assistance. CVOEO-Wx verifies the customer's income status and eligibility, performs the energy audit, submits the recommended measures to VGS for screening, and coordinates the installation of the cost-effective energy saving measures. VGS contributes a portion of the income verification, auditing, project management, and measure costs. CVOEO-Wx also submits lists of recommended measures to VGS for screening for VGS customers who have applied for services through the Weatherization program, ensuring that qualifying low-income customers receive incentives from VGS whether they apply through VGS or through CVOEO-Wx.

VGS' energy conservation services are provided to low income multi-family properties using a collaborative approach, implemented cooperatively by VGS and Efficiency Vermont (EVT) for projects using natural gas. This service is essentially identical to services that were formerly offered under the program name Residential Energy Efficiency Program (REEP). Typically audits are done either by EVT or cooperatively with EVT and VGS auditors. Potential gas saving measures are evaluated by VGS, and incentive offers are developed either by VGS, or collaboratively between VGS and EVT. VGS and the Burlington Electric Department provide similar joint services for projects in Burlington.

Burlington's *Time of Sale* energy efficiency ordinance (TOS) requires that rental housing throughout the City of Burlington meet minimum efficiency standards upon title transfer. There are cost-effectiveness criteria and spending caps that apply, the effect of which is to limit the amount of work a property owner may be required to implement at the time of each property transaction. Incentives for TOS projects are provided on the same basis as for any other HomeBase Retrofit project. BED continues to refer TOS inquiries to VGS, and has agreed that full installation of VGS-recommended measures will lead to compliance with TOS requirements for thermal performance of rental properties in Burlington.

In 2008 VGS increased coordination with the Home Performance with Energy Star program. As part of this increased coordination, natural gas customers who elect to receive energy audits through Efficiency Vermont or Burlington Electric's consortium of Home Performance with Energy Star contractors can elect to take advantage of VGS incentives that are available for cost effective measures.

#### PROGRAM HIGHLIGHTS:

#### Summary:

A record number of audits were conducted in 2008. 410 audits were conducted, resulting in 164 customers installing energy efficiency measures. These installations resulted in estimated savings of 8,064 Mcf per year.

VGS worked collaboratively with Efficiency Vermont with their launch of the Home Performance with Energy Star program. As a result, VGS provides and installs compact fluorescent light bulbs and provides suggestions for electrical measures for all its audit customers.

Low interest financing continues to be a very attractive option for VGS' residential customers.

53 projects were completed for low-income VGS customers under the cooperative arrangement between VGS and the CVOEO-Wx. Savings from CVOEO-Wx projects equaled roughly 18% of total program savings. Incentives for CVOEO-Wx low income projects were approximately 29% of total program incentive expenditures.

#### Low Income Multi-Family projects:

Six retrofit projects with a total of 18 living space units were completed during the period.

#### **Health and Safety:**

Health and safety issues continue to be a primary consideration for the residential energy auditors. As such, we regularly address health, safety, combustion venting, and general building performance issues in the homes we audit. Information regarding VGS' health and safety concerns has been presented in previous DSM Annual Reports.

#### **Program Modifications:**

In addition to electrical efficiency enhancements mentioned above, VGS is also providing its audit customers with the Gas Eco self installation kit. This kit is provided free of charge. See appendix # 6 for a description of the kit.

VGS also revised the interactive online audit qualification tool to allow customers to qualify for audits online based upon square footage of the home and annual natural gas usage. This revision has enabled more high use per square customers to qualify for a free comprehensive audit.

As noted in the program description, natural gas customers who elect to receive energy audits through Efficiency Vermont or Burlington Electric's consortium of Home Performance with Energy Star contractors can elect to take advantage of VGS incentives that are available for cost effective measures.

#### PROGRAM/DOCUMENT HISTORY:

Program/document history from 2000 through 2008 is presented below, program history from inception through 2000 is available in prior Annual Reports.

November 1, 2001	Integrated Resource Plan filed with the PSB
April 1, 2002	2001 DSM Annual Report filed with the PSB
October 30, 2002	"Assessment of Commercial and Residential Retrofit Programs" filed with the PSB
April 1, 2003	2002 DSM Annual Report filed with the PSB
April 1, 2004	2003 DSM Annual Report filed with the PSB
November 30, 2004	Integrated Resource Plan filed with the PSB
April 1, 2005	2004 DSM Annual Report filed with the PSB
April 1, 2006	2005 DSM Annual Report filed with the PSB
April 1, 2007	2006 DSM Annual Report filed with the PSB

April 1, 2008

2007 DSM Annual Report filed with the PSB

June 30, 2008

Integrated Resource Plan filed with the PSB

#### **PROGRAM MARKETING:**

Program information is available on VGS' internet site at www.vermontgas.com. In 2008, VGS made other minor changes in addition to the changes mentioned above to the internet site to provide more information to our customers on finding solutions to utilizing natural gas more efficiently. VGS also has an efficiency e-mail (efficiency@vermontgas.com) where customers can direct their energy efficiency questions.

VGS utilizes a residential energy efficiency brochure that features pertinent information on all of the residential programs. Brochures are distributed by multiple outlets within Vermont Gas and externally through Efficiency Vermont and Burlington Electric

BED refers Time of Sale inquiries to VGS to see if they qualify for participation in the HomeBase Retrofit program.

VGS customers with high bill complaints or growing unpaid balances are referred by VGS' customer service department to this program to see if they qualify for an energy audit. Customers who may qualify as low-income are referred to CVOEO-Wx for income verification and program services.

CVOEO-Wx refers low-income gas customers to VGS for joint service through our cost-sharing arrangement. Low-income multi-family projects including fuel-switching projects where natural gas-fired equipment is proposed are treated jointly by VGS and either EVT or Burlington Electric.

Several informational articles referencing VGS energy efficiency programs were presented in "The Natural", VGS' newsletter for customers. In the Spring and Fall of 2008, VGS placed targeted advertisements in the St. Alban's Messenger, The Essex Reporter, Colchester Sun, and the Milton Independent, encouraging VGS' customers to take advantage of free energy audits and other services. (These articles are referenced in appendix #4)

Vermont Gas was a Premier sponsor for the Better Buildings by Design conference hosted by Efficiency Vermont at the Sheraton Hotel in South Burlington in February. (Included as appendix #2) VGS staffed the booth and provided information about our services to conference attendees. Climate Energy was provided space at our booth to display the Honda FreeWatt residential combined heat and power unit.

VGS customers participating in the Residential Equipment Replacement program who will qualify for the RIR program after the new equipment is installed are referred for an energy audit.

VGS operated a booth at the "2008 Vermont Home and Garden Show" at which RIR program literature was dispensed. VGS Staff were on hand to explain the program.

Local weatherization contractors, HVAC contractors, Building Inspectors, and the Burlington office of CEDO are familiar with VGS' program, and regularly refer their private inquiries to VGS for financial and technical assistance.

VGS continues to work with reciprocating referrals from EVT with their Home Performance with Energy Star (HPwES) program for existing homes, The VGS collaboration entails screening of HPwES contractor measures for possible incentives through our program.

VGS provided training support and technical advice to Recycle North in the development of their YouthBuild Weatherization Program. (included as appendix #5)

VGS presented information about its retrofit programs at a "Button Up Vermont" training session that was held for residents of the City of Burlington.

VGS presented information about all of its energy efficiency programs at the organizational meeting for the Essex Junction Energy Task Force.

#### **VARIANCE DISCUSSION:**

#### Participants:

410 audits were conducted out in 2008 which was almost 58% greater than projected.164 customers received installations through the RIR program, exceeding the calendar year participation goal by 14%. VGS had 2 multi-family (non low income) projects representing 120 living units that completed this year; projected savings from these projects are 2,161 Mcf.

#### Mcf Saved:

Participation in the RIR program resulted in savings of 8,064 Mcf, which is approximately 19% above targeted levels. Savings per customer averaged 50.5 Mcf.

#### **Program Costs:**

Consistent with exceeding the projected participant goals, total expenditures for the program were 11.5% above the budgeted levels.

#### **PROPOSED PROGRAM CHANGES:**

VGS will continue to coordinate with Efficiency Vermont, VEIC and GMP regarding the implementation of GMP's energy efficiency fund Home Retrofit program and the implementation of any other energy efficiency programs that may impact program delivery.

VGS is planning to be an active participant in discussions and program enhancements around disbursement of ARRA Stimulus funds and associated tax incentives for Energy Efficiency programs in the coming years.

#### **EVALUATION DISCUSSION:**

VGS includes a customer satisfaction survey along with each rebate check to ensure customer satisfaction. Questions address satisfaction with customer service, technical assistance, timeliness, the installation of the equipment, and the incentives and financial arrangements. Across the board, the responses continue to indicate a very high level of satisfaction with the program. It should be noted that although the surveys are formally tabulated once a year, they are also reviewed by the Energy Services staff as they are received. Any issues highlighted by the respondents are addressed at that time.

Vermont Gas did not conduct any formal evaluation activities regarding the Home Retrofit program in 2008.

### **HomeBase Retrofit Program Summary**

Program Start Date:

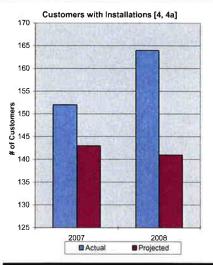
2/1/1993

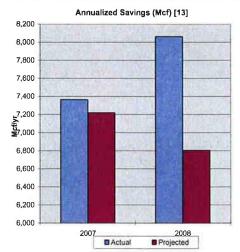
	Program Start Date.	
Gross	to Net Adjustment Factor:	

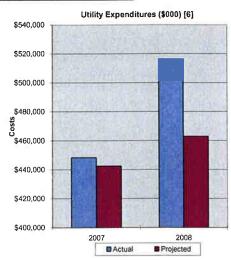
	Actual [1] 2007	Actual [1] 2008	Projected 2008	Projected Fiscal Year 2009	Total Program Reported to Date [18]
SUMMARY OF PARTICIPATION					
# Pending [2]	35	45	n/a	n/a	n/a
# of Analysis/Audits No Installs [3]	258	303	n/a	n/a	n/a
# Customers with Installations [4, 4a]	152	164	141	143	1,932
# Analyses/Audits [5]	382	410	259	260	3,059
SUMMARY OF COSTS					
Utility [6]	\$448,352	\$516,349	\$462,916	\$495,538	\$5,063,157
Administrative [7]	\$99,409	\$105,238	\$34,715	\$93,038	\$1,335,832
Incentives [8]	\$227,246	\$229,370	\$257,730	\$258,511	\$2,505,110
Audit [9]	\$121,311	\$181,741	\$162,304	\$127,073	\$1,139,718
Evaluation [10]	\$387	\$0	\$8,167	\$16,916	\$82,499
Participant [11, 27, 27a]	\$0	\$0	\$0	\$0	\$666,188
Total	\$448,352	\$516,349	\$462,916	\$495,538	\$5,729,346
SUMMARY OF BENEFITS [12]					
Annualized Mcf [13]	7,364.9	8,064.2	6,805.2	6,784.6	93,390.3 [19]
Lifetime Mcf [14]	173,075	168,542	149,261	147,678	1,983,177.2 [19]
Peak Day Mcf [15]	88.6	95.0	83.1	85.8	1,196.3 [19]
Annualized Mcf/Participant [16]	48.5	49.2	48.3	47.4	48.3
Weighted Lifetime (years) [17]	23.5	20.9	21.9	21.8	21.2

2008 ACTIVITY (JANUARY - DECEMBER)

	ZOOU ACTIVITION	ANDAKT - DECEMBE	-14/	
END-USE BREAKDOWN	Annualized Mcf Saved [13]	Peak Day Mcf Savings [15]	Number of Customers with Installations [20]	Weighted Lifetime [17]
Air Infiltration	1,274.5	16.8	140	15.2
Heating	2,587.9	27.8	63	19.1
Shell (envelope)	3,870.6	49.0	157	24.6
Slam Dunk	133.1	0.4	33	10.0
Water Heating	198.2	1.0	4	15.6
Total	8,064.2	95.0	397 [23]	20.9







#### **WORKPLACE NEW CONSTRUCTION PROGRAM**

**DPS PROGRAM CODE:** 

CNC

REPORT DATE:

April 1, 2009

PROGRAM MANAGER:

Raymond Keller

**LAST EVALUATION:** 

April 1, 2008

#### **TOTAL ELIGIBLE MARKET:**

All commercial and industrial customers who are building new facilities or who are substantially expanding, renovating or remodeling existing buildings using natural gas for space, water and/or process energy needs.

#### **PROGRAM DESCRIPTION:**

The WorkPlace New Construction Program is designed to reduce natural gas consumption and peak-day demand by encouraging commercial and industrial building owners to incorporate cost-effective natural gas saving measures in both the design and construction of new buildings and in the expansion, renovation, or remodeling of existing buildings.

VGS provides customers with a review of the building plans and, as needed, energy analysis of potentially cost-effective natural gas saving measures. In addition, VGS supplies the customer and/or their design team with energy efficient equipment information, technical assistance, lists of manufacturers, and information about improved construction techniques and building materials.

VGS provides technical assistance to Act 250 permit applicants who have chosen natural gas as a fuel source. This technical assistance may include a plan review and life cycle cost analysis for interested customers. VGS actively assists customers in their efforts to comply with the Act 250 permit criteria, and strongly encourages them to exceed these minimum requirements. For natural gas saving measures that exceed the baseline, VGS may also provide financial incentives, typically up to 25% of the incremental cost of installing cost-effective natural gas saving measures. Occasionally, VGS may provide an incentive up to 50% of the incremental cost of the measure. This higher incentive is reserved for measures that may be new to the marketplace.

For projects where an Act 250 permit is not required, VGS may provide an incentive to the developer or building owner up to 50% of the incremental cost of installing cost-effective natural gas saving measures. Incentives are negotiated on a case by case basis.

Local, state and/or federal energy and building construction codes establish the baseline for comparing the cost-effectiveness of the proposed natural gas saving measure(s). The 2005 Vermont Guidelines for Energy Efficient Commercial Construction (hereinafter "Act 250 Guidelines") as well as ASHRAE 90.1 -2004 establish this baseline for projects.

The WorkPlace New Construction program does not differentiate between firm and interruptible customers, with the exception that no peak day savings are included when projects are screened for interruptible customers. VGS encourages both interruptible and firm customers to participate in VGS' WorkPlace New Construction program.

For projects located in the City of Burlington VGS and BED often work together on projects, sharing information and meeting jointly with customers. When projects are located outside of the City of Burlington, VGS often works closely with Efficiency Vermont to provide customers with energy efficiency assistance. This effort has included meeting jointly with customers, sharing plans and specifications, and coordinating rebate offers.

#### **PROGRAM HIGHLIGHTS:**

#### **Summary:**

VGS' WorkPlace New Construction program completed 19 projects in 2008, saving 11,618 Mcf at a cost of \$196,646.

VGS assisted the American Cancer Society, through design suggestions and incentives for efficient equipment to achieve LEED certification for the American Cancer Society's Hope Lodge hospice care project.

VGS is currently working with several projects that are contemplating LEED certification. VGS has met jointly with BED or EVT and the owner and/or design team to try and promote LEED certification and educate customers to its value as it relates to energy efficiency. Sometimes the LEED points with respect to energy efficiency help prevent energy saving measures from being cut from a project during the value engineering or cost cutting phase. Owner participation in the pursuit of LEED certification for new buildings is on the increase and appears to be a program goal for local universities and colleges. Additional 2008 LEED registered projects in the works include:

#### **Project Name**

- Champlain Housing Trust Administration building
- Dealer Dot Com
- Fletcher Allen Radiation Oncology
- Harris Millis Residential Complex, University of Vermont
- Maitri Health Care
- Terrill Hall Renovation, University of Vermont
- University of Vermont Plant Sciences Facility, University of Vermont

#### PROGRAM/DOCUMENT HISTORY:

Navanhar 1 2001

Program/document history from 2001 through 2008 is presented below; program history from inception through 2000 is available in prior Annual Reports.

Interested Deserves Dies filed with the DCD

November 1, 2001	Integrated Resource Plan filed with the PSB
April 1, 2002	2001 DSM Annual Report filed with the PSB
October 30, 2002	"Assessment of Commercial and Residential Retrofit Programs" filed with the PSB
April 1, 2003	2002 DSM Annual Report filed with the PSB
April 1, 2004	2003 DSM Annual Report filed with the PSB

November 30, 2004 Integrated Resource Plan filed with the PSB

April 1, 2005	2004 DSM Annual Report filed with the PSB
April 1, 2006	2005 DSM Annual Report filed with the PSB
April 1, 2007	2006 DSM Annual Report filed with the PSB
April 1, 2008	2007 DSM Annual Report filed with the PSB
June 30, 2008	Integrated Resource Plan filed with the PSB

#### **PROGRAM MARKETING:**

VGS' Key Accounts Representative continues to play an important role in encouraging larger commercial and industrial customers and schools to take advantage of VGS' efficiency programs.

The VGS Marketing Department continues to send out "Ability to Serve" letters referencing the 2005 Vermont Guidelines for Energy Efficient Commercial Construction. VGS continues to provide technical assistance to customers with their Act 250 permit applications, claiming savings and providing incentives where measures clearly exceed the baselines as required by the Act 250 Guidelines. Contact names and numbers for EVT and BED personnel continued to be enclosed with VGS' "Ability to Serve" letter.

Program information is available on VGS' internet site at www.vermontgas.com. In 2008, VGS continued to make improvements to the internet site to provide more information to our customers on finding solutions to utilizing natural gas more efficiently. VGS also has an efficiency e-mail (efficiency@vermontgas.com) where customers can direct their energy efficiency questions.

Information on the WorkPlace New Construction and the Equipment Replacement program is provided to applicants for new natural gas service by the VGS Marketing Department.

Information on the WorkPlace New Construction program was presented at the Vermont Home and Garden Show in Essex Junction.

VGS continues to meet with various mechanical contractors, consulting engineers and architectural firms to introduce the WorkPlace Programs and invite their participation in referring projects to VGS for DSM program screening. Typically this is done in the setting of a specific project that is being worked on with the design team and/or contractors.

Vermont Gas was a Premier sponsor for the Better Buildings by Design conference hosted by Efficiency Vermont at the Sheraton Hotel in South Burlington in February. (Included as appendix #2) VGS staffed the booth and provided information about our services to conference attendees.

Communication between Vermont Gas Systems, BED commercial DSM staff, and Efficiency Vermont resulted in referrals to our WorkPlace New Construction program as well as referrals to these other programs. VGS coordinates potential client contacts with Burlington Electric and Efficiency Vermont to ensure that clients are aware of savings opportunities for all regulated fuels and those incentives are allocated in an efficient manner.

Local mechanical contractors and equipment vendors refer customers to VGS for participation in the WorkPlace New Construction program. Customers owning multiple properties contact VGS for participation in the WorkPlace New Construction program due to prior experience. High-efficiency equipment representatives give information regarding the WorkPlace New Construction program to existing and potential natural gas customers. Additionally, "Works in Progress", Efficiency Vermont's VGS Territory Report and

applications for ACT 250 "Ability To Serve" requests were monitored for upcoming projects that might benefit by participating in the WorkPlace New Construction program.

#### **VARIANCE DISCUSSION:**

#### Participants:

19 customers installed recommended measures through this program, down from 21 the prior year and 4 fewer than expected. The slow new construction market resulted in fewer participants in the program than originally anticipated.

#### Mcf Saved:

The WorkPlace New Construction program achieved 11,618 Mcf savings, which was 6% below the annual savings goal of 12,375 Mcf.

#### **Program Costs:**

Even though actual Mcf savings were only slightly below the projected values, the program costs were below projected values by 37%. VGS was able to cost effectively leverage the incentive payments on the full range of projects. In addition, VGS continues to work with BED and EVT and coordinates rebates on joint electric and gas saving measures where appropriate

#### PROPOSED PROGRAM CHANGES:

In 2008, VGS made enhancements to the fixed rebate schedule for the CNC program (same as referenced in the CER program). This schedule was changed in 2008 with the benefit to participants of keeping things simple for program delivery for owners, contractors, developers, and engineers. No differentiation will be made between Act 250 and non-Act 250 permitted projects for the equipment listed in the schedule. The major changes slated for 2009 are adding an additional performance tier for furnaces as well as adding commercial kitchen ovens to the list. The 40 or 50 gallon water heater Energy Factor is now in alignment with the Energy Star rating criteria.

VGS will continue to encourage prospective customers to investigate the use of wastewater heat recovery where applicable. Additionally, VGS will continue to inform customers about the tax credits that are available for commercial building and equipment upgrades. Other credits and deductions are available for electrical generation projects and improvements to the building envelope.

VGS is planning to be an active participant in discussions and program enhancements around disbursement of ARRA Stimulus funds and associated tax incentives for Energy Efficiency programs in the coming years.

#### **EVALUATION DISCUSSION:**

Surveys continue to be sent to WorkPlace New Construction program participants in an attempt to identify important customer issues and improve customer satisfaction. Questions address; satisfaction with customer service, technical assistance, timeliness, the installation of the equipment, and the incentives and financial arrangements. Across the board, the responses continue to indicate a very high level of satisfaction with the program. It should be noted that although the surveys are formally tabulated once a year, they are also reviewed by the Energy Services staff as they are received. Any issues highlighted by the respondents are addressed at that time.

No formal monitoring and evaluation was completed for the CNC program in 2008.

### WorkPlace New Construction Program Summary

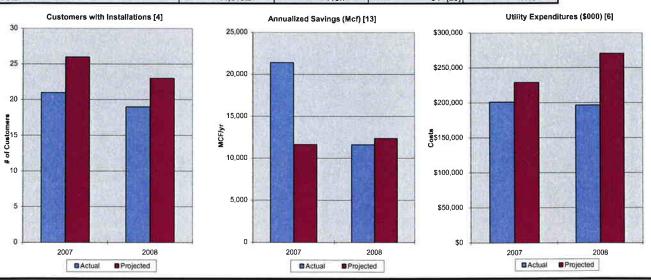
Program Start Date: Gross to Net Adjustment Factor:

5/1/1993 0%

	Actual [1] 2007	Actual [1] 2008	Projected 2008	Projected Fiscal Year 2009	Total Program Reported to Date [18]
SUMMARY OF PARTICIPATION					
# Pending [2]	0	2	n/a	n/a	n/a
# of Analysis/Audits No Installs [3]	10	10	n/a	n/a	n/a
# Customers with Installations [4]	21	19	23	24	313
# Analyses/Audits [5]	18	18	36	36	513
SUMMARY OF COSTS		ntiving of the factors			
Utility [6]	\$201,201	\$196,646	\$270,364	\$275,835	\$2,380,953
Administrative [7]	\$64,490	\$66,478	\$107,366	\$145,463	\$440,758
Incentives [8]	\$117,143	\$108,518	\$118,969	\$100,544	\$1,612,059
Audit [9]	\$19,568	\$21,650	\$35,862	\$12,912	\$307,159
Evaluation [10]	\$0	\$0	\$8,167	\$16,916	\$20,978
Participant [11, 27, 27a]	\$0	\$0	\$0	\$0	\$32,812
Total	\$201,201	\$196,646	\$270,364	\$275,835	\$2,413,766
SUMMARY OF BENEFITS [12]					
Annualized Mcf [13]	21,399.0	11,618.2	12,375.0	9,625.0	172,353.4 [19]
Lifetime Mcf [14]	385,182	204,480.3	238,425	179,988	3,458,770 [19]
Peak Day Mcf [15]	139.9	114	102.6	69.2	1,213.0 [19]
Annualized Mcf/Participant [16]	1,019.0	611.5	538.0	401.0	550.6
Weighted Lifetime (years) [17]	18.0	17.6	19.3	18.7	20.1

#### 2008 ACTIVITY (JANUARY - DECEMBER)

END-USE BREAKDOWN	Annualized Mcf Saved [13]	Peak Day Mcf Savings [15]	Number of Customers with Installations [20]	Weighted Lifetime [17]
Air Infiltration	183.4	1.8	2	
Heat Recovery	543.6	3.8	5	18.3
Heating	8,019.2	80.2	16	16.4
Process	2,192.3	21.9	2	20.0
Shell (envelope)	510.7	5.1	3	25.0
Water Heating	169.0	0.8	6	16.7
Total	11,618.2	113.7	34 [23]	17.6



#### **WORKPLACE EQUIPMENT REPLACEMENT PROGRAM**

**DPS PROGRAM CODE**: CER

REPORT DATE: April 1, 2009

PROGRAM MANAGER: Raymond Keller

LAST EVALUATION: April 1, 2008

#### **TOTAL ELIGIBLE MARKET:**

All existing commercial and industrial customers that are replacing failed or end-of-life natural-gas space, water, or process heating and cooling equipment. As well as all new commercial & industrial customers that are fuel switching to natural gas and purchasing new equipment. VGS has approximately 5,195 commercial and industrial customers.

To be eligible, equipment must be either listed on the fixed rebate schedule or pass a custom cost-effectiveness screening.

#### PROGRAM DESCRIPTION:

The WorkPlace Equipment Replacement Program is designed to reduce natural-gas consumption and peakday demand by encouraging commercial and industrial building owners and occupants to install highefficiency natural-gas space, water and process heating and cooling equipment when existing equipment has failed, reached the end of its useful life, or is being fuel switched to natural gas. The goal of this program is to encourage customers to install appropriate equipment that exceeds minimum energy efficiency standards established by federal, state and local codes where it is cost-effective to do so.

The National Appliance Energy Conservation Act (NAECA) establishes minimum energy efficiency standards for residential-sized furnaces, hot water and steam boilers, and tank-type water heaters. The National Energy Policy Act of 1992 established minimum efficiency levels for other types of commercial-grade space and water heating equipment. The 2005 Vermont Guidelines for Energy Efficient Commercial Construction as well as ASHRAE 90.1-2004 establish the baseline for projects minimum efficiency levels.

Eligible commercial and industrial customers receive cash rebates to reduce the incremental cost of purchasing and installing cost-effective high-efficiency water, space and process heating equipment.

The following table outlines the equipment that is rebated as part of the CER program:

#### Fixed rebate schedule

ELIGIBLE EQUIPMENT	REQUIRED EFFICIENCY	REBATE AMOUNT
Hot Air Furnace	90% to 92% AFUE	\$100.00
Hot Air Furnace	92.1%+ AFUE	\$400.00
Water Heater 40 or 50 gal.	.61+ Energy Factor	\$100.00
Water Heater	94% Thermal Efficiency	\$500.00

Tankless Water Heater	.80+ Energy Factor	\$100.00
Indirect-fired Water Heater	Standby loss ≤2°F/Hr., must connect to ≥87% AFUE boiler.	\$100.00
Unit Heaters up to 130,000 BTU/H	Power Vent, Inter. Ignition	\$300.00
Unit Heaters 130,000 BTU/H +	Power Vent, Inter. Ignition	\$400.00
Infrared Radiant Heaters	Power Vent, Inter. Ignition	\$400.00
Boilers < 175 MBH	87%+ AFUE	\$550.00
Boilers ≤ 300 MBH	92%+ AFUE /multistage burner & outdoor air temp. controls.	\$1000.00
Carbon Dioxide Sensor Control	NA (per sensor)	\$250.00
Commercial Steam Cooker	Energy Star listed or Cooking energy efficiency ≥ 38%.	\$750.00
Fryolator (per vat)	Energy Star or High Eff. Custom	\$500/vat

For other types of high-efficiency natural-gas equipment, or situations that require it, VGS uses a custom screening tool to evaluate measures for cost effectiveness. If a measure has a benefit to cost ratio of greater than 1, the customer is eligible to receive a rebate of up to 50% of the actual incremental cost for the equipment and installation.

VGS provides engineering assistance to quantify savings and measure cost-effectiveness at no charge to customers. For projects where specialized engineering assistance is required, VGS provides assistance to customers in locating and selecting qualified consulting engineers, and may help finance the cost of engineering analyses.

Energy efficiency projects for interruptible customers are treated no differently than projects for firm customers in the WorkPlace Equipment Replacement program, with the exception that no peak day savings are projected in the cost-effectiveness test for interruptible customers. VGS encourages both interruptible and firm customers to participate in VGS' WorkPlace Equipment Replacement program.

### PROGRAM HIGHLIGHTS: Summary:

Measures installed in 2008 are estimated to save a total of 33,620 Mcf annually.

Lifetime savings for installed measures are estimated to exceed 605,170 Mcf.

35 customers installed measures through the CER program in 2008.

Program costs were under budget by approximately 43%.

In 2008 VGS added new rebates for hot air furnaces at greater than 94% AFUE as well as commercial kitchen oven equipment.

#### PROGRAM/DOCUMENT HISTORY:

Program/document history from 2001 through 2008 is presented below; program history from inception through 2000 is available in prior Annual Reports.

November 1, 2001	Integrated Resource Plan filed with the PSB
April 1, 2002	2001 DSM Annual Report filed with the PSB
April 1, 2003	2002 DSM Annual Report filed with the PSB
April 1, 2004	2003 DSM Annual Report filed with the PSB
November 30, 2004	Integrated Resource Plan filed with the PSB
April 1, 2005	2004 DSM Annual Report filed with the PSB
April 1, 2006	2005 DSM Annual Report filed with the PSB
April 1, 2007	2006 DSM Annual Report filed with the PSB
April 1, 2008	2007 DSM Annual Report filed with the PSB
June 30, 2008	Integrated Resource Plan filed with the PSB

#### **PROGRAM MARKETING:**

VGS' Key Accounts Representative continues to play an important role in encouraging larger commercial and industrial customers and schools to take advantage of VGS' efficiency programs.

Program information is available on VGS' internet site at www.vermontgas.com. In 2008, VGS made minor changes to the internet site to provide more information to our customers on finding solutions to utilizing natural gas more efficiently. VGS also has an efficiency e-mail (efficiency@vermontgas.com) where customers can direct their energy efficiency questions.

Brochures are distributed by multiple outlets within Vermont Gas and externally through Efficiency Vermont and Burlington Electric

Information on the WorkPlace Equipment Replacement Program was presented at the 2008 Vermont Home and Garden Show in Essex Junction.

Vermont Gas was a Premier sponsor for the Better Buildings by Design conference hosted by Efficiency Vermont at the Sheraton Hotel in South Burlington in February. (Included as appendix #2) VGS staffed the booth and provided information about our services to conference attendees.

VGS continues to meet with various mechanical contractors, consulting engineers and architectural firms to introduce the WorkPlace Programs and invite their participation in referring projects to VGS for screening. Typically this is done in the setting of a specific project that is being worked on with the design team and/or contractors.

Communication between Vermont Gas Systems, Inc. and Efficiency Vermont and Burlington Electric Department DSM staff resulted in referrals to our WorkPlace Equipment Replacement program.

Local mechanical contractors refer customers to VGS for participation in the WorkPlace Equipment Replacement program.

Customers owning multiple properties contact VGS for participation in the WorkPlace Equipment Replacement program due to prior experience.

Customers calling with high bill complaints are offered WorkPlace Equipment Replacement program information and encouraged to participate.

High-efficiency equipment representatives give information regarding the WorkPlace Equipment Replacement program to potential natural gas customers considering renovations.

"Works in Progress" was monitored for upcoming projects that might benefit by participating in the WorkPlace Equipment Replacement program.

#### **VARIANCE DISCUSSION:**

#### Participants:

35 customers participated in the WorkPlace Equipment Replacement program, exceeding goal by 58%. A total of 37 projects received detailed VGS engineering analyses.

#### Mcf Saved:

The WorkPlace Equipment Replacement program achieved annual savings of approximately 33,620 Mcf. This exceeded the 2008 goal by 10% and exceeded the 2007 Mcf savings by over 190%. The large savings increase over 2007 levels was driven by a project at a large industrial customer in the Franklin County area. Without this project, 2008 Mcf would have exceeded 2007 levels by about 14%.

#### **Program Costs:**

Total WorkPlace Equipment Replacement program costs were well below the budget projection for 2008. The total program incentive costs were 18% below budget as a result of the large industrial project described above which allowed VGS to leverage significant Mcf savings for relatively low incentive levels.

#### **PROPOSED PROGRAM CHANGES:**

VGS will continue to investigate the potential savings from wastewater heat recovery units and possibly incorporate these units in the program if proven cost effective. Potential interest would be for dry cleaning, kitchen dishwashing and dormitory facilities which have a considerable hot water load.

VGS as proposed in our IRP will add commercial kitchen ovens that meet the Energy Star performance criteria to the 2009 prescriptive rebate program.

VGS will continue to educate customers on high efficiency equipment that is currently available and exceeds the 2005 Vermont Guidelines for Energy Efficient Commercial Construction.

VGS is planning to be an active participant in discussions and program enhancements around disbursement of ARRA Stimulus funds and associated tax incentives for Energy Efficiency programs in the coming years.

#### **EVALUATION DISCUSSION:**

VGS employed the services of Summit Blue consulting this year to determine baseline and incremental boiler and furnace pricing for our immediate service territory, the results of the study indicated that VGS's prescriptive rebates for are generally in line with incremental pricing up-charges for high and mid efficiency smaller btuh equipment.

Surveys continue to be sent to WorkPlace Equipment Replacement program participants in an attempt to identify important customer issues and improve customer satisfaction. Questions address satisfaction with customer service, technical assistance, timeliness, the installation of the equipment, and the incentives and financial arrangements. Across the board, the responses continue to indicate a very high level of satisfaction with the program. It should be noted that although the surveys are formally tabulated once a year, they are also reviewed by the Energy Services staff as they are received. Any issues highlighted by the respondents are addressed at that time.

### **WorkPlace Equipment Replacement Program Summary**

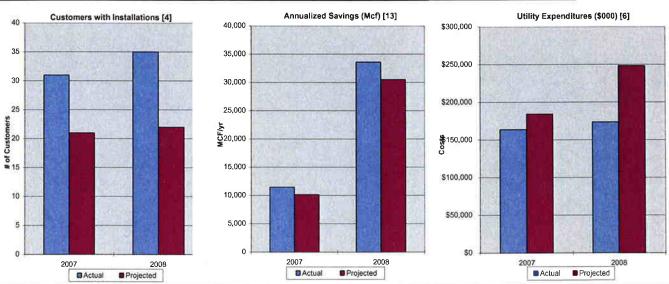
**Program Start Date:** 6/1/1993 Gross to Net Adjustment Factor:

0%

	Actual [1] 2007	Actual [1] 2008	Projected 2008	Projected Fiscal Year 2009	Total Program Reported to Date [18]
SUMMARY OF PARTICIPATION					
# Pending [2, 2b]	1	3	n/a	n/a	n/a
# of Analysis/Audits No Installs [3]	14	14	n/a	n/a	n/a
# Customers with Installations [4]	31	35	22	26	426
# Analyses/Audits [5]	41	37	39	39	696
SUMMARY OF COSTS				3	
Utility [6]	\$163,667	\$173,729	\$248,566	\$307,876	\$1,713,607
Administrative [7]	\$57,922	\$53,541	\$87,615	\$88,531	\$293,799
Incentives [8]	\$90,848	\$105,723	\$129,516	\$183,060	\$1,222,322
Audit [9]	\$14,519	\$2,722	\$23,268	\$19,369	\$173,081
Evaluation [10]	\$379	\$11,744	\$8,167	\$16,916	\$24,404
Participant [11, 27, 27a]	\$0	\$0	\$0	\$0	\$0
Total	\$163,667	\$173,729	\$248,566	\$307,876	\$1,713,607
SUMMARY OF BENEFITS [12]					
Annualized Mcf [13]	11,473.3	33,620.5	30,536.0	28,652.0	129,949.6 [19]
Lifetime Mcf [14]	162,921	605,169	496,719	467,983	2,495,911 [19]
Peak Day Mcf [15]	100.5	45.6	100.0	154.0	628.2 [19]
Annualized Mcf/Participant [16]	370.1	960.6	1,388.0	1,102.0	305,0
Weighted Lifetime (years) [17]	14.2	18.0	16.3	16.3	19.2

2008 ACTIVITY (JANUARY - DECEMBER)

END-USE BREAKDOWN	Annualized Mcf Saved [13]	Peak Day Mcf Savings [15]	Number of Customers with Installations [20]	Weighted Lifetime [17]
Air Infiltration	10,746.0	0.0	1	15.0
Heating	3,971.5	39.7	29	17.4
Process	18,281.0	2.8	2	20.0
Water Heating	622.0	3.1	4	16.3
Total	33,620.5	45.6	36 [23]	18.0



#### **WORKPLACE RETROFIT PROGRAM**

DPS PROGRAM CODE:

**CSR** 

REPORT DATE:

April 1, 2009

PROGRAM MANAGER:

Raymond Keller

LAST EVALUATION:

April 1, 2008

#### **TOTAL ELIGIBLE MARKET:**

All existing firm commercial and industrial customers that use natural gas for space, water and/or process heating. VGS currently has approximately 5,195 commercial and industrial customers.

#### PROGRAM DESCRIPTION:

The WorkPlace Retrofit Program is designed to reduce natural gas consumption and peak day demand by encouraging VGS' commercial and industrial customers (building owners or occupants) to install cost-effective, natural gas-saving space, water and/or process heating measures.

VGS provides customers with a free walk-through audit of their facility to identify potentially cost-effective energy efficiency measures. Engineering assistance is provided by VGS to customers where potentially cost-effective measures are identified in the walk-through evaluation. When outside engineering assistance is required or requested by the customer, VGS may assist with the cost of the engineering study.

VGS offers financial incentives to customers who install cost-effective energy efficiency projects, typically in the form of rebates. Rebate amounts vary and are project specific, based on the customer's savings and payback for the investment, and the value of the avoided cost savings to VGS ratepayers.

Energy efficiency projects for Interruptible customers are treated no differently than projects for firm customers in the WorkPlace Retrofit program, with the exception that no peak day savings are projected for interruptible customers. VGS encourages both interruptible and firm customers to participate in VGS' WorkPlace Retrofit program.

#### **PROGRAM HIGHLIGHTS:**

#### Summarv:

A total of 41 building audits were completed and 23 VGS customers installed measures through the WorkPlace Retrofit program in 2008

The CSR program had an annualized savings of 22,109 Mcf in 2008.

#### PROGRAM/DOCUMENT HISTORY:

Program/document history from 2001 through 2008 is presented below; program history from inception through 2000 is available in prior Annual Reports.

November 1, 2001

Integrated Resource Plan filed with the PSB

## 2008 ANNUAL REPORT DEMAND SIDE MANAGEMENT PROGRAMS

April 1, 2002	2001 DSM Annual Report filed with the PSB
October 30, 2002	"Assessment of Commercial and Residential Retrofit Programs" filed with the PSB
April 1, 2003	2002 DSM Annual Report filed with the PSB
April 1, 2004	2003 DSM Annual Report filed with the PSB
November 30, 2004	Integrated Resource Plan filed with the PSB
April 1, 2005	2004 DSM Annual Report filed with the PSB
April 1, 2006	2005 DSM Annual Report filed with the PSB
April 1, 2007	2006 DSM Annual Report filed with the PSB
April 1, 2008	2007 DSM Annual Report filed with the PSB
June 30, 2008	Integrated Resource Plan filed with the PSB

#### **PROGRAM MARKETING:**

VGS' Key Accounts Representative continues to play an important role in encouraging larger commercial and industrial customers and schools to take advantage of VGS' efficiency programs.

Program information is available on VGS' internet site at www.vermontgas.com. In 2008, VGS continued to make changes to the internet web site to provide more information to our customers on finding solutions to utilizing natural gas more efficiently. VGS also has an efficiency e-mail (efficiency@vermontgas.com) where customers can direct their energy efficiency questions.

Information on the program was presented at the 2008 Vermont Home and Garden Show in Essex Junction.

VGS continues to meet with various mechanical contractors, consulting engineers and architectural firms to introduce the WorkPlace Programs and invite their participation in referring projects to VGS for DSM program screening. Typically this is done in the setting of a specific project that is being worked on with the design team and/or contractors.

Vermont Gas was a Premier sponsor for the Better Buildings by Design conference hosted by Efficiency Vermont at the Sheraton Hotel in South Burlington in February. (Included as appendix #2) VGS staffed the booth and provided information about our services to conference attendees.

Customers owning multiple properties contact VGS for participation in the WorkPlace Retrofit program due to prior experience.

Customers calling with high bill complaints or excess gas energy consumption are offered WorkPlace Retrofit program information and encouraged to participate.

Manufacturers' representatives who handle high efficiency equipment provide information regarding the WorkPlace Retrofit program to potential customers.

## 2008 ANNUAL REPORT DEMAND SIDE MANAGEMENT PROGRAMS

"Works in Progress" was monitored for upcoming projects that might benefit by participating in the WorkPlace Retrofit program.

VGS coordinates potential client contacts with Burlington Electric and Efficiency Vermont to ensure that clients are aware of savings opportunities for all regulated fuels and those incentives are allocated in an efficient manner. This has been especially important in the geo-targeted areas identified by Efficiency Vermont.

#### **VARIANCE DISCUSSION:**

#### Participants:

41 audits were performed in the WorkPlace Retrofit program in 2008 and 23 participants installed measures. The 23 participants exceeded the 2008 goal by 43%, and surpassed participation in 2007 by 91%.

#### Mcf Saved:

The WorkPlace Retrofit program achieved 22,109 Mcf savings in 2008. This exceeded projected savings for 2007 by 11%. The program success was based on projects that ran in size from the very small to industrial in scale.

#### **Program Costs:**

The WorkPlace Retrofit program cost of \$280,500 was 2% greater than budget. However, due to a couple of extremely cost effective large projects, program expenses on a \$/Mcf basis were more than 41% under budget.

#### PROPOSED PROGRAM CHANGES:

Continued opportunities in the area of combined heat and power will be pursued in light of legislative changes allowing for net metering of such equipment. VGS participated in obtaining grant funding and technical evaluation for Champlain Colleges 1.2 kW CHP equipment installation.

VGS is planning to be an active participant in discussions and program enhancements around disbursement of ARRA Stimulus funds for Energy Efficiency programs in the coming years.

#### **EVALUATION DISCUSSION:**

Surveys continue to be sent to WorkPlace Retrofit program participants in an attempt to identify important customer issues and improve customer satisfaction. Questions address satisfaction with customer service, technical assistance, timeliness, the installation of the equipment, and the incentives and financial arrangements. Across the board, the responses continue to indicate a very high level of satisfaction with the program. It should be noted that although the surveys are formally tabulated once a year, they are also reviewed by the Energy Services staff as they are received. Any issues highlighted by the respondents are addressed at that time.

No formal monitoring and evaluation was completed for the CSR program in 2008.

## 2008 ANNUAL REPORT DEMAND SIDE MANAGEMENT PROGRAMS

## WorkPlace Retrofit Program Summary

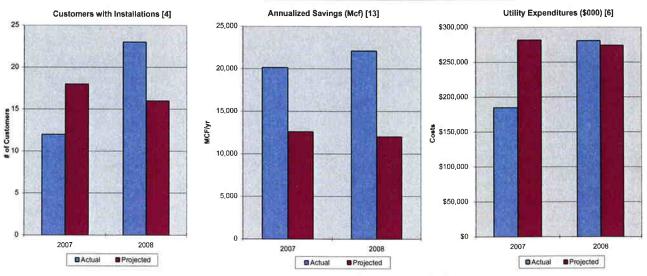
Program Start Date: Gross to Net Adjustment Factor:

7/2/1993

	Actual [1] 2007	Actual [1] 2008	Projected 2008	Projected Fiscal Year 2009	Total Program Reported to Date [18]
SUMMARY OF PARTICIPATION					
# Pending [2]		1	n/a	n/a	n/a
# of Analysis/Audits No Installs [3]	34	35	n/a	n/a	n/a
# Customers with Installations [4]	12	23	16	19	190
# Analyses/Audits [5]	42	41	60	60	614
SUMMARY OF COSTS					
Utility [6]	\$184,943	\$280,541	\$273,841	\$198,537	\$2,575,057
Administrative [7]	\$62,788	\$83,119	\$72,226	\$68,822	\$699,335
Incentives [8]	\$102,221	\$182,868	\$168,000	\$97,880	\$1,543,197
Audit [9]	\$18,468	\$13,956	\$25,449	\$14,918	\$302,749
Evaluation [10]	\$1,466	\$598	\$8,167	\$16,916	\$29,776
Participant [11, 27, 27a]	\$0	\$0	\$0	\$0	\$33,739
Total	\$184,943	\$280,541	\$273,841	\$198,537	\$2,608,796
SUMMARY OF BENEFITS [12]					
Annualized Mcf [13]	20,162.1	22,109.3	12,014.0	9,543.0	205,785.3 [19]
Lifetime Mcf [14]	308,480	393,546	187,418	157,141	3,954,611 [19]
Peak Day Mcf [15]	71.2	58.2	19.0	30.7	718.7 [19]
Annualized Mcf/Participant [16]	1,680.2	961.3	750.9	502.3	1,083.1
Weighted Lifetime (years) [17]	15.3	17.8	15.6	16.5	19.2

2008 ACTIVITY (JANUARY - DECEMBER)

END-USE BREAKDOWN	Annualized Mcf Saved [13]	Peak Day Mcf Savings [15]	Number of Customers with Installations [20]	Weighted Lifetime [17]
Air Infiltration	366.7	3.7	3	15.0
Heating	16,869.4	24.1	14	16,5
Process	319.0	3.2	1	25.0
Shell (envelope)	4,434,9	26.7	8	22.5
Water Heating	119.4	0.6	3	15.0
Total	22,109.3	58.2	29 [23]	17.8



## VGS Residential Customer Newsletter "The Natural"



# The Natural

A newsletter for the customers & friends of Vermont Gas

JANUARY/FEBRUARY 2008

### **NEW ONLINE**

- Check your account
- See your billing history
- Pay bills electronically
- Sign up for 24/7 Service
- Join the Budget Plan



www.vermontgas.com

## Holiday Hours

The offices of Vermont Gas Systems will be closed on Monday, February 18, for Presidents' Day. As always, our certified technicians are on call with round-theclock emergency service.

Regular office hours are 8 am to 5 pm, Monday through Friday.



## Vermont Gas at your service!



Patty Smith, Senior Customer Services Rep

## Q&A with Patty Smith

Patty Smith has spent 21 years at Vermont Gas, mostly in Customer Services. She considers her specialty to be "creative solutions to customer problems." As winter sets in, Patty

and her co-workers are in their busiest season, helping customers manage their energy.

## Q: Can you describe a typical call from a customer?

A. We fielded over 100,000 calls last year, so no call is completely typical! People call if their equipment malfunctions, or to request inspections, or to find out where they can pay their bill. When temperatures drop, we get more billing-related questions. The colder the weather, the higher the usage. And this December was over 25 percent colder than last December! I also ask questions to see if the customer's lifestyle has changed. Is there a new baby in the house? More people? When was the heating system last inspected, and how old is it? I may be able to isolate factors that are driving up the gas bill. And then I can advise the customer on how to use less energy.

#### Q. What type of advice do you give?

A. There are several low-cost ways of saving energy. For example, if your house is going to be empty all day, lower the thermostat. Turning down your thermostat 7 to 12 degrees for eight hours a day can save up to 10 percent on your annual heating bill. Install a setback thermometer, and you can program it to lower the heat automatically when the family is normally sleeping or out at work.

#### O. So you go through a variety of suggestions?

A. Yes. And by the way, Vermont Gas sends customers some very helpful literature with ideas on saving energy. These suggestions are also on our website. Little things help a lot. Like changing the filters on your furnace every month. Also, keep vents and radiators clear, so you're not blocking the flow of hot air. But sometimes customers need more than tips.

#### Q. Such as?

A. Vermont Gas offers an energy audit to homeowners with high enough usage, and it's free if you qualify. You can see if you qualify right online on our website. If an audit uncovers the need for new equipment or work on the house, Vermont Gas can often help with incentives, or we can help arrange low interest financing.

#### Q. Do people call if they're late paying a bill?

A. It happens. People go out of town and come home to find they've missed a payment. You can actually pay your bill online now on our website. There's a \$4.95 per transaction fee charged by Western Union.

Or customers may be having trouble making payments. Getting on our Budget Plan is a wise move, since it evens out payments over the year. Some customers really need financial assistance. Don't wait to call us, if this is the case. We're very creative, and we know the sources of help in the community.

## Q. So you can pay your bill online now. Any other services available online?

A. You can review your account history with Vermont Gas. You can sign up for the Budget Plan, or for our 24/7 Service Plan.

I encourage everyone to visit our website, www.vermontgas.com. You'll find a lot of help with managing your natural gas usage.

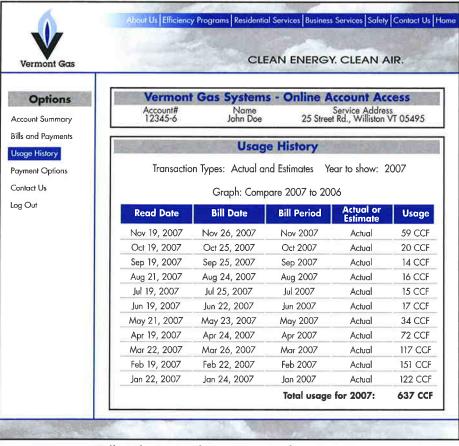
## View your account or pay your bill online at www.vermontgas.com!

We appreciate your feedback! Last year we did a customer survey, and we discovered that many of you wanted online account access and online bill payment. So we're happy to announce these new services.

Visit our website anytime to review the history of your Vermont Gas account, including usage and billing. You'll even be able to view a graph showing how your usage this year compares to last year.

If you wish, you can pay your bill online by credit card. There's a \$4.95 per transaction fee charged by Western Union.

To use our new interactive services, all you need is your Vermont Gas account number (from your bill) and your telephone number.



Call up this page with your account information at www.vermontgas.com

## Considering a new heating system? You may qualify for rebates!

Vermont Gas offers rebates to encourage customers to replace older natural gas heating systems with highefficiency equipment.

Now is the time to upgrade, because advances in technology have greatly improved the efficiency, reliability and comfort of home heating systems. Hot water boilers and hot air furnaces are commonly available with efficiency ratings over 90 percent.

Several manufacturers of furnaces, boilers and space heaters have

introduced multi-stage
equipment that adjusts the
level of heat delivered to the
home based on the outside
temperature. Instead of short
bursts of heat followed by
periods of cooling, you experience
steady even heat, which is more
comfortable and efficient.

Read about our rebates online, and see if you qualify, at www.vermontgas.com.

### **Cold Weather Wisdom**

With cold weather upon us, here are some inexpensive and immediate ways to lower your heating costs:

- 1. Turn down your thermostat 7 to 12 degrees when heat is not needed. Install a programmable setback thermostat. It will lower the heat automatically when you're at work or asleep.
- **2.** Keep air registers and radiators free from obstructions. Warm air must be free to circulate.
- **3.** Replace or clean the filters on a hot air heating system. Dirty filters can reduce air flow and drive up heating costs.

QUESTIONS? Visit our website at www.vermontgas.com or email us at efficiency@vermontgas.com.



What if you smell gas?

Natural gas is odorless, so we add a harmless chemical called mercaptan to give it a rotten-egg-like odor. If you think you smell natural gas:

- Put out any cigarettes, candles, incense or matches.
- Don't switch on or off any lights or appliances.
- Leave the building and move to a safe environment.
- Call Vermont Gas from your cell phone or a neighbor's house. One of our technicians will arrive promptly to check it out.

Natural gas has an outstanding safety record, and Vermont Gas works closely with local and state officials to promote safety awareness.



# The Natural

A newsletter for the customers & friends of Vermont Gas

MAY/JUNE 2008

### GO ONLINE TO:

- Check your account
- See your billing history
- Pay bills electronically
- Sign up for 24/7 Service
- Join the Budget Plan



www.vermontgas.com

## Holiday Hours

The offices of Vermont Gas Systems will be closed on Monday,

May 26, for Memorial Day and on Friday, July 4, for Independence Day. As always, our certified technicians are on call with round-the-clock emergency service. Regular office hours are 8 am to 5 pm, Monday through Friday.

## **Technology goes customer friendly**



Lincoln White, Manager, Information Systems

#### Q&A with Lincoln White

Linc White has been with Vermont Gas for five years. He's in charge of all aspects of the Vermont Gas technology infrastructure and its impact on customer service. His responsibilities range from overseeing our

mainframe computer serving 40,000 customers to answering a question about a PC from a staff member down the hall.

## Q. What role does technology play in the operation of Vermont Gas?

A. An increasingly important role, as with businesses everywhere. For example, we monitor electronically the 600 miles of gas mains that make up the Vermont Gas system from Highgate to Shelburne. We can also order more natural gas by computer through a seamless electronic communication with our gas suppliers in Alberta, Canada. This has eliminated faxing and phone calling, saving everyone time and money.

Of course, computer monitoring of gas flows and pressures is invisible to the customer. Other technology-driven services are more noticeable.

#### Q. Such as?

A. You probably never see a meter reader anymore, except possibly once in the summer when we inspect meters for safety. This is because we now read meters electronically every month.

And you get an automated telephone call alerting you to an upcoming service appointment, just like a reminder from your dentist! So you're less likely to forget the heating system inspection you scheduled months earlier.

Our website is another handy source of services. We updated the website recently in

response to feedback from customers.

#### Q. Can you access your account online now?

A. Absolutely. You can review your billing history going back to 2000. Anytime day or night. No more waiting until Monday morning to ask us if we got your check.

Here's a quote from our online feedback form. A customer in South Burlington writes, "I think (your online) service is fantastic! It helps me work out the budget and see what we used, without waiting for the bill to come in the mail."

#### Q. How about paying your bill online?

A. You can do it quite easily by credit card. You could be vacationing in another country and take care of your bill at an Internet café.

I should mention that our regulated rates don't cover credit card processing fees. So there's a fee of \$4.95 for this service, which goes entirely to Western Union. Still, many people feel the convenience outweighs the fee.

## Q. What other interactive services are available on the Vermont Gas website?

A. You can see if you qualify for a free energy audit. Sign up for our 24/7 Service Plan. Join the Budget Plan – to even out your payments over the year. And you'll find dozens of efficiency tips. The efficiency pages are the most visited on the Vermont Gas website.

#### Q. What are your plans for future services?

Currently we're working on an Interactive Voice Response (IVR) system that would allow you to access your account information over the phone, rather than online.

## Q. What if someone wants to test drive your online services – like account access?

A. It's as easy as 1-2-3.

- (1) Log onto www.vermontgas.com.
- (2) Click on "View your bill."
- (3) Enter your phone and account number (from your bill).

Let us know how it goes. Email your comments to customerservice@vermontgas.com.

## Recall announced for two models of Rinnai direct-vent wall furnaces



If you have a Rinnai EnergySaver directvent wall furnace, please check the model number and date.

Models RHFE431 and RHFE556 that were manufactured from February 2000 through December 2007 have been recalled by the manufacturer.

A gasket in the unit can fail, posing the risk of a carbon monoxide leak.

The model number is printed at the top of the rating plate on the side of the

unit. The date of manufacture is given at the bottom of the rating plate. The first two digits of the serial number indicate the year of manufacture; the second two digits, the month.

If you have a recalled furnace, stop using it immediately and call Rinnai toll free to schedule a free repair: 1-866-746-8344.

For a visual guide to help you find the model number and serial number on a Rinnai furnace, visit Rinnai's website at www.wallfurnacerecall.com

## Your heating system needs annual maintenance

Your heating system is the most important appliance in your home. Make sure it gets regular maintenance. Call Vermont Gas or another qualified contractor for periodic servicing. The check-up should include:



- Checking carbon monoxide levels and adjusting combustion as needed for safe operation.
- Visual inspection of the vent system for corrosion or obstructions.
- Checking that the system is drafting properly.
- Cleaning the pilot and burners.
- Lubricating inducer or blower motors, if needed.
- Replacing furnace blower belts, if needed.
- Checking for adequate combustion air.

If you're enrolled in our 24/7 Service Plan with the annual inspection option, call now to schedule your inspection and take advantage of the lower, off-peak rate. Call 863-4511.

Schedule your free energy audit now!

Are your windows and walls inviting in the cold? Are you at the mercy of fuel-guzzling equipment? And are you ready, finally, to fight those leaks and drafts and inefficiencies? It's time to call Vermont Gas!

If your home uses 1,400 ccfs or more of natural gas per year, you probably qualify for a free energy audit.

We send in a specialist from Vermont Gas to conduct the audit, which includes testing and evaluating your heating system and other appliances, inspecting insulation, and performing blower door tests.

The end result will be a list of specific recommendations for equipment upgrades and other energy efficiency measures that can reduce energy usage and ultimately save you money.

Vermont Gas often contributes to the cost of energy-efficiency improvements, and we can arrange low interest financing for upgrades as well.

You can see if you qualify for a free energy audit right online at www.vermontgas.com/efficiency. All you need is your account number (from a bill), your phone number and the square footage of your house.

Or call 863-4511 for information.

# Home projects on your mind? Call toll free 1-888-DIG-SAFE!

Whether you're planting a rose bush, demolishing a tool shed or building an addition, if your project requires digging, Vermont law requires you notify Dig Safe<sup>™</sup> at least 48 hours (two days) before breaking ground.

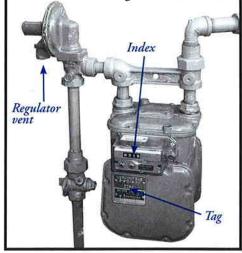
Avoid injuries, costly damage to underground pipes and wires – and possible service disruption – with a single call to Dig Safe.™ Dig Safe™ will notify its member utilities to mark their underground structures for you or your contractor.

## Annual meter inspection!

Every summer we visually inspect meters for corrosion, damage and other unsafe conditions. So if you see a Vermont Gas employee checking out your meter during normal business hours, don't be alarmed! It's for your safety.

## Go ahead, paint your meter and pipes!

House painting? Feel free to paint your gas pipes and outside meter too. Just make sure to avoid the regulator vent, the index and the tag (see illustration).



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# The Natural

A newsletter for the customers & friends of Vermont Gas

AUGUST 2008

## A message from the president...



Don Gilbert, President

There's a great deal of concern about energy issues these days, and understandably so. Vermonters are anticipating a tough winter due to higher energy costs. We at Vermont Gas are also concerned

Of course your own savings will depend on the size and efficiency of your home and various other factors. But the fact remains, you've chosen the smart fuel.

It's also nice to know that what's best for your budget is also best for the environment. By using clean-burning natural gas, you're reducing greenhouse gas emissions.

More and more Vermonters are recognizing the value of these benefits. We're working hard to make natural gas available to as many Vermonters as possible and, in many cases we home will save you the most money.

Efficiency measures also can make a big difference. These might range from turning down the thermostat to retrofitting your home with tighter insulation and more up-to-date equipment. Vermont Gas offers a host of efficiency programs, all of them described on our website. You can also check online to see if you qualify for our free energy audit.

Some of our customers find it helps to equalize their payments over time. The Vermont Gas Budget Plan is a great strategy

> for avoiding cold weather spikes and moderating your fuel bill. Your energy costs will be spread out evenly over the year.

Even with these programs we recognize some individuals may have trouble paying for the energy they use. If you're having serious difficulty paying your gas bill, please call us at 802-863-4511. We'll direct you to resources for financial assistance and help with weatherization.

The Vermont Gas website is an excellent source of information on our energy efficiency programs and other tools to help you manage your energy. I encourage you to visit it soon at www.vermontgas.com.

Most importantly, I want you to know that we at Vermont Gas are committed to working with you to ease the challenges of the coming winter.

Natural gas is less expensive

\$40
\$40
\$39.92
\$42.67
\$39.01
\$39.92
\$10
\$10
\$Natural Gas Fuel Oil Kerosene Propane Electricity

Source: May 2008 Vermont Fuel Price Report http://publicservice.vermont.gov/pub/vt-fuel-price-report.html

and are focusing our efforts on helping Vermonters through this challenging period.

I would like to take this opportunity to discuss energy costs and some of the initiatives we have in place to manage them. We believe in being pro-active, both by keeping operating costs down and helping our customers manage their heating bills.

To begin with, as a natural gas consumer you're in a better position than Vermonters who are using other fuels. While

everyone will be paying more for fuel this winter, the cost of natural gas in Vermont is now 30% less than oil and 40% less than propane and electricity. The chart above illustrates these statistics.

That means that by burning natural gas instead of oil, The average Vermont household is saving over \$1,000 a year.

can help them switch with no upfront costs.

We're also helping your neighbors with inexpensive rental programs for conversion burners and water heaters, as well as equipment rebates.

You yourself might want to consider additional ways to use natural gas, perhaps for cooking or heating water. An all-natural-gas

## y.

## Take action at www.vermontgas.com

- See energy saving tips
- Join the Budget Plan
- Qualify for energy audit

- Review your account
- Order a CO detector
- Sign up for 24/7 Service



## Get ready for winter with the 24/7 Service Plan

Equipment breakdowns often happen when it's least convenient. Keep your heating system in good working order for the long cold winter by signing up now for our 24/7 Service Plan!

The plan covers common repairs to water heaters and heating systems, from aquastats to zone valve heads. It costs as little as \$8.50 a month – and the peace of mind is priceless. If you join the plan, you can also sign up for our annual inspection at a discounted rate.

Enroll online (or get more details) at www.vermontgas.com. Or call 863-4511 for a brochure and enrollment form.



The offices of Vermont Gas

Systems will be closed on Monday, Sept. 1, for Labor Day; and Monday, Oct. 13 for Columbus Day. As always, our certified technicians are on call with round-the-clock emergency service. Regular office hours are 8 am to 5 pm, Monday through Friday.

## FOR YOUR SAFETY: the facts about CO (carbon monoxide)

For your safety, please read every word of this article! Carbon Monoxide (CO) is a potential hazard when you're using any combustible fuel. Exposure to even small amounts can cause flu-like symptoms, and higher levels can be fatal. You can't see it or smell it, so be vigilant!

#### Watch for these symptoms:

- Dizziness, nausea, headache and coughing.
- Irregular heartbeat.

## Follow these important safety measures:

- Install CO detectors in your home, with battery backup.
- Get regular check-ups for your heating system.
- Never heat your home or building with your gas range or oven.
- Always make sure your heating system is working properly, no matter what type of fuel you use.

- Properly maintain and ventilate appliances.
- Make sure vent terminations for gas appliances are not blocked.
- Never run a vehicle in the garage, even with the door open.
   CO can seep into your house.
- Make sure your chimney is not blocked.
- Don't use outdoor grills in enclosed areas.

#### If you suspect CO poisoning:

- Seek fresh air and remain outside.
- Call 911 or your local fire

Give your heating system a check-up.

For an appointment, call 863-4511. And for more information

about safety, visit our website: www.vermontgas.com.



## Order CO detectors at www.vermontgas.com!

It's just common sense to put a CO detector on every floor of your home. At the very least, install one where people sleep. You can buy CO detectors at hardware stores or home stores. Just make sure they have battery backup so they'll operate during a power outage.

Or order our recommended model online at www.vermontgas.com. We'll simply add the charge to your bill. Cost per CO detector is \$42 including shipping.

## Schedule your free energy audit now!

Are your windows and walls inviting in the cold? Are you at the mercy of fuel-guzzling equipment? And are you ready, finally, to fight those leaks and drafts and inefficiencies? It's time to call Vermont Gas!

If your home uses at least 0.6 ccf of natural gas per square foot annually, then you qualify for a free energy audit.

We send in a specialist from Vermont Gas to conduct the audit, which includes testing and evaluating your heating system and other appliances, inspecting insulation, and performing blower door tests. The end result will be a list of specific energy efficiency recommendations and measures that can reduce your energy usage and ultimately save you money.

Vermont Gas often contributes to the cost of energy-efficiency improvements, and we can arrange zero percent financing for upgrades as well.

To see if you qualify for a free energy audit, call 863-4511.



# he Natura

A newsletter for the customers & friends of Vermont Gas

OCTOBER 2008

## GO ONLINE TO:

- Access your account
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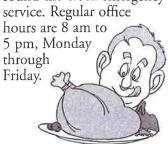


www.vermontgas.com

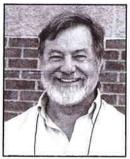
## **Holiday Hours**

The offices of Vermont Gas Systems will be closed on Monday, Oct. 13 for Columbus Day and Thursday-Friday, Nov. 27-28 for the Thanksgiving holiday.

As always, our certified technicians are on call with round-the-clock emergency 5 pm, Monday



## Save energy starting today!



Jeremy King, Energy Auditor

### Q&A with Jeremy King

Jeremy King has over 16 years experience conducting energy audits. As an energy auditor at Vermont Gas, he visits some 200 homes every year to assess their

energy efficiency and make energy-saving recommendations.

#### Q. What advice would you give people about saving energy, based on your observations in the field?

A. Address the worst inefficiencies first! But it's important to identify the problems before you start doing the work.

For example, we often see people rush to add attic insulation when they really should have addressed the loss of heated air to the attic first. Just adding insulation may not solve the real problem, and may make fixing it later harder and more expensive.

To get the job done right, be sure to hire a contractor who's invested in getting the correct tools, and has the training to do the

We can give you some names. Call us at 802-863-4511, ext. 321.

#### Q. Would it pay to put in all new windows?

A. Everyone wants new windows! However, people rarely recover the cost of installing new windows in energy savings alone.

Vermont Gas Systems offers rebates for cost effective energy efficiency upgrades. Every incentive we offer has to have a positive cost to benefit ratio.

If you have an older heating system you probably could save more energy and money by replacing the heating system than replacing all the windows, and it probably would cost you less.

#### Q. How do I know if I should invest in upgrades?

A. Go to the Vermont Gas website and check your energy usage. Then link to our free energy audit and see if your home qualifies. If not, that means your home is already fairly efficient.

If you do qualify for an energy audit – and you're willing to follow up on the efficiency recommendations we'll make - then go for it.

Our energy audits are scheduled six weeks out or more - and it may take you another six months to get the work done. So this is a long-term strategy for saving energy, not a quick fix.

#### Q. And if you want to start saving energy today, this week, this month?

A. There are lots of low- or no-cost measures you can take.

For example, check your furnace filters every month and change them if they're dirty. Out in the field I find furnace filters so clogged with dirt and dog hair that they can't function.

You control how energy is used in the home. If you want to use less energy, turn it down or turn it off. This applies to heat, hot water, lights and other electric appliances anything that consumes purchased energy.

Small energy savings add up. Included in this mailing is a flyer with dozens of energy saving ideas. And check out our award-winning energy efficiency programs at www.vermontgas.com.



# The Natural

A newsletter for the customers & friends of Vermont Gas

OCTOBER 2008

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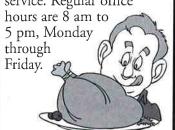


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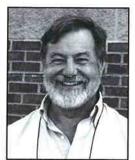
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# The Natural

A newsletter for the customers & friends of Vermont Gas

DECEMBER 2008

## GO ONLINE TO:

- Access your account
- Sign up for 24/7 Service
- · Get facts on safety
- Order a CO detector
- Join the Budget Plan



## **Holiday Hours**

The offices of Vermont Gas Systems will close at noon on Christmas Eve, Wednesday, December 24. We'll be closed Thursday, Dec. 25, for the Christmas holiday and Thursday, January 1, for New Year's.

As always, our service technicians are on call with round-the-clock emergency service. Regular office hours are 8 am to 5 pm, Monday through Friday.

## The inside story on service



Ray Crowley, Senior Service Technician

### Q&A with Ray Crowley

Ray Crowley has serviced equipment at Vermont Gas for 14 years. He's also a member of the Vermont National Guard and has been deployed in Bosnia Herzegovina and Afghanistan.

## Q. What's the job description of a Vermont Gas service technician?

A. We install and turn on meters, inspect and repair heating systems, convert people to natural gas and respond to emergencies 24/7.

Lately we've been especially busy with house-holds converting to natural gas from heating oil. We turned on 1,503 new customers this year, almost double what we expected, because people were so anxious to switch from other fuels. I never got so many handshakes.

#### Q. Can you walk through a typical inspection?

A. As I pull up to your house, I look at your chimney. Is it in good shape? Is it lined properly? Next I analyze your heating system, check venting for safety and check the gas piping. I pull the burners. Any cracks or breaks? I clean what needs to be cleaned. We have a long checklist.

I fire the equipment and do a full analysis of its efficiency. We have diagnostic equipment that others don't. Most importantly, we always check for Carbon Monoxide.

When I leave, I'm 99.9% certain I won't need to revisit your house this winter. You're all set.

## Q. Do customers ever ask you to evaluate their system?

A. Sure. We don't sell equipment, so we can be objective. If you can probably squeeze another year or two out of your system, I'll tell you so. But if you

could be saving enough money with a new system to heat another home, I'll tell you that, too.

If you do buy a new system, make sure you call us. Vermont Gas offers rebates on high efficiency heating systems.

When it comes to service, it doesn't matter who manufactured your system. We're trained to service just about anything. When contractors can't figure out how to fix something, they call Vermont Gas. We're the experts.

## Q. I understand you train new technicians. How does that work?

A. New technicians at Vermont Gas go through a unique apprenticeship. It's often two years before they can go into the field on their own.

To get a thorough grounding, trainees make calls day after day with a variety of veteran technicians. During the apprentice years, trainees must also pass a gas certification test and get a specialty plumber's license – and eventually a specialty electrical license.

Even then, training never stops. We get trained on any significant new equipment or technology that comes into the market.

## Q. What's the most common type of service call in winter?

A. No heat. And that's a priority. If the heat cuts out, we get in the truck and go, even in the middle of the night, even on New Year's Day. If it's 2 am in a blizzard, I might drive a little slower to make sure I get there. But I go through the same checklist when I arrive. We don't leave people in the cold.

## Q. If you had one piece of advice for customers – what would it be?

A. Have an annual inspection of your heating system. Don't just assume that Old Reliable down in the basement is doing fine. Things break when they have no maintenance. Efficiency can drop off if nobody's watching.

You can sign up for our 24/7 Service with annual inspection by calling 863-4511. Or sign up online at www.vermontgas.com.

## SEE YOU ONLINE! Access your account or pay your bill at www.vermontgas.com

Want to compare your usage of natural gas this year vs. last? Wondering if we got your payment yet? Need to pay your bill fast?

Now you can do it all online.

To access your account information, all you need is your Vermont Gas account number (from your bill) and your telephone number.

The graphics at right show what a customer's account page looks like on the Vermont Gas website.

You can also pay your bill on our website with your credit card. There's a \$4.95 per-transaction fee charged by Western Union.

## Now more than ever, it's important to share the WARMTH!



Economic pressures will make it harder than ever this winter for many Vermonters to pay for heat.

Please note the WARMTH flyer enclosed in this mailing. Contribute if you can – as generously as possible. Vermont Gas donations

are earmarked for low-income families who use natural gas. Every penny

you give goes toward those in need.

WARMTH is administered by the Champlain Valley Office of Economic Opportunity and helps thousands of Vermont families each year.

#### YMCA Promotes WARMTH

The Greater Burlington YMCA will make a significant contribution to WARMTH this winter by donating all joining fees from their December membership drive. Thank you, YMCA!

## **Cold Weather Tips**

With cold weather upon us, here are some easy, inexpensive ways to lower your heating costs.

- 1. Install a setback thermostat. It adjusts your heat automatically. No more waking up to a cold house! The savings are significant, the cost is minimal, and there's no loss of comfort.
- 2. Hire Vermont Gas or any qualified contractor to inspect your heating system. This will ensure your system operates efficiently and safely.
- 3. Check the filters on a hot air heating system monthly. Clean or replace dirty filters. They can reduce air flow and drive up heating costs.
- 4. Keep air registers and radiators free from obstructions. Blocked registers and radiators can't deliver heat.
- 5. If you want to use less energy, turn it down or turn it off. This applies to heat, hot water, lights and other electric appliances.
- 6. Open your window shades and drapes during the day to allow for some solar heating from the sun, close them after the sun goes down.

For more information, visit www.vermontgas.com. Email us at efficiency@vermontgas.com. Or call us at 863-4511 ext 321.

## SAFETY ALERT: Keep sidewall vents & meters clear!

Beware of exhaust getting trapped by snow around a sidewall vent.

Sidewall vents are common in new heating and water heating systems, especially high efficiency units. These vents act as a breathing device for the system. They take in fresh air and mix it with fuel to produce heat, while discharging exhaust fumes that can include carbon monoxide (CO).



If a vent becomes buried in snow or obstructed by a shrub, this may shut down your equipment or draw in exhaust fumes, which can produce high levels of CO inside your house.

To prevent these problems, it's important to remove snow around the vent approximately 48 inches in all directions, and trim any shrubs around the vent, so that your equipment can freely discharge exhaust.

We recommend putting a sign by your sidewall vent, so you and anyone working on your property can easily spot its location.

## Beware of ice and snow build-up

Ice or snow accumulations can interfere with the proper operation of your meter. The regulator on your gas meter needs to be able to release gas in case of a malfunction.

Snow removal can also pose a hazard

to your meter assembly or piping, and result in a dangerous leak. Follow these guidelines in winter:

- Remove large icicles hanging over meter assemblies and appliance vents.
- If your gas meter is near a sidewalk or driveway, make sure whoever removes snow from your property is aware of its location.
- Use a broom not a shovel to clear snow from your meter assembly and vents.
- If your meter gets encased in ice, please call Vermont Gas immediately.

Please visit our website at www.vermontgas.com and click on "Safety" for detailed instructions on how to use natural gas safely.

## Better Buildings By Design Conference Sponsorship



# BETTER BUILDINGS BY DESIGN CONFERENCE 2008

FEBRUARY 13 & 14 SHERATON CONFERENCE CENTER BURLINGTON, VERMONT





## BETTER BUILDINGS BY DESIGN CONFERENCE 2008

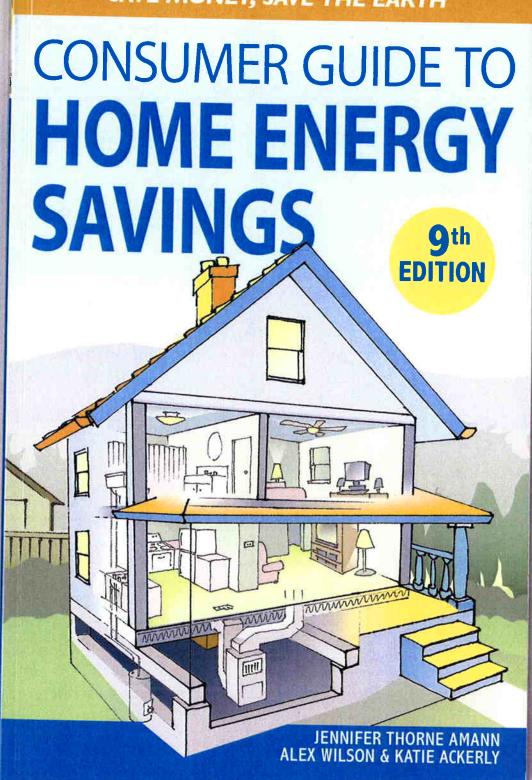
FEBRUARY 13 & 14
SHERATON CONFERENCE CENTER
BURLINGTON, VERMONT





## Cover of Consumer Guide to Home Energy Savings

SAVE MONEY, SAVE THE EARTH



## Advertisement for a "Free Energy Audit" and Energy Savings tips, 4 Local Newspapers

- Colchester Sun
- Milton Independent
- Essex Report
- St. Albans Messenger

# FREE ENERGY AUDIT!

## Summer is the smart time for an efficiency upgrade!

Don't wait till fall to start thinking about saving energy.

If your house needs some work, or equipment should be upgraded, you

**(** 



will probably get faster service by doing the work during the slow summer season.

This also makes summer the perfect season for a free energy audit from Vermont Gas. Since we're less busy too, we can schedule you sooner.

## Real help with rising energy costs

None of us can control the cost of natural gas at the wellhead. But we can find ways to use less energy.

If your home qualifies for a free energy audit, a Vermont Gas certified energy auditor will inspect your house overall, assess equipment and depressurize the house to find where the leaks are. It might turn out that you need air-sealing or additional insulation – or we may determine that an old heating system is the culprit.



We'll recommend efficiency measures and tell you in dollars and percentages how much you'll save by implementing each measure.

We'll be happy to give you a list of certified contractors and even help manage the project.

## Rebates and incentives

In many instances, we can rebate a portion of cost-effective insulation upgrades and arrange zero-percent interest loans for new equipment and

other efficiency measures. After the work is do



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After the work is done, we'll come by and check that it's up to our high standards of energy efficiency!

## Visit www.vermontgas.com to see if you qualify.

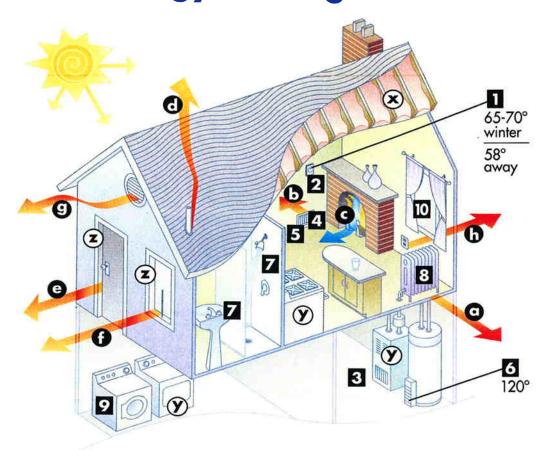
Whether or not you qualify for a free audit, you'll find a host of great suggestions on our website for saving energy! Or call 802-863-4511, extension 321.





85 Swift Street, So. Burlington VT 802-863-4511 • www.vermontgas.com

## **Energy Saving Ideas**



#### Watch for escape routes!

Sealing air leaks could cut 10 percent from an average household's monthly energy bill. Common places where heat escapes are:

- floors, walls, ceilings
- ducts
- G fireplace
- d plumbing penetrations
- doors
- Windows
- fans and vents
- **6** electrical outlets

#### Action you can take today

- Set thermostats between 65 and 70 degrees during the winter, and 58 degrees when away from the house for more than a few hours. Bear in mind that warmer temperatures are recommended for homes with ill or elderly people, or infants.
- Install a programmable setback thermostat that will automatically turn down the heat when you're sleeping or at work. Turning down your thermostat 7 to 12 degrees, for eight hours a day, can

- save up to 10 percent on your annual heating bills.
- Change or clean furnace filters once a month during the heating season. Use receipt of your natural gas bill as a reminder.
- 4 Warm air rises, so use registers to direct warm airflow across the floor.
- Close vents and doors in unused rooms and close dampers on unused fireplaces.
- Be sure your water heater is set at a temperature recommended by the manufacturer (or Vermont Plumbing Board rules).
- Install water-flow restrictors in shower-heads and faucets.
- Place a sheet of aluminum foil between the radiator and the wall to reflect heat back into the room.
- Run washing machines and clothes dryers with a full load.
- On sunny days, open draperies and blinds to let

the sun's warmth in. Close them at night to insulate against cold air outside.

## Think long-term improvement

- Check to see if attic and basement have the recommended levels of insulation.
- © Check the heating system and replace old, outdated appliances with high-efficiency natural gas models. When buying new appliances, compare energy efficiency ratings and annual operating costs.
- Install storm or thermal windows and doors or double-paned glass. A less expensive alternative is plastic sheeting, which can be temporarily fastened over doors and windows to prevent drafts and retain heat.

## Check out our Budget Plan – another wise move!

Spread your bill payments evenly over the year with our Budget Plan. We can also automatically deduct your bill from your checking account each month through our Direct Payment program. For more information, call 863-4511, ext. 250.

#### Worried about fuel costs?

If you think you might have trouble paying your heating bills this winter, call Vermont Gas at 863-4511 for information on fuel assistance programs.

## Questions about energy efficiency?

For more information about energy audits, rebates and energy efficiency project financing, call 863-4511, ext 321, email efficiency@vermontgas.com or visit www.vermontgas.com.



## Save Energy with Vermont Gas!

## **RETROFIT PROGRAM:**Start with a free energy audit!

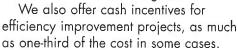
If your home qualifies, we'll send one of our technicians to conduct an energy audit, at no cost. We'll inspect the house as a whole and recommend various efficiency measures such as air-sealing, additional insulation, or replacing old heating equipment with high-efficiency models.



Thermographic scan to reveal poor or missing insulation

We'll be happy to give you a list

of certified contractors. And in many instances, we can arrange zero-percent interest loans for qualified customers enrolled in the Retrofit Program.



To see if your home or multi-family building qualifies for retrofit incentives, contact efficiency@vermontgas.com, or visit our website at www.vermontgas.com for more information.



Blower door test to check for air leaks

## NEW CONSTRUCTION PROGRAM:

Build an ENERGY STAR® home!



©2008 Vermont Gas Systems 9/19/08/15063

Vermont Gas is committed to helping builders and homeowners construct highly efficient new homes. So we partnered with Efficiency Vermont, the state's electric efficiency utility, to develop the Vermont ENERGY STAR® Homes program.

Services for Vermont ENERGY STAR® Homes participants include:

- No cost technical assistance to help you achieve the highest home energy ratings
- Assistance in complying with Vermont's Residential Building Energy Standards (RBES)
- Free construction inspection to identify potential insulation and air leakage problems
- Final inspection and blower door test for air tightness
- Cash incentives for meeting minimum program standards
- Bonus incentives for installing efficient appliances and additional high efficiency lighting

For more information on our New Construction Program, contact efficiency@vermontgas.com, or visit our website www.vermontgas.com or www.vermontenergystarhomes.com.

## **EQUIPMENT REPLACEMENT PROGRAM:**

## Stop throwing away money!

When you upgrade your heating equipment, you're investing in a future where you'll be saving energy every day.

Payback schedules vary depending on your situation, but on a comfort level the impact will be immediate.

We offer the following rebates to qualifying customers who switch to energy efficient equipment:



Eligible Equipment [must be purchased new]	Required Efficiency (as listed in GAMA)	Rebate
Hot air furnace	90% to 92% AFUE	\$100.00
Hot air furnace	92.1% to 93.9% AFUE	\$300.00
Hot air furnace	94% + AFUE	\$400.00
Hot water boiler	87% to 91,9% AFUE	\$400.00
Hot water boiler	92% + AFUE with outdoor temperature control reset.	\$600.00
Steam boiler	82% + AFUE	\$150.00
Water heater 40/50 gal.	.62+ EF	\$100.00
Indirect-fired hot water storage tank	heated by an 87%+ AFUE boiler	\$100.00
Tankless water heater	.80+ EF	\$100.00
Drain water heat recovery	call for details	\$200.00

\*Certain furnaces, water tanks & appliances may qualify for additional rebates from Efficiency Vermont. Please contact then directly at 888.921.5990 or on the web at http://www.efficiencyvermont.com/pages/Residential/RebateCenter

For more information about our Equipment Upgrade Program, contact efficiency@vermontgas.com or visit our website www.vermontgas.com.

#### **LOG ON TO LEARN MORE!**

Visit our website at www.vermontgas.com for complete details on these programs.

You'll also find tips from our energy experts, an extensive list of contractors, and links to various energy efficiency websites, among other things.

And when you're a Vermont Gas customer, the flow of information never stops. You get a regular newsletter that features energy efficiency advice in every issue.

Have a specific question for our energy experts? We welcome your calls at 863-4511, ext. 321.



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## Recycle North/ YouthBuild Training Partnership



October 10, 2008

Jeremy King Vermont Gas 85 Swift Street So. Burlington, VT 05403

Dear Jeremy,

I want to express my gratitude and appreciation for all your support, advice, and on-site training you have given to the ReCycle North YouthBuild Weatherization Program, and Chris Parsons, the job site instructor.

As you know, we are seeking to expand our green building activities by focusing on home weatherization and energy efficiency. To develop this social enterprise, ReCycle North is training students in the field of energy efficiency and offering an applied academics curriculum focused on the principles of energy efficiency including air flow, conductivity, R-values, and thermal dynamics that supports the on-site training.

We would not be able to advance in this educational and job skills training program without the help of experts in the industry and committed community partners, such as Vermont Gas and yourself. It has been very exciting to venture into the field, and we are looking forward to moving into implementing this weatherization service full speed ahead.

Again, please know you have been of tremendous help and support. We will also be sending a letter of appreciation to Don Gilbert and offering, as a way of saying thank you, a free, three-month spot on our pick up and delivery truck of Vermont Gas' logo.

Please feel free to contact me if you have any questions.

Sincerely,

Andrew Jope
YouthBuild Director



March 14, 2008

Thomas Longstreth Executive Director ReCycle North 266 Pine Street Burlington, VT 05401

RE: ReCycle North YouthBuild Green Construction Training and Weatherization Service Program

Dear Tom,

Vermont Gas Systems is pleased to be a partner with ReCycle North and looks forward to supporting your Green Construction Training and Weatherization Service Program as part of your YouthBuild program. Vermont Gas is Vermont's only natural gas company with 40,000 residential and commercial customers in Chittenden and Franklin counties. Vermont Gas Systems has a 16 year history of delivering free energy audits and supplying financial incentives toward cost-effective energy efficiency improvements for our customers. We would welcome ReCycle North's entry into this field as a training provider and service provider for our customers.

The type of training program, social enterprise, and service that ReCycle North plans to create is needed due to both the need for skill-specific trained workers, and the lack of programs to help supply affordable energy efficiency services to working families (who may not qualify for the services of the Vermont Weatherization Assistance Program).

We are prepared to support your training program and the startup of this new venture through the following commitments:

- we will make referrals customers who need a low cost way to reduce their energy use
- we will provide training and networking opportunities to your YouthBuild students

We are pleased to be a part of this project and partnership that will enable a variety of organizations and institutions to work together to create a meaningful and tangible future for the underserved of our community and will meet the employment needs of our members.

Please feel free to contact me if you have any questions. Thank you.

Lyw F

Sincerely,

Jeremy King

**Building Performance Specialist** 

## Gas Ecokit, Self Install Energy Conservation Kit for Residential Audit Customers

# Gas EcoKit™ Instructions



# Earth™ Massage Showerhead (1,5 gpm)

Just follow these simple directions:

- Remove old showerhead from the shower arm. If you need to use a wrench, use a second wrench to hold the shower arm while you loosen the old showerhead. Use pieces of cloth to protect the finish.
- Before installing new showerhead, turn on water to wash out the pipe.
- 3. TURN OFF WATER. Apply Teflon tape to shower arm threads. Screw on the new showerhead and hand-tighten.
- Test showerhead. If showerhead leaks, tighten by using a wrench on the DO NOT OVER-TIGHTEN. shower arm and a second wrench on the showerhead. Tighten until snug.

## Item # N2915N

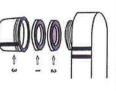
# Kitchen Swivel Aerator (1.5 gpm)

Just follow these simple directions:

- Remove old aerator from the faucet. A wrench may be required. Use cloth to protect finish.
- ών Before installing new aerator, turn on water to wash out faucet
- 4. Turn off water. Screw on new aerator and hand-tighten. (Use 1 rubber washer for faucets with external threads; 2 rubber washers for faucets with internal threads.)
- Turn on water. If aerator leaks, tighten by using wrench. Use cloth to protect finish. Tighten until snug. DO NOT OVER-TIGHTEN.

Item # N3115V-FC

the off position. This is normal, and part of its anti-scalding feature. Note: A slight stream of water will flow from your aerator when the flip valve is in



Item # N3210N

# Bathroom Aerators (1.0 gpm)

<u>Just follow these simple directions:</u>

- Remove old aerator.
- Inside-threaded faucets:
- 1. Place upper washer (2) on lower washer (1), on top of aerator (3).
- Screw aerator into inside threads of faucet.
- Outside-threaded faucets:

Discard upper washer (2).

Remove aerator and rinse parts occasionally. 2. With lower washer (1) on top of aerator (3), screw onto outside threads.



# Foam Weather-strip

Just follow these simple directions:

- Remove any existing tape.
- Clean the surface and allow it to dry completely.
- Cut tape to desired length with scissors.
- Press in place with fingertips.
- Ģ Make sure the tape is compressed by closed door Apply to door frame with creased side facing door on all sides.

Item # N8001



www.niagaraconservation.com 1-800-831-8383



