# National Grid NH
## Revised Proposal for 2012 Gas Energy Efficiency Program Budgets

### 2011 Program Year End Results

As provided by NH PUC Order 25,315 and NH PUC Order 25,286, National Grid NH (the Company) submits its final 2011 energy efficiency natural gas programs report comparing amounts budgeted for these programs with amounts actually spent. Those comparisons are outlined in Table 1.

***Table 1.***

| 2011 Program Budget & Spend | Budget | | | Actual | Variance | |
|---|---|---|---|---|---|---|
| | As filed on 8/2/10, per DE 10-188 | Revised, per 2010 Carryover | Final, per 2011 Program Adjustments | Spend | Spend vs. Final Budget | % to Budget |
| **Residential** | | | | | | |
| Low Income | $730,895 | $808,037 | $1,068,037 | $780,919 | $(287,118) | 73% |
| High Efficiency Heating Equip | $714,464 | $768,645 | $768,645 | $684,163 | $(84,482) | 89% |
| New Home Const. w/ES | $79,355 | $101,799 | $86,799 | $104,797 | $17,988 | 121% |
| Building Practices & Demo | $25,329 | $25,329 | $20,329 | $627 | $(19,702) | 3% |
| Energy Audit w/Home Performance | $1,540,631 | $1,767,752 | $1,527,752 | $715,576 | $(812,177) | 47% |
| **Residential Total** | **$3,090,674** | **$3,471,562** | **$3,471,562** | **$2,286,081** | **$(1,185,481)** | **66%** |
| **Commercial & Industrial** | | | | | | |
| Large Retrofit | $1,856,294 | $1,856,294 | $1,856,294 | $633,352 | $(1,222,942) | 34% |
| New Equipment & Construction | $1,032,155 | $1,032,155 | $1,032,155 | $368,273 | $(663,882) | 36% |
| Small Business Energy Solutions | $286,323 | $286,323 | $286,323 | $240,859 | $(45,464) | 84% |
| **C&I Total** | **$3,174,772** | **$3,174,772** | **$3,174,772** | **$1,242,484** | **$(1,932,288)** | **39%** |
| **Grand Total** | **$6,265,446** | **$6,646,334** | **$6,646,334** | **$3,528,565** | **$(3,117,769)** | **53%** |

For reference, Table 1 includes the 2011 program year gas budgets as originally filed with the Commission on August 2, 2010, an additional amount of $380,888 from the 2010 program year which was not spent in that program year and which, pursuant to the provisions of NH PUC Order 25,189, was carried over and added to the 2011 budgets. Table 1 also reflects various transfers permitted by NH PUC Order 25,189 among the various 2011 program budgets.

Table 2 compares the Company's savings results for 2011 versus its goals.

| *Table 2.* | | | |
|---|---|---|---|
| **2011 Program Savings** | **Lifetime MMBTU Savings** | | |
| | Goal | Actual | % to Goal |
| **Residential** | | | |
| Low Income | 70,954 | 63,648 | 90% |
| High Efficiency Heating Equip | 306,840 | 183,743 | 60% |
| New Home Const. w/ES | 20,400 | 22,440 | 110% |
| Building Practices & Demo | - | - | - |
| Energy Audit w/Home Performance | 338,400 | 285,736 | 84% |
| **Residential Total** | **736,594** | **555,567** | **75%** |
| **Commercial & Industrial** | | | |
| Large Retrofit | 699,027 | 309,043 | 44% |
| New Equipment & Construction | 280,381 | 234,359 | 84% |
| Small Business Energy Solutions | 111,884 | 127,145 | 114% |
| **C&I Total** | **1,091,292** | **670,547** | **61%** |
| **Grand Total** | **1,827,886** | **1,226,114** | **67%** |

**2011 Unspent Energy Efficiency Program Funds to be Included in 2012 Program Budget**

In its 2011-2012 Winter Cost of Gas (COG) proceeding, the Company sought to credit customers, through the Local Distribution Adjustment Clause (LDAC) rate, for certain unspent Commercial & Industrial (C&I) efficiency funds from the 2010 and 2011 program years. In the NH PUC Order, the Commission allowed the Company to credit customers for the unspent 2010 funds, but directed the Company to partner with The Jordan Institute to attempt to spend the 2011 funds on viable projects that The Jordan Institute asserted existed within the Company's service territory. The Commission also directed the Company to discuss the issue of the underspend in the CORE docket (DE 10-188) and make a recommendation with regard to the unspent C&I funds.

Prior to the COG hearing, Company representatives held a number of meetings with The Jordan Institute to identify potential qualifying C&I energy efficiency projects in an effort to spend the remaining 2011C&I funds. This communication continued over the last quarter of 2011 and into 2012. These efforts, unfortunately, have yielded only one qualifying project to date.

In addition to its discussions with The Jordan Institute, during the last quarter of 2011 and the beginning of 2012, the Company took additional steps in an effort to increase its marketing of the C&I programs in order to increase participation. Those efforts included: a telemarketing campaign, periodic direct mail and electronic mail campaigns, attendance at customer events, and street canvassing. These initiatives resulted in more than 600 leads and the installation of more than 250 qualifying product savings

measures. In addition, the Company has been aggressively targeting key businesses, trade associations, builders, contractors, installers, architects and engineers.

Despite these increased marketing efforts, and based on historical and current trends in the market, the Company has concluded that it will be unable to spend the approximately $1.9 million dollars of 2011 funds that remain available as well as the funds already budgeted for 2012 for C&I energy efficiency projects. Accordingly, with respect to its unspent 2011 funds, the Company proposes to credit customers for the remaining 2011 uncommitted budget for C&I customers in the amount of $1,932,288 and for Residential customers in the amount of $898,362 through the LDAC in its 2012-2013 Winter COG rate, in accordance with NH PUC Order 25,286 and NH PUC Order 25,315. The Company further proposes to carry over $287,118 of uncommitted budget from the 2011 Residential Low Income program into the 2012 Residential Low Income program budget.

Exhibit A outlines the Company's updated program budgets and goals for 2012 reflecting these adjustments. For reference, Exhibits A, B, & D detailed in this submission are updates to the corresponding National Grid Exhibits A, B & D submitted as part of the gas utilities joint energy efficiency plan filed on August 2, 2010 in Docket No. DE 10-188.

National Grid NH's Exhibit C in DE 10-188 details program savings input assumptions. Only one modification was made to the Exhibit C: Residential Input Assumptions table to the original plan filed on August 2, 1010. That change is highlighted and is found in the Energy Audit with Home Performance program's Incremental Cost and Cost Source; the revised values have been modified to reflect more up-to-date program cost data. No changes have been made to the Exhibit C: Commercial Input Assumptions Table from the original plan filed on August 2, 2010 in Docket No. DE 10-188.

| *Exhibit A.* | 2012 Program Budget & Goals - Revised | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Internal Admin | External Admin | Rebates/ Services | Internal Impl. | Market-ing | Evalu-ation | Total | Partici-pants | Lifetime MMBTU Savings | Annual MMBTU Savings |
| **Residential** | | | | | | | | | | |
| Low Income | $23,583 | $93,755 | $1,005,678 | $0 | $0 | $0 | $1,123,016 | 377 | 102,544 | 5,127 |
| High Efficiency Htg Equip | $15,119 | $135,200 | $521,475 | $30,284 | $29,847 | $874 | $732,799 | 1,314 | 254,045 | 14,249 |
| New Home Const. w/ES | $1,824 | $30,004 | $49,844 | $3,661 | $3,213 | $80 | $88,546 | 34 | 23,120 | 925 |
| Building Practices & Demo | $471 | $4,243 | $14,600 | $942 | $2,191 | $307 | $22,754 | 10 | 0 | 0 |
| Energy Audit w/Home Performance | $34,655 | $138,114 | $1,408,000 | $69,420 | $21,981 | $8,363 | $1,680,533 | 1,408 | 389,115 | 19,456 |
| **Residential Total** | **$75,652** | **$401,316** | **$2,999,597** | **$104,307** | **$57,232** | **$9,544** | **$3,647,647** | **3,143** | **768,824** | **39,756** |
| **Commercial & Industrial** | | | | | | | | | | |
| Large Retrofit | $61,672 | $101,701 | $1,477,775 | $118,357 | $22,413 | $25,161 | $1,807,079 | 259 | 725,869 | 49,388 |
| New Equipment & Construction | $103,868 | $164,586 | $778,514 | $208,073 | $37,676 | $42,296 | $1,335,013 | 372 | 397,227 | 20,754 |
| Small Business Energy Solutions | $19,027 | $49,934 | $233,731 | $38,115 | $6,008 | $7,665 | $354,480 | 27 | 131,342 | 8,756 |
| **C&I Total** | **$184,567** | **$316,221** | **$2,490,020** | **$364,545** | **$66,097** | **$75,122** | **$3,496,571** | **658** | **1,254,438** | **78,898** |
| **Grand Total** | **$260,219** | **$717,536** | **$5,489,617** | **$468,852** | **$123,329** | **$84,666** | **$7,144,218** | **3,801** | **2,023,262** | **118,655** |

Exhibit B outlines the Company's updated 2012 Total Resource Benefit Cost Analysis based on the revised 2012 program budgets set forth in Exhibit A. The Company identified a formula error in the computations of its previously submitted and approved 2012 Program Total Resource Benefit Cost Analysis. The values in Exhibit B incorporate the corrections to the previous formula error. As a result of the error, participation levels according to planned incentive levels were not properly calculated. Accordingly, adjustments to the budget, participation, and savings levels have been made in the attached exhibit.

After applying these corrections, the Low Income program benefit cost ratio ("BCR") falls below 1.0. The primary contributing factor to the Low Income program BCR falling below 1.0 is the change to avoided gas supply costs resulting from the "Avoided Energy Supply Costs in New England: 2011 Report." Specifically, in 2011, the lifetime benefit for the Low Income program was $218.07 per MMBTU, but in 2012 that figure has been revised downward to $169.37 per MMBTU. Total benefits in 2011 were $2,965.71 but have also declined, and in 2012 are now $2,303.39. The average project costs for 2011 was $2,668 per project.

For reference, National Grid NH applies deemed savings to its Gas Low Income program benefit cost model based on the NH Residential Low Income Gas Weatherization Impact Evaluation, performed by Cadmus and submitted to National Grid and Unitil on February 16, 2010.[1]

Although the Company's Low Income program BCR is below 1.0, the Company's Residential sector-level BCR is at 1.0, meeting the minimum sector-level requirement.

**Exhibit B**
**January 1, 2012 - December 31, 2012 TRC BENEFIT COST TEST - REVISED**
**National Grid**
**Gas Energy Efficiency Programs** **Summary of Benefit, Costs Program Year 2012 (January 1, 2012 - December 31, 2012)**
**Total Resource Cost Test**

| BCR Activity | TRC Benefit/ Cost | TRC Net Benefits | Total Benefits ($000) | Total Costs ($000) | PA Costs ($000) | Participant Costs ($000) | Participant Goal | Lifetime MMBTU Savings |
|---|---|---|---|---|---|---|---|---|
| **Residential** | | | | | | | | |
| Low Income | 0.77 | -$255 | $868 | $1,123 | $1,123 | $0 | 377 | 102,544 |
| Energy Audit with Home Performance and Weatherization | 1.07 | $207 | $3,295 | $3,089 | $1,681 | $1,408 | 1,408 | 389,115 |
| Residential High-Efficiency Heating, Water-Heating, Controls Program | 1.15 | $271 | $2,062 | $1,791 | $733 | $1,058 | 1,314 | 254,045 |
| New Home Construction with Energy Star | 1.79 | $87 | $197 | $110 | $89 | $22 | 34 | 23,120 |
| Res Building Practices and Demo | NA | -$23 | $0 | $23 | $23 | $0 | 10 | - |
| Shareholder Incentive | | | | | $292 | | | |
| **Subtotal: Residential** | **1.00** | **$287** | **$6,422** | **$6,427** | **$3,939** | **$2,487** | **3,143** | **768,824** |
| **Commercial & Industrial** | | | | | | | | |
| Large C & I Retrofit Program | 1.23 | $1,076 | $5,742 | $4,665 | $1,807 | $2,858 | 259 | 725,869 |
| New Equipment and Construction Program | 1.50 | $1,072 | $3,237 | $2,164 | $1,335 | $829 | 372 | 397,227 |
| Small Business Energy Solutions Program | 1.77 | $452 | $1,040 | $588 | $354 | $234 | 27 | 131,342 |
| Shareholder Incentive | | | | | $280 | | | |
| **Subtotal: Commercial & Industrial** | **1.30** | **$2,600** | **$10,018** | **$7,698** | **$3,776** | **$3,921** | **658** | **1,254,438** |
| **Grand Total** | **1.16** | **$2,888** | **$16,441** | **$14,125** | **$7,716** | **$6,409** | **3,801** | **2,023,262** |

[1]The Company's New Hampshire gas Low Income program design and implementation is consistent with its Low Income program offerings to Massachusetts (MA) and Rhode Island (RI) gas customers. The Company's MA and RI programs include non-energy benefits in the benefit cost ratio calculation. These non-energy benefits account for nearly $500 of benefits per participant, with benefits including health and safety and arrearage reduction. Because of this difference, the Company's MA and RI programs currently pass the BCR threshold requirement.

## Exhibit C: Residential Input Assumptions

| Program | Measure | Annual MMBTU Savings | Source of Savings | Incremental Cost | Cost Source | Life time | Lifetime Source |
|---|---|---|---|---|---|---|---|
| Energy Audit with Home Performance | Weatherization measures that include insulation and air sealing and DHW. | 14.1 MMBTU | Based on average savings from January 2009 through December 2009 participation. | $2,000[1] | Average project cost was $1,500 in 2011 and audit costs $450.[2] | 20 | The New England State Program Working Group Residential and Commercial/Industrial Measure Life Report for the ISO forward capacity market, June 2007. Pg A-2. Meaasure Life for weatherization measures. |
| Low Income | New Hampshire Residential Low-Income Gas Weatherization Impact Evaluation Cadmus February 16, 2010 | 13.6 | Based on TREAT modeling of homes that participated in the Company's weatherization programs from January 2009 through December 2009. | $2,700 | Average participant rebate from January 2009 through June 2010 was $2,700. | 20 | The New England State Program Working Group Residential and Commercial/Industrial Measure Life Report for the ISO forward capacity market, June 2007. Pg A-2. Meaasure Life for weatherization measures. |
| Residential High-Efficiency Water Heating | Indirect Water Heater (attached to gas Energy Star FHW boiler) | 8.0 | NMR 2010 HEHE Eval DRAFT | $750 | GDS: VT TRM - 4/9/08 ($1350) less $600 Standard Efficiency (DEER 2008) | 20 | GDS; 'Consumer Guide to Home Energy Savings' 8th ed. ACEEE 2003 Table 6.6 |
| Residential High-Efficiency Water Heating | Stand Alone Storage Water Heater (EF 0.62) | 1.9 | ENERGY STAR® Residential Water Heaters: Final Criteria Analysis 4/1/08 pg 10 | $70 | ENERGY STAR® Residential Water Heaters: Final Criteria Analysis 4/1/08 pg 10 | 13 | ENERGY STAR® Residential Water Heaters: Final Criteria Analysis 4/1/08 pg 10 |
| Residential High-Efficiency Heating | Furnace (forced hot air) 92% AFUE w/ECM | 11.8 | NMR 2010 HEHE Eval DRAFT | $679 | NYSERDA Deemed Savings Database | 18 | Energy Star Calculation (www.energystar.gov) Energy Star Calculator - Furnace (.xls) |
| Residential High-Efficiency Heating | Furnace (forced hot air) 94% AFUE w/ECM | 14.2 | Adjusted based on results of NMR 2010 HEHE Eval DRAFT | $688 | GDS: DEER 2008 (assumed 80 kBtu furnace) | 18 | Energy Star Calculation (www.energystar.gov) Energy Star Calculator - Furnace (.xls) |
| Residential High-Efficiency Heating | Boiler (forced hot water) >=85% AFUE | 7.2 | NMR 2010 HEHE Eval DRAFT | $900 | Energy Star Calculation (www.energystar.gov) Energy Star Calculator - Boilers (.xls) | 20 | Energy Star Calculation (www.energystar.gov) Energy Star Calculator - Boilers (.xls) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Residential High-Efficiency Heating | Boiler (forced hot water) >=90% AFUE | 14.2 | NMR 2010 HEHE Eval DRAFT | $1,500 | GDS Price comparison using RSMEans 2008 data and available pricing information for Weil-McLain, Buderus and Burnham boilers | 20 | Energy Star Calculation (www.energystar.gov) Energy Star Calculator - Boilers (.xls) |
| Residential High-Efficiency Heating | Intergrated water heater/condensing boiler | 21.1 | GDS/SB Calculation; Natural Gas EE Potenital Study in MA 4/2009 | $2,185 | Summit Blue estimate; Natural Gas EE Potenital Study in MA 4/2009 | 20 | Assume the same as a boiler |
| Residential High-Efficiency Heating | Energy Star Programmable Thermostats | 7.5 | RLW Analytics-Valadating the Impacts of Programmable Thermostats, January 2007; pg 2. Conversion factor CCF to Therms is 1.024 | $92 | Energy Star Calculation (www.energystar.gov) Energy Star Calculator - ProgrammableThermostat (.xls) | 15 | Energy Star Calculation (www.energystar.gov) Energy Star Calculator - ProgrammableThermostat (.xls) |
| Residential High-Efficiency Heating | Boiler Reset Controls (retrofit/add on only) | 7.9 | ACEEE Emerging Technologies Report: Advanced Boiler Controls-September 2006 pg 2 | $300 | ACEEE Emerging Technologies Report: Advanced Boiler Controls-September 2006 pg 3 | 15 | ACEEE Emerging Technologies Report: Advanced Boiler Controls-September 2006 pg 2 |

[1]Originally filed as part of DE 10-188 on August 2, 2010 as "$2,500"

[2]Originally filed as part of DE 10-188 on August 2, 2010 as "Average participant rebate from January 2009 through December 2009 was $1,323 for weatherization and $1,345 for audit."

## Exhibit C: Residential Input Assumptions

| Program | Measure | Annual MMBTU Savings | Source of Savings | Incremental Cost | Cost Source | Life time | Lifetime Source |
|---|---|---|---|---|---|---|---|
| C&I GasNetworks | Furnace (forced hot air) 92% AFUE w/ECM | 19.6 | NYSERDA Deemed Savings Database | $679 | NYSERDA Deemed Savings Database | 18 | Energy Star Calculation (www.energystar.gov) Energy Star Calculator - Furnace (.xls) |
| C&I GasNetworks | New Hampshire Residential Low- Income Gas Weatherization Impact Evaluation Cadmus February 16, 2010 | 23.6 | GDS/SB Calculation; Natural Gas EE Potenital Study in MA 4/2009 (baseline AFUE 78%) | $688 | GDS: DEER 2008 (assumed 80 kBtu furnace) | 18 | Energy Star Calculation (www.energystar.gov) Energy Star Calculator - Furnace (.xls) |
| C&I GasNetworks | Steam Boiler <=300 mbh | 36.5 | Annual fulll load equivalent hours, 2470, estimated by Nexant, based on monthly heating degree hours for all the counties in NY weighted by populations. 75% AFUE to 80%; NYSERDA Deemed Savings Database; Program Name: Smart Equipment Choices; Measure Name: | $3,552 | DEER; NYSERDA Deemed Savings Database; Program Name: Smart Equipment Choices; Measure Name: H.STEAM-BOILER-GAS.<300000.CI._._.N | 25 | NH Potential Study; VT TRM |
| C&I GasNetworks | Condensing boiler (>90% AFUE) <= 300 mbh | 32.3 | Evaluation Study of Keyspan's Commercial and Industrial High Efficiency Heating Equipment Program - ODC Pg 40 Oct 2007; Gas savings = ((AFUEq-AFUEb)/AFUEq) x CAPY in therms/hour x EFLH; Assumed capacity of 165 MBH, 1500 EFLH, baseline of 80% going to 92% | $2,675 | Based on 'Burnham Hydronics Trade Price Book #186', Dunkirk 2008 Price Book, Lochinvar trade price 2008 and Onyx -"Metro NY All Equip" database | 25 | Efficiency Vermont Technical Reference Manual User ;TRM User Manual No. 2005-37 pg 161 |
| C&I GasNetworks | Hydronic boiler (>85% AFUE <90% AFUE) <= 300 mbh | 16.8 | Evaluation Study of Keyspan's Commercial and Industrial High Efficiency Heating Equipment Program - ODC Pg 40 Oct 2007; Gas savings = ((AFUEq-AFUEb)/AFUEq) x CAPY in therms/hour x EFLH; Assumed capacity of 190 MBH, 1500 EFLH, baseline of 80% going to 85% | $1,590 | Based on 'Burnham Hydronics Trade Price Book #186', Dunkirk 2008 Price Book, Lochinvar trade price 2008 and Onyx -"Metro NY All Equip" database | 25 | Efficiency Vermont Technical Reference Manual User ;TRM User Manual No. 2005-37 pg 161 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| C&I GasNetworks | Infrared (low intensity) | 74.4 | Based on modeled data from infrared heaters installed through Bay State Gas custom C&I energy efficiency program | $2,982 | Based on equipment installed through Bay State Gas custom C&I energy efficiency program | 17 | Measure life based on GDS Gas Potential Study for Utah (2004); NYSERDA Deemed Savings Database; Program Name: Smart Equipment Choices; Measure Name: A.INFR-UNIT-HEATER._.CI._._.N |
| C&I GasNetworks | Condensing Unit Heaters | 40.92 | Assuming input of 200,000 Bthu: Nexant's "Gas Energy Efficiency Measure Analysis to Support NYSERDA's Con Edison Gas Efficiency Program" reported in August 2005; Savings of 204.6 Mmbtu's per million Btu/hr of heater input capacity. Savings based on effici | $2,400 | Assuming 200,000 Btuh; $12,000 per million Btuh: Baseline ($13,000 per million Btuh) and retrofit ($25,000 per million Btuh) unit costs from "Analysis of Standard Options for Unit Heaters and Duct Furnaces" (PG&E, 2004).; NYSERDA Deemed Savings Database; | 18 | Natural Gas Efficiency and Conservation Measure Resource Assessment (ETO, 2003); NYSERDA Deemed Savings Database; Program Name: Smart Equipment Choices; Measure Name: A.UNIT-HEATER-COND.<300000.CI._._.N |
| C&I GasNetworks | Fryers | 58.6 | Energy Star Calculator: Assumed 150 lbs food/day and 16 hours/day (FSTC), Cooking efficiency 55% (average efficiency of all fryers that are above 50% as of 4/1/09), Idle energy 8,500 btu/hour (based on ASTM testing on PITCO and ALTO SHAAM) and pre-heat en | $3,400 | CEE; Program Design Guidance Fryers April 2009 | 12 | Food Service Technology Center http://www.fishnick.com/saveenergy/tools/calculators/gfryercalc.php |
| C&I GasNetworks | High Efficiency Gas Steamer (Energy Star >=38% efficiency) | 153.6 | Food Service Technology Center: Gas Steamer Life-Cycle Cost Calculator http://www.fishnick.com/saveenergy/tools/calculators/gsteamercalc.php | $2,000 | NYSERDA Deemed Savings Database | 10 | Food Service Technology Center: Gas Steamer Life-Cycle Cost Calculator http://www.fishnick.com/saveenergy/tools/calculators/gsteamercalc.php |
| C&I GasNetworks | High Efficiency Gas Convection Oven (>=40% efficiency) | 24.8 | CEE Tier 1, Technology Opportunity Assessment: Convection Ovens Pg 5 | $1,886 | Workpaper PGECOFST101 Commercial Convection Oven; PG&E Dec 2007 | 12 | Workpaper PGECOFST101 Commercial Convection Oven; PG&E Dec 2007 |
| C&I GasNetworks | High Efficiency Gas Combiniation Oven (>=40% efficiency) | 40.3 | Food Service Technology Center: Gas Combination Oven Life-Cycle Cost Calculator http://www.fishnick.com/saveenergy/tools/calculators/gcombicalc.php | $1,300 | NYSERDA Deemed Savings Database | 12 | Food Service Technology Center: Gas Combination Oven Life-Cycle Cost Calculator http://www.fishnick.com/saveenergy/tools/calculators/gcombicalc.php |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| C&I GasNetworks | High Efficiency Gas Conveyer Oven (>=40% efficiency) | 84.5 | Food Service Technology Center: Gas Conveyer Oven Life-Cycle Cost Calculator http://www.fishnick.com/saveenergy/tools/calculators/gconvovencalc.php | $2,100 | GDS Natural Gas EE Potenital Study in MA 4/2009; Questar 2006 DSM Market Characterization Report Appendix E - Nexant | 12 | Food Service Technology Center: Gas Conveyer Oven Life-Cycle Cost Calculator http://www.fishnick.com/saveenergy/tools/calculators/gconvovencalc.php |
| C&I GasNetworks | High Efficiency Gas Rack Oven (>=50% efficiency) | 211.3 | Food Service Technology Center: Gas Rack Oven Life-Cycle Cost Calculator http://www.fishnick.com/saveenergy/tools/calculators/grackovencalc.php | $4,000 | GDS Natural Gas EE Potenital Study in MA 4/2009 | 12 | Food Service Technology Center: Gas Rack Oven Life-Cycle Cost Calculator http://www.fishnick.com/saveenergy/tools/calculators/grackovencalc.php |
| C&I GasNetworks | High Efficiency Gas Griddle | 18.5 | Food Service Technology Center: Gas Griddle Life-Cycle Cost Calculator http://www.fishnick.com/saveenergy/tools/calculators/ggridcalc.php | $1,165 | GDS Natural Gas EE Potenital Study in MA 4/2010 | 12 | Food Service Technology Center: Gas Griddle Life-Cycle Cost Calculator http://www.fishnick.com/saveenergy/tools/calculators/ggridcalc.php |
| C&I GasNetworks | Spray Valve | 33.6 | Savings of 0.92 therms per day * 365 days per year = 335.8 therms (EM&V Report for the CA Urban Water Conservation Council Pre-Rinse Spray Head Distribution Program; SBW 2004) pg 20. Water savings of 170.7 gal/day (2.24 gallons/minute, avg daily use is 1 | $121 | Program info: Cost for Fisher Ultra Spary 2949 is $41 for the spray valve and $80 for installation | 5 | Region of Waterloo Pre-Rinse Spray Valve Pilot Study; Veritec Consulting Jan 2005; pg 8 |
| C&I GasNetworks | On demand, Tankless Water Heater >=.82, | 7.1 | FEMP Calculator for Electric & Gas Water Heater; Natural Gas EE Potential in MA; GDS 2009; Appendix B-2 page 15 | $1,198 | Natural Gas EE Potential in MA; GDS 2009; Appendix B-2 page 15 | 20 | ENERGY STAR® Residential Water Heaters: Final Criteria Analysis 4/1/08 pg 10; average of range |
| C&I GasNetworks | Indirect Water Heaters (Combined appliance efficiency rating >=85% (EF=.82) | 30.4 | Natural Gas EE Potenital Study in MA 4/2009; Gas Fired Water Heater Screening Tool Esource | $1,175 | Natural Gas EE Potential in MA; GDS 2009; Appendix B-2 page 16 | 15 | Efficiency VT Reference Manual, p 409. April 2008 Edition |
| C&I GasNetworks | Condensing Stand Alone >95% TE, >75000 btu | 25.0 | Natural Gas EE Potenital Study in MA 4/2009 GDS; Gas Fired Water Heater Screening Tool Esource | $2,340 | Natural Gas EE Potential in MA; GDS 2009; Appendix B-2 page 15 | 15 | Natural Gas EE Potenital Study in MA 4/2009 GDS;ACEEE Emerging technologies and practices, 2004: W1-pg46 |
| C&I GasNetworks | Intergrated water heater/condensing boiler (0.9 EF, 0.9 AFUE) | 24.6 | GDS/SB Calculation; Natural Gas EE Potenital Study in MA 4/2009 | $2,185 | Natural Gas EE Potenital Study in MA 4/2009 | 20 | Assume the same as a boiler |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| C&I GasNetworks | Intergrated water heater/condensing boiler (0.86 EF, 0.85 AFUE) | 20.0 | GDS/SB Calculation; Natural Gas EE Potenital Study in MA 4/2009 | $1,300 | Natural Gas EE Potenital Study in MA 4/2009 | 20 | Assume the same as a boiler |
| C&I GasNetworks | Boiler Reset Controls (retrofit/add on only) | 35.5 | GDS/SB Calculation; Natural Gas EE Potenital Study in MA 4/2010 | $993 | Natural Gas EE Potenital Study in MA 4/2009 GDS; DEER Measure Cost Summary (05_30_2008) Revised (06_02_2008) | 20 | Natural Gas EE Potential Study in MA 4/2009 GDS; CA Statewide Commercial Sector NG EE Potential Study, Study ID #SW061, Prepared for PG&E by KEMA; May 2003 Appendix D |
| New Equipment and Construction Program Custom Measures | Eligible high efficiency gas measures. | 634 | Estimated total savings for projects completed during 2010. | $5.49/therm based on 50% of project cost | Average of projects completedin 2010. | 18 | Avereage measure life of equipment installed. |
| Large C&I Retrofit Program Customer Measures | Eligible high efficiency gas measures. | 266 | Estimated total savings for projects completed during 2010. | $3.08/therm based on 50% of project cost. | Average of projects completedin 2010. | 15 | Avereage measure life of equipment installed. |
| Small Business Energy Solutions | Eligible high efficiency gas measures. | 324 | Estimated total savings for projects completed during 2010. | $2.67/therm based on 50% of project cost. | Average of projects completedin 2010. | 15 | Avereage measure life of equipment installed. |

Exhibit D outlines the Company's updated 2012 Shareholder Incentive and Benefit-Cost Ratio targets based on the revised 2012 program budgets.

**Exhibit D – Shareholder Incentive Page 1 of 2**
**National Grid NH Energy Efficiency**
**Target Shareholder Incentive**
**Year TWO – January 1, 2012 – December 31, 2012**

**Commercial/Industrial Incentive**

| | | |
|---|---|---|
| 1. | Target Benefit/Cost Ratio | 1.30 |
| 2. | Threshold Benefit/Cost Ratio | 1.00 |
| 3. | Target lifetime MMBTU | 1,254,438 |
| 4. | Threshold MMBTU | 815,384 |
| 5. | Budget | $3,496,571 |
| 6. | CE Percentage | 4.00% |
| 7. | Lifetime MMBTU Percentage | 4.00% |
| **8.** | **Target C/I Incentive** | **$279,726** |
| **9.** | **Cap** | **$419,589** |

**Residential Incentive**

| | | |
|---|---|---|
| 10. | Target Benefit/Cost Ratio | 1.00 |
| 11. | Threshold Benefit/Cost Ratio | 1.00 |
| 12. | Target lifetime MMBTU | 768,824 |
| 13. | Threshold MMBTU | 499,736 |
| | $5.49/therm based on 50% of project cost | $3,647,647 |
| | $3.08/therm based on 50% of project cost | 4.00% |
| 16. | Lifetime MMBTU Percentage | 4.00% |
| **17.** | **Target** | **$291,812** |
| **18.** | **Cap** | **$437,718** |
| **19.** | **Total Target Incentive** | **$571,537** |

**Line No. Notes:**
1, 3, 5, 10, 12, and 14. See Exhibit B
2, 6, 7, 11, 15, and 16. Report to the New Hampshire Public Utilities Commission on Rate Payer-Funded Energy Efficiency Issues in New Hampshire, Docket No. DR 96-150, page 21.
4. 65% of line 3.
8. 8% of line 5.
9. 12% of line 5.
13. 65% of line 12.
17. 8% of line 14.
18. 12% of line 14.
19. Line 8 plus line 17.

**Exhibit D – Shareholder Incentive Page 2 of 2**
**National Grid NH Energy Efficiency**
**Target Benefit-Cost Ratio by Sector**
**Year TWO – January 1, 2012 – December 31, 2012**

| **Commercial/Industrial:** | **Planned** |
|---|---|
| 1. Benefits (Value) From Eligible Programs | $10,018,382 |
| 2. Implementation Expenses | $3,496,571 |
| 3. Customer Contribution | $3,921,475 |
| 4. Shareholder Incentive | $279,726 |
| 5. Total Costs Including Shareholder Incentive | **$7,697,771** |
| 6. Benefit/Cost Ratio – C&I Sector | **1.30** |
| **Residential:** | |
| 7. Benefits (Value) From Eligible Programs | $6,422,485 |
| 8. Implementation Expenses | $3,647,647 |
| 9. Customer Contribution | $2,487,388 |
| 10. Shareholder Incentive | $291,812 |
| 11. Total Costs Including Shareholder Incentive | **$6,426,847** |
| 12. Benefit/Cost Ratio – Residential Sector | **1.00** |

**Line No. Notes:**
1-4 and 7-11. See Exhibit B.
5. Sum of lines 2-4.
6. Line 1 divided by line 5. The shareholder incentive mechanism described by the New Hampshire Energy Efficiency Working Group and approved by the Commission in Order No. 23,574 includes a circular calculation. A portion of the earned shareholder incentive is related to the benefit/cost ratio (BCR). However, the shareholder incentive is supposed to be included as an EE cost in determining the BCR. For the purpose of calculating the shareholder incentive, the Company has calculated the planned BCR including the shareholder incentive for one iteration and will compare the actual BCR including the shareholder incentive to the planned BCR including shareholder incentives when determining the earned incentive.
11. Sum of lines 7-10.
12. Line 7 divided by line 11. The shareholder incentive mechanism described by the New Hampshire Energy Efficiency Working Group and approved by the Commission in Order No. 23,574 includes a circular calculation. A portion of the earned shareholder incentive is related to the benefit/cost ratio. However, the shareholder incentive is supposed to be included as an EE cost in determining the benefit/cost ratio. For the purpose of calculating the shareholder incentive, the Company has calculated the planned benefit/cost ratio including the shareholder incentive for one iteration and will compare the actual benefit/cost ratio including the shareholder incentive to the planned benefit/cost ratio including shareholder incentives when determining the earned shareholder incentive.

**Key Factors Influencing Proposal**

The Company is proposing to carry over available low income program funds from 2011 to 2012, but credit customers for unspent funds from the 2011 C&I and residential customer programs based on the following factors affecting its programs across its gas portfolio:

- With respect to its Residential Low Income program, in November of 2011 the Company reallocated program funds from the Energy Audit with Home Performance program, Building Practices and Demo program and New Home Construction with Energy Star program to Low Income. This reallocation of funds was based on feedback from the Communication Action Agencies (CAAs) that sufficient opportunities and customer demand existed to fully leverage such additional funds. However, due to timing of the transfer of those funds so close to the end of the calendar year, the CAAs were unable to complete all the work before year end and were thus unable to fully utilize the available budget in 2011. The CAAs have indicated they have sufficient customer demand and project opportunities to leverage these 2011 carryover funds as well as the existing 2012 Residential Low Income program budget in 2012.
- The Energy Audit with Home Performance program experienced the largest spending shortfall versus budget within the residential programs in 2011, leveraging 47% of its program budget and realizing 84% of its savings target. While efficient from a spend-to-savings ratio, the program experienced significant challenges primarily with residential multi-family units, which represented approximately 82% of the program's unit and savings participation targets. The Company's lead vendor cited difficulties in capturing multi-family unit commitments because the existing incentive levels of 75% of the cost up to a maximum of $750 was insufficient to drive customer participation. This was compounded by the fact that natural gas prices have been low, reducing the incentive for customers to undertake energy efficiency measures. For 2012, the incentive for multi-family units has been modified to 50% of the cost up to a maximum of $4,000 which, the Company and its lead vendor anticipate, when coupled with more aggressive marketing will result in stronger performance in 2012. Even with these changes, the Company believes meeting the existing program targets will still be a challenge.
- The Residential High Efficiency Heating equipment program utilized 89% of its program budget in 2011. The New Hampshire gas utilities offer the same equipment rebate levels as the member companies of the GasNetworks collaborative. Beginning in 2012 a number of previously eligible high efficiency furnace and boiler models were eliminated from eligibility for the program. Also, several equipment model rebate levels have been reduced. Based on these changes, the Company believes meeting its existing 2012 targets will be a challenge.
- The New Home Construction with Energy Star program exceeded its spending and savings targets in 2011. While performing strongly last year, the Company anticipates a much more difficult year for the program in 2012. As seen with National Grid's electric-territory ENERGY STAR Homes program in 2011, which experienced several building project cancellations and lack of customer demand, the continued slow recovery of the housing market is dampening expectations for the Company's program performance in 2012.
- As previously noted, the Company believes the recent low natural gas prices have lessened non-residential customer interest in its program, particularly with the large natural gas users. Beginning in September of 2011, the Company began several aggressive direct customer marketing efforts including direct mail, email and outbound calling to all of its 10,400 C&I gas customers. These efforts generated more than 600 customer leads and helped play a key role in the Company substantially increasing its Small Business program performance at the end of the year, finishing at 84% of budget and 114% of its savings target. However, the Company lost several large-scale C&I gas customer project opportunities during the fourth quarter of 2011 due to incentive levels that were inadequate to drive participation. Since neither of these factors is likely to change, the Company projects having another challenging year in 2012 relative to meeting its goals. The Company's increased marketing outreach has continued into 2012 and it has been working more closely with various trade partners and business associations to increase

awareness of its energy efficiency programs and helping customers identify qualifying energy efficiency measures. The Company has explored offering enhancements to its current incentive offerings and has engaged in preliminary discussion of these potential concepts with the business community as well as with the NH PUC Staff. Because of the Company's difficulties in securing C&I customer energy efficiency project commitments, it believes the existing 2012 program budgets are more than sufficient to meet any customer demand.