

2009 Energy Efficiency Annual Report

Boston Gas Company, Colonial Gas Company, and

Essex Gas Company

d/b/a

NATIONAL GRID

Docket: D.P.U. 10-__

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nationalgrid

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NATIONAL GRID

SUMMARY OF 2009 PROGRAM ACTIVITY

The 2009 Energy Efficiency Annual Report (EEAR) documents the performance of the energy efficiency programs and services implemented by Boston Gas Company, Colonial Gas Company and Essex Gas Company d/b/a National Grid (“National Grid” or the “Company”). In 2009, National Grid continued to implement energy efficiency programs and services for its customers. The 2009 efforts built upon the Company’s established programmatic framework and marketplace relationships, refining the focus of the programs to meet explicit market-oriented objectives and increasing coordination and cooperation with other Massachusetts utilities and other market participants.

This report presents the results of National Grid’s residential, low-income, and commercial and industrial (C&I) gas energy efficiency programs for calendar year 2009. The programs are summarized below in Table 1.

Table 1. Energy Efficiency Programs

Residential Market	
High-Efficiency Heating Equipment Program	\$1,000 incentive for ENERGY STAR® labeled boilers (90% AFUE), \$500 incentive for ENERGY STAR® labeled boilers (85% AFUE), \$200 incentive for steam boilers (with electronic ignition, 82% AFUE), \$400 incentive for high-efficiency furnaces (92% AFUE) with ECM Motor, \$100 incentive on furnaces (92% AFUE) and \$1,600 incentive for qualifying Micro Combined Heat and Power units
High-Efficiency Water Heating Program	\$50 incentive for ENERGY STAR® water heaters (may be split between customers and contractors), \$300 incentive for indirect water heating system connected to an ENERGY STAR® rated natural gas forced hot water boiler and \$300 for instantaneous/tankless water heaters (EF 0.82 with an electronic ignition)
ENERGY STAR® Advanced Residential Controls Program	\$25 incentive each for up to two ENERGY STAR® labeled programmable thermostats. \$100 for boiler reset controls.
New Home Construction with ENERGY STAR® Program	Free building plans review and certification for new ENERGY STAR® residential construction, in cooperation with Massachusetts electric companies.
ENERGY STAR® Replacement Windows Program	\$10.00 each for qualifying ENERGY STAR® labeled windows (U-factor ¹ of 0.35 or less).
Residential Weatherization Program	Incentive of 20%-75% of installed cost of qualifying insulation and weatherization measures installed by participating contractors up to \$2000.

¹ The U-Factor is a measurement of thermal conductivity. A lower U-factor indicates a higher level of window insulation.

Residential Low Income Program	Energy audit conducted and measures installed (up to \$4,500 per residence) at no cost to income eligible customers (up to 200% of federal poverty level or below 60% of median state income).
Energy Analysis: Internet Audit Program	Free online energy analysis service that makes customized energy efficiency recommendations based on a customer's energy consumption profile.
Residential Building Practices and Demonstration Program	Participate in funding for demonstration projects that apply to new or underutilized technologies.
Multifamily and Commercial & Industrial Markets	
C&I High-Efficiency Heating Equipment Program	Incentives up to \$6,000 for high-efficiency furnaces (92% AFUE), boilers (85% thermal efficiency) or steam boilers (82% thermal efficiency).
Multifamily Housing Program	Customers are eligible for an Energy Efficiency Assessment, Custom Audit, Technical Assistance or New Construction Assistance. Customers may be eligible for incentives of \$1.00 per first year estimated therm savings, up to \$100,000 for retrofits and up to \$250,000 for new construction. Programs are targeted to the audience they serve. Building Practices & Demonstration, The Emerald Network and the Economic Redevelopment program utilize the same delivery and rebate structure as described here.
Commercial Energy Efficiency Program	
Building Practices & Demonstration Program	Participate in funding for demonstration projects that apply to new or underutilized technologies.
Economic Redevelopment Program	Matching grants for energy saving measures in commercial properties in designated Economic Redevelopment areas.
Business Energy Analyzer Program	Free online energy analysis service that makes customized energy efficiency recommendations based on a commercial customer's energy consumption profile.
Codes Training Outreach etc.	
Trade Ally Training and Codes & Standards Program	Energy management training sessions targeted to individuals responsible for the maintenance and operation of equipment and systems in commercial buildings, industrial plants, and public facilities. Provide information and training on energy efficiency issues to plumbing & heating contractors, builders, architects, engineers, realtors, appraisers and others.

The results for the Company's energy efficiency programs for 2009 are presented in a series of tables. Per the Department of Public Utilities (the "Department"), the Company is providing two versions of Tables 3 through 7: version A of Tables 3 through 7 reflects original plan estimates filed and approved in D.P.U. 08-109; version B reflects updated plan estimates consistent with the Company's request for additional funding for the 2009 programs in D.P.U. 09-92, which is pending before the Department.

Table 2 summarizes the detailed annual expenditure of the programs, as well as actual participation and savings.

Table 3 provides details of the planned program budgets, participation, and savings. Table 3A contains information consistent with that submitted by the Company as part of discovery in D.P.U. 08-109, specifically the Company's response to Information Request DPU 2-41.

Table 4 documents the value created by the 2009 energy efficiency programs. This table shows that efforts in 2009 created over \$143 million of value through achieved energy savings. Table 4 also provides the Total Resource Cost (TRC) benefit/cost ratio for each program, by sector (C&I, Low Income, and Residential), and for the entire portfolio of energy efficiency programs implemented in 2009. The programs were cost effective with an overall benefit/cost ratio of 1.97 (1.98 in version A).

While Table 4 shows that the benefit-cost ratio for the Commercial Building Practices and Demonstration Program was less than 1, the intent underlying this program is to establish successful applications of new or underutilized energy efficient procedures, processes, or technologies. The 2009 program was planned to be cost-effective, however, some of the actual projects are cost-effective and some are not. For example, one project that received an incentive in 2009 was a Combined Heat and Power (“CHP”) fuel cell, with a total project cost of \$1.8 million, much greater than the expected planned average cost of \$109,000. This caused the program benefit-cost ratio to be less than 1.

The difference in cost effectiveness results between versions A and B is that the achieved incentive varies between the two scenarios. Because of higher actual spending in 2009, the achieved incentive for two programs hits the capped performance percentage set in DPU 08-109. Under the updated plan proposed in D.P.U. 09-92, higher spending and participation targets factor into the performance percentage cap not being reached.

Table 5 provides the planned benefits, costs, and benefit/cost ratio. Table 5A contains revised cost-effectiveness information submitted by the Company as part of discovery in D.P.U. 08-109, specifically the Company’s response to Information Request DPU 2-41. Note that both Tables 5A and 5B use pre tax incentive in the total resource costs.

Table 6 shows the 2009 year-end performance for the C&I, low-income, and residential programs compared to annual spending, participation, and savings targets. Overall, the Company achieved 142% of the savings goal and 120% of the participation goal while spending 144% of the planned budget in 2009. Table 6 also documents the Company’s 2009 performance-based before tax incentive of \$1,548,226 for performance relative to the original plan and \$1,441,417 for performance relative to the revised plan per D.P.U. 09-92. This calculation follows the methodology prescribed by the Department in the proceeding regarding the Company’s 2008 Energy Efficiency Annual Report (D.P.U. 09-140) in information request DPU 3-1.

Table 7 presents the variance analysis requested by the Department.

Appendix 1 contains a progress report on various items of interest as requested by the Department in the Hearing Officer Memorandum of June 22, 2010. A common reporting template was used by all Program administrators; consequently, some of the items in the report are not applicable to the gas energy efficiency programs, but are included nevertheless. Appendix 2 contains a narrative to accompany the variance analysis in Table 7.

National Grid
Energy Efficiency Programs

Table 2 - Summary of 2009 Year-End Results
January 1, 2009 - December 31, 2009

Residential Program Summary

Program	Customer Incentives Expenditures	Program Implementation Expenditures	Program Planning & Administration Expenditures	Program Marketing Expenditures	Evaluation & Market Research Expenditures	Trade Ally Training	Gas Networks/ Collaborative Expenditures	Total	Actual Participants	Actual Annual Therms
Residential High-Efficiency Heating, Water-Heating, Controls Program	\$ 5,698,511	\$ 301,682	\$ 381,701	\$ 226,071	\$ 73,875	\$ 7,378	\$ 381,789	\$ 7,071,007	18,732	2,020,350
ENERGY STAR® Replacement Windows Program	\$ 170,680	\$ 9,623	\$ 15,195	\$ 7,819	\$ 1,650	\$ -	\$ 11,699	\$ 216,666	1,591	33,001
Residential Weatherization Program	\$8,105,437	\$ 208,234	\$ 422,608	\$ 257,875	\$ 74,039	\$ -	\$ -	\$ 9,068,193	5,768	2,122,624
New Home Construction with ENERGY STAR	\$ 249,665	\$ 226,642	\$ 83,196	\$ 84	\$ 4,676	\$ -	\$ -	\$ 564,263	419	154,404
Residential Building Practices and Demonstration Program	\$ 36,097	\$ 942	\$ 28,620	\$ 596	\$ 554	\$ -	\$ -	\$ 66,809	23	3,105
Energy Analysis: Internet Audit Program	\$ -	\$ 140,997	\$ 6,037	\$ 4,282	\$ 1,228	\$ -	\$ -	\$ 152,543	5,857	0
Total	\$ 14,260,390	\$ 888,120	\$ 937,358	\$ 496,727	\$ 156,022	\$ 7,378	\$ 393,488	\$ 17,139,482	30,799	4,300,483

Low Income Program Summary

Program	Customer Incentives Expenditures	Program Implementation Expenditures	Program Planning & Administration Expenditures	Program Marketing Expenditures	Evaluation & Market Research Expenditures	Trade Ally Training	Gas Networks/ Collaborative Expenditures	Total	Actual Participants	Actual Annual Therms
Residential Low Income Program	\$ 3,749,208	\$ 1,205,273	\$ 6,826	\$ 101,033	\$ 260	\$ -	\$ -	\$ 5,062,601	1,186	153,032

Commercial and Industrial Program Summary

Program	Customer Incentives Expenditures	Program Implementation Expenditures	Program Planning & Administration Expenditures	Program Marketing Expenditures	Evaluation & Market Research Expenditures	Trade Ally Training	Gas Networks/ Collaborative Expenditures	Total	Actual Participants	Actual Annual Therms
Commercial High-Efficiency Heating Program	\$ 793,822	\$ 103,701	\$ 181,611	\$ 27,073	\$ 8,527	\$ -	\$ 56,079	\$ 1,170,813	980	544,847
Commercial Energy Efficiency Program	\$ 3,394,821	\$ 509,396	\$ 837,262	\$ 102,844	\$ 72,304	\$ 11,320	\$ -	\$ 4,927,947	1,201	2,477,719
Commercial Building Practices and Demonstration Program	\$ 331,161	\$ 24,339	\$ 71,686	\$ 9,705	\$ 3,122	\$ -	\$ -	\$ 440,013	11	143,575
Business Energy Analyzer	\$ -	\$ 69,892	\$ 13,976	\$ 1,307	\$ 609	\$ -	\$ -	\$ 85,783	106	0
Builder Operator Certification	\$ -	\$ -	\$ 11,723	\$ 227	\$ 87	\$ 200	\$ -	\$ 12,237	33	0
Total	\$ 4,519,804	\$ 707,328	\$ 1,116,258	\$ 141,155	\$ 84,649	\$ 11,520	\$ 56,079	\$ 6,636,793	2,331	3,166,141
Grand Total- All Programs	\$ 22,529,402	\$ 2,800,721	\$ 2,060,442	\$ 738,915	\$ 240,931	\$ 18,898	\$ 449,567	\$ 28,838,876	34,316	7,619,655

National Grid
Energy Efficiency Programs

Table 3A - Summary of 2009 Original Planned Budget, Participation and Savings
January 1, 2009 - December 31, 2009

Residential Program Summary

Program	Customer Incentives Expenditures	Program Implementation Expenditures	Program Planning & Administration Expenditures	Program Marketing Expenditures	Evaluation & Market Research Expenditures	Trade Ally Training	Gas Networks/ Collaborative Expenditures	Total	Participants	Total Therm Savings
Residential High-Efficiency Heating, Water-Heating, Controls Program	\$ 3,625,750	\$ 151,979	\$ 438,163	\$ 150,000	\$ 227,715	\$ 104,400	\$ 84,000	\$ 4,782,006	14,645	1,594,375
ENERGY STAR® Replacement Windows Program	\$ 456,000	\$ 37,240	\$ 80,000	\$ 54,400	\$ 32,762	\$ 3,600	\$ 24,000	\$ 688,002	3,040	106,400
Residential Weatherization Program	\$ 1,725,696	\$ 38,400	\$ 42,000	\$ 36,000	\$ 95,561	\$ 69,120	\$ -	\$ 2,006,777	1,300	478,400
New Home Construction with ENERGY STAR	\$ 200,000	\$ 140,000	\$ 40,800	\$ 30,000	\$ 21,140	\$ 12,000	\$ -	\$ 443,940	420	81,430
Residential Building Practices and Demonstration Program	\$ 36,000	\$ 30,000	\$ 81,654	\$ 18,000	\$ 8,403	\$ 2,400	\$ -	\$ 176,457	30	0
Energy Analysis: Internet Audit Program	\$ -	\$ 159,725	\$ 21,958	\$ 18,000	\$ 9,984	\$ -	\$ -	\$ 209,667	7,000	0
Total	\$ 6,043,446	\$ 557,343	\$ 704,574	\$ 306,400	\$ 395,564	\$ 191,520	\$ 108,000	\$ 8,306,848	26,435	2,260,605

Low Income Program Summary

Program	Customer Incentives Expenditures	Program Implementation Expenditures	Program Planning & Administration Expenditures	Program Marketing Expenditures	Evaluation & Market Research Expenditures	Trade Ally Training	Gas Networks/ Collaborative Expenditures	Total	Participants	Total Therm Savings
Residential Low Income Program	\$ 3,404,800	\$ 1,040,960	\$ 384,000	\$ 96,000	\$ 250,848	\$ 91,200	\$ -	\$ 5,267,808	1,140	161,880

Commercial and Industrial Program Summary

Program	Customer Incentives Expenditures	Program Implementation Expenditures	Program Planning & Administration Expenditures	Program Marketing Expenditures	Evaluation & Market Research Expenditures	Trade Ally Training	Gas Networks/ Collaborative Expenditures	Total	Participants	Total Therm Savings
Commercial High-Efficiency Heating Program	\$ 550,000	\$ 109,000	\$ 100,000	\$ 35,500	\$ 42,825	\$ 50,000	\$ 12,000	\$ 899,325	544	261,324
Commercial Energy Efficiency Program	\$ 3,502,600	\$ 645,000	\$ 453,000	\$ 119,500	\$ 236,005	\$ -	\$ -	\$ 4,956,105	770	2,554,440
Commercial Building Practices and Demonstration Program	\$ 328,104	\$ 36,000	\$ 75,000	\$ 20,000	\$ 22,955	\$ -	\$ -	\$ 482,059	6	149,784
Business Energy Analyzer	\$ -	\$ 55,000	\$ 8,000	\$ 25,000	\$ 4,400	\$ -	\$ -	\$ 92,400	1,000	0
Builder Operator Certification	\$ 20,000	\$ 25,000	\$ 5,000	\$ 5,000	\$ 2,750	\$ -	\$ -	\$ 57,750	40	0
Total	\$ 4,400,704	\$ 870,000	\$ 641,000	\$ 205,000	\$ 308,935	\$ 50,000	\$ 12,000	\$ 6,487,639	2,360	2,965,980
Grand Total- All Programs	\$ 13,848,950	\$ 2,468,304	\$ 1,729,574	\$ 607,400	\$ 955,347	\$ 332,720	\$ 120,000	\$ 20,062,295	29,935	5,388,465

National Grid
Energy Efficiency Programs

Table 3B - Summary of 2009 Updated Planned Budget, Participation, and Savings
January 1, 2009 - December 31, 2009

Residential Program Summary

Program	Customer Incentives Expenditures	Program Implementation Expenditures	Program Planning & Administration Expenditures	Program Marketing Expenditures	Evaluation & Market Research Expenditures	Trade Ally Training	Gas Networks/ Collaborative Expenditures	Total	Participants	Total Therm Savings
Residential High-Efficiency Heating, Water-Heating, Controls Program	\$ 6,415,620	\$ 301,126	\$ 860,722	\$ 150,000	\$ 227,715	\$ 104,400	\$ 222,424	\$ 8,282,007	20,638	2,220,848
ENERGY STAR® Replacement Windows Program	\$ 456,000	\$ 37,240	\$ 80,000	\$ 54,400	\$ 32,762	\$ 3,600	\$ 24,000	\$ 688,002	3,040	106,400
Residential Weatherization Program	\$8,591,750	\$ 172,346	\$ 42,000	\$ 36,000	\$ 95,561	\$ 69,120	\$ -	\$ 9,006,777	5,686	2,092,448
New Home Construction with ENERGY STAR	\$ 200,000	\$ 140,000	\$ 40,800	\$ 30,000	\$ 21,140	\$ 12,000	\$ -	\$ 443,940	420	81,430
Residential Building Practices and Demonstration Program	\$ 36,000	\$ 30,000	\$ 81,654	\$ 18,000	\$ 8,403	\$ 2,400	\$ -	\$ 176,457	30	0
Energy Analysis: Internet Audit Program	\$ -	\$ 159,725	\$ 21,958	\$ 18,000	\$ 9,984	\$ -	\$ -	\$ 209,667	7,000	0
Total	\$ 15,699,370	\$ 840,437	\$ 1,127,134	\$ 306,400	\$ 395,565	\$ 191,520	\$ 246,424	\$ 18,806,849	36,814	4,501,126

Low Income Program Summary

Program	Customer Incentives Expenditures	Program Implementation Expenditures	Program Planning & Administration Expenditures	Program Marketing Expenditures	Evaluation & Market Research Expenditures	Trade Ally Training	Gas Networks/ Collaborative Expenditures	Total	Participants	Total Therm Savings
Residential Low Income Program	\$ 3,404,800	\$ 1,040,960	\$ 384,000	\$ 96,000	\$ 250,848	\$ 91,200	\$ -	\$ 5,267,808	1,140	161,880

Commercial and Industrial Program Summary

Program	Customer Incentives Expenditures	Program Implementation Expenditures	Program Planning & Administration Expenditures	Program Marketing Expenditures	Evaluation & Market Research Expenditures	Trade Ally Training	Gas Networks/ Collaborative Expenditures	Total	Participants	Total Therm Savings
Commercial High-Efficiency Heating Program	\$ 550,000	\$ 109,000	\$ 100,000	\$ 35,500	\$ 42,825	\$ 50,000	\$ 12,000	\$ 899,325	550	261,324
Commercial Energy Efficiency Program	\$ 3,502,600	\$ 645,000	\$ 453,000	\$ 119,500	\$ 236,005	\$ -	\$ -	\$ 4,956,105	770	2,554,440
Commercial Building Practices and Demonstration Program	\$ 328,104	\$ 36,000	\$ 75,000	\$ 20,000	\$ 22,955	\$ -	\$ -	\$ 482,059	6	149,784
Business Energy Analyzer	\$ -	\$ 55,000	\$ 8,000	\$ 25,000	\$ 4,400	\$ -	\$ -	\$ 92,400	1,000	0
Builder Operator Certification	\$ 20,000	\$ 25,000	\$ 5,000	\$ 5,000	\$ 2,750	\$ -	\$ -	\$ 57,750	40	0
Total	\$ 4,400,704	\$ 870,000	\$ 641,000	\$ 205,000	\$ 308,935	\$ 50,000	\$ 12,000	\$ 6,487,639	2,366	2,965,548
Grand Total- All Programs	\$ 23,504,873	\$ 2,751,397	\$ 2,152,134	\$ 607,400	\$ 955,348	\$ 332,720	\$ 258,424	\$ 30,562,296	40,320	7,628,554

National Grid
Energy Efficiency Programs

Table 4A - Summary of 2009 Achieved Cost Effectiveness, relative to Original Plan
Benefit/Cost Ratios by Program
January 1, 2009 through December 31, 2009

Residential Program Detail

Program	Actual TRC Benefits	Actual Utility Costs	Achieved Pre-Tax Incentive	Participant Costs	Total Resource Cost B/C Ratio
Residential High-Efficiency Heating, Water-Heating, Controls Program	\$37,887,939	\$7,071,007	\$639,910	\$6,919,286	2.59
ENERGY STAR® Replacement Windows Program	\$1,402,378	\$216,666	\$0	\$208,819	3.30
Residential Weatherization Program	\$44,121,213	\$9,068,193	\$820,651	\$4,686,740	3.03
New Home Construction with ENERGY STAR	\$2,000,696	\$564,263	\$46,312	\$244,472	2.34
Residential Building Practices and Demonstration Program	\$0	\$66,809	\$4,214	\$0	0.00
Energy Analysis: Internet Audit Program	\$0	\$152,543	\$10,501	\$0	0.00
Total	\$85,412,227	\$17,139,482	\$1,521,587	\$12,059,316	2.78

Low Income Program Detail

Program	Actual TRC Benefits	Actual Utility Costs	Achieved Pre-Tax Incentive	Participant Costs	TRC B/C Ratio
Residential Low Income Program	\$8,206,772	\$5,062,601	\$433,310	-	1.49

Commercial and Industrial Program Detail

Program	Actual TRC Benefits	Actual Utility Costs	Achieved Pre-Tax Incentive	Participant Costs	TRC B/C Ratio
Commercial High-Efficiency Heating Program	\$11,834,911	\$1,170,813	\$105,956	\$1,744,976	3.92
Commercial Energy Efficiency Program	\$35,825,498	\$4,927,947	\$445,968	\$25,565,556	1.16
Commercial Building Practices and Demonstration Program	\$2,075,960	\$440,013	\$39,820	\$2,236,759	0.76
Business Energy Analyzer	\$0	\$85,783	\$0	\$0	0.00
Builder Operator Certification	\$0	\$12,237	\$831		0.00
Total	\$49,736,369	\$6,636,793	\$592,575	\$29,547,291	1.35
TOTAL ALL PROGRAMS	\$143,355,368	\$28,838,876	\$2,547,472	\$41,606,607	1.96

Benefit/cost ratios have been calculated in accordance with the guideline established in D.T.E. Docket 98-100 using the Total Resource Cost Test.

National Grid
Energy Efficiency Programs

Table 4B - Summary of 2009 Achieved Cost Effectiveness, relative to Updated Plan
Benefit/Cost Ratios by Program
January 1, 2009 through December 31, 2009

Residential Program Detail

Program	Actual TRC Benefits	Actual Utility Costs	Achieved Pre-Tax Incentive	Participant Costs	Total Resource Cost B/C Ratio
Residential High-Efficiency Heating, Water-Heating, Controls Program	\$37,887,939	\$7,071,007	\$528,011	\$6,919,286	2.61
ENERGY STAR® Replacement Windows Program	\$1,402,378	\$216,666	\$0	\$208,819	3.30
Residential Weatherization Program	\$44,121,213	\$9,068,193	\$756,805	\$4,686,740	3.04
New Home Construction with ENERGY STAR	\$2,000,696	\$564,263	\$46,312	\$244,472	2.34
Residential Building Practices and Demonstration Program	\$0	\$66,809	\$4,214	\$0	0.00
Energy Analysis: Internet Audit Program	\$0	\$152,543	\$10,501	\$0	0.00
Total	\$85,412,227	\$17,139,482	\$1,345,843	\$12,059,316	2.80

Low Income Detail

Program	Actual TRC Benefits	Actual Utility Costs	Achieved Pre-Tax Incentive	Participant Costs	TRC B/C Ratio
Residential Low Income Program	\$8,206,772	\$5,062,601	\$433,310	-	1.49

Commercial and Industrial Detail

Program	Actual TRC Benefits	Actual Utility Costs	Achieved Pre-Tax Incentive	Participant Costs	TRC B/C Ratio
Commercial High-Efficiency Heating Program	\$11,834,911	\$1,170,813	\$105,956	\$1,744,976	3.92
Commercial Energy Efficiency Program	\$35,825,498	\$4,927,947	\$445,968	\$25,565,556	1.16
Commercial Building Practices and Demonstration Program	\$2,075,960	\$440,013	\$39,820	\$2,236,759	0.76
Business Energy Analyzer	\$0	\$85,783	\$0	\$0	0.00
Builder Operator Certification	\$0	\$12,237	\$831		0.00
Total	\$49,736,369	\$6,636,793	\$592,575	\$29,547,291	1.35
TOTAL ALL PROGRAMS	\$143,355,368	\$28,838,876	\$2,371,727	\$41,606,607	1.97

Benefit/cost ratios have been calculated in accordance with the guideline established in D.T.E. Docket 98-100 using the Total Resource Cost Test.

National Grid
Energy Efficiency Programs

Table 5A - Summary of 2009 Planned Cost Effectiveness, Original Plan
Benefit/Cost Ratios by Program
January 1, 2009 through December 31, 2009

Residential Sector Programs												
PROGRAMS	Sector	NPV of BENEFITS					NPV of COSTS					B/C Ratio
		Electric	Energy Dripe	Gas	Other	Program Total	Administrative	Rebates	Customer	Pre Tax Incentive	Program Total	TRC
Residential High-Efficiency Heating, Water-Heating, Controls Program	Residential	\$ 1,742,295	\$ 108,022	\$ 27,761,242	\$ -	\$ 29,611,559	\$ 1,156,256	\$ 3,625,750	\$ 5,396,696	\$ 393,419	\$ 10,572,121	2.80
ENERGY STAR® Replacement Windows Program	Residential	\$ -	\$ -	\$ 2,679,592	\$ -	\$ 2,679,592	\$ 232,002	\$ 456,000	\$ 399,000	\$ 56,602	\$ 1,143,604	2.34
Residential Weatherization Program	Residential	\$ -	\$ -	\$ 9,944,101	\$ -	\$ 9,944,101	\$ 281,081	\$ 1,725,696	\$ 1,056,304	\$ 165,099	\$ 3,228,180	3.08
New Home Construction with ENERGY STAR	Residential	\$ -	\$ -	\$ 2,020,923	\$ -	\$ 2,020,923	\$ 243,940	\$ 200,000	\$ 254,152	\$ 36,523	\$ 734,615	2.75
Residential Building Practices and Demonstration Program	Residential	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 140,457	\$ 36,000	\$ -	\$ 14,517	\$ 190,974	-
Energy Analysis: Internet Audit Program	Residential	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 209,667	\$ -	\$ -	\$ 17,249	\$ 226,916	-
Residential Sector Subtotals: (NPV \$)		\$ 1,742,295	\$ 108,022	\$ 42,405,858	\$ -	\$ 44,256,175	\$ 2,263,402	\$ 6,043,446	\$ 7,106,152	\$ 683,410	\$ 16,096,410	2.75
Low Income Sector Programs												
PROGRAMS	Sector	NPV of BENEFITS					NPV of COSTS					B/C Ratio
		Electric	Energy Dripe	Gas	Other	Program Total	Administrative	Rebates	Customer	Pre Tax Incentive	Program Total	TRC
Residential Low Income Program	Low Income	\$ -	\$ -	\$ 3,364,864	\$ 4,523,601	\$ 7,888,466	\$ 1,863,008	\$ 3,404,800	\$ -	\$ 433,386	\$ 5,701,194	1.38
Commercial Sector Programs												
PROGRAMS	Sector	NPV of BENEFITS					NPV of COSTS					B/C Ratio
		Electric	Energy Dripe	Gas	Other	Program Total	Administrative	Rebates	Customer	Pre Tax Incentive	Program Total	TRC
Commercial High-Efficiency Heating Program	C/I	\$ 9,081	\$ 994	\$ 5,616,786	\$ -	\$ 5,626,862	\$ 349,325	\$ 550,000	\$ 788,712	\$ 73,988	\$ 1,762,025	3.19
Commercial Energy Efficiency Program	C/I	\$ -	\$ -	\$ 36,934,810	\$ -	\$ 36,934,810	\$ 1,453,505	\$ 3,502,600	\$ 6,604,733	\$ 407,742	\$ 11,968,580	3.09
Commercial Building Practices and Demonstration Program	C/I	\$ -	\$ -	\$ 2,165,736	\$ -	\$ 2,165,736	\$ 153,955	\$ 328,104	\$ 328,104	\$ 39,659	\$ 849,823	2.55
Business Energy Analyzer	C/I	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 92,400	\$ -	\$ -	\$ 7,602	\$ 100,002	-
Builder Operator Certification	C/I	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 37,750	\$ 20,000	\$ -	\$ 4,751	\$ 62,501	-
C/I Sector Subtotals: (NPV \$)		\$ 9,081	\$ 994	\$ 44,717,333	\$ -	\$ 44,727,408	\$ 2,086,935	\$ 4,400,704	\$ 7,721,549	\$ 533,742	\$ 14,742,931	3.03
Total: (NPV \$)		\$ 1,751,376	\$ 109,016	\$ 90,488,055	\$ 4,523,601	\$ 96,872,049	\$ 6,213,345	\$ 13,848,950	\$ 14,827,701	\$ 1,650,538	\$ 36,540,535	2.65

National Grid
Energy Efficiency Programs

Table 5B - Summary of 2009 Planned Cost Effectiveness, Updated Plan
Benefit/Cost Ratios by Program
January 1, 2009 through December 31, 2009

Residential Programs												
PROGRAMS	Sector	NPV of BENEFITS					NPV of COSTS					B/C Ratio
		Electric	Energy Dripe	Gas	Other	Program Total	Administrative	Rebates	Customer	Pre Tax Incentive	Program Total	TRC
Residential High-Efficiency Heating, Water-Heating, Controls Program	Residential	\$ 1,941,066	\$ 117,654	\$ 39,142,763	\$ -	\$ 41,201,484	\$ 1,866,387	\$ 6,415,620	\$ 6,945,630	\$ 681,366	\$ 15,909,003	2.59
ENERGY STAR® Replacement Windows Program	Residential	\$ -	\$ -	\$ 2,679,592	\$ -	\$ 2,679,592	\$ 232,002	\$ 456,000	\$ 399,000	\$ 56,602	\$ 1,143,604	2.34
Residential Weatherization Program	Residential	\$ -	\$ -	\$ 43,493,970	\$ -	\$ 43,493,970	\$ 415,027	\$ 8,591,750	\$ 4,486,254	\$ 740,994	\$ 14,234,024	3.06
New Home Construction with ENERGY STAR	Residential	\$ -	\$ -	\$ 2,020,923	\$ -	\$ 2,020,923	\$ 243,940	\$ 200,000	\$ 254,152	\$ 36,523	\$ 734,615	2.75
Residential Building Practices and Demonstration Program	Residential	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 140,457	\$ 36,000	\$ -	\$ 14,517	\$ 190,974	-
Energy Analysis: Internet Audit Program	Residential	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 209,667	\$ -	\$ -	\$ 17,249	\$ 226,916	-
Residential Sector Subtotals: (NPV \$)		\$ 1,941,066	\$ 117,654	\$ 87,337,248	\$ -	\$ 89,395,968	\$ 3,107,479	\$ 15,699,370	\$ 12,085,036	\$ 1,547,252	\$ 32,439,137	2.76
Low Income Sector Programs												
PROGRAMS	Sector	NPV of BENEFITS					NPV of COSTS					B/C Ratio
		Electric	Energy Dripe	Gas	Other	Program Total	Administrative	Rebates	Customer	Pre Tax Incentive	Program Total	TRC
Residential Low Income Program	Low Income	\$ -	\$ -	\$ 3,364,864	\$ 4,523,601	\$ 7,888,466	\$ 1,863,008	\$ 3,404,800	\$ -	\$ 433,386	\$ 5,701,194	1.38
Commercial Sector Programs												
PROGRAMS	Sector	NPV of BENEFITS					NPV of COSTS					B/C Ratio
		Electric	Energy Dripe	Gas	Other	Program Total	Administrative	Rebates	Customer	Pre Tax Incentive	Program Total	TRC
Commercial High-Efficiency Heating Program	C/I	\$ 9,081	\$ 994	\$ 5,616,786	\$ -	\$ 5,626,862	\$ 349,325	\$ 550,000	\$ 788,712	\$ 73,988	\$ 1,762,025	3.19
Commercial Energy Efficiency Program	C/I	\$ -	\$ -	\$ 36,934,810	\$ -	\$ 36,934,810	\$ 1,453,505	\$ 3,502,600	\$ 6,604,733	\$ 407,742	\$ 11,968,580	3.09
Commercial Building Practices and Demonstration Program	C/I	\$ -	\$ -	\$ 2,165,736	\$ -	\$ 2,165,736	\$ 153,955	\$ 328,104	\$ 328,104	\$ 39,659	\$ 849,823	2.55
Business Energy Analyzer	C/I	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 92,400	\$ -	\$ -	\$ 7,602	\$ 100,002	-
Builder Operator Certification	C/I	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 37,750	\$ 20,000	\$ -	\$ 4,751	\$ 62,501	-
C/I Sector Subtotals: (NPV \$)		\$ 9,081	\$ 994	\$ 44,717,333	\$ -	\$ 44,727,408	\$ 2,086,935	\$ 4,400,704	\$ 7,721,549	\$ 533,742	\$ 14,742,931	3.03
Total: (NPV \$)		\$ 1,950,148	\$ 118,648	\$ 135,419,445	\$ -	\$ 142,011,842	\$ 7,057,422	\$ 23,504,873	\$ 19,806,585	\$ 2,514,381	\$ 52,883,262	2.69

National Grid
Energy Efficiency Programs

Table 6A - Summary of 2009 Year-End Results and Shareholder Incentive Calculation, relative to Original Plan
January 1, 2009 - December 31, 2009

Residential Program Summary

Program	Total Expenditures	Planned Budget	Actual Participation	Planned Participation	Actual Performance Percentage	Capped Performance Percentage	Achieved After-Tax Performance Incentive	Achieved Pre-Tax Incentive	Actual Savings	Planned Savings	Savings Units
Residential High-Efficiency Heating, Water-Heating, Controls Program	\$7,071,007	\$4,782,006	18,732	14,645	128%	110%	\$388,905	\$639,910	2,020,350	1,594,375	therms
ENERGY STAR® Replacement Windows Program	\$216,666	\$688,002	1,591	3,040	52%	0%	\$0	\$0	33,001	106,400	therms
Residential Weatherization Program	\$9,068,193	\$2,006,777	5,768	1,300	444%	110%	\$498,751	\$820,651	2,122,624	478,400	therms
New Home Construction with ENERGY STAR	\$564,263	\$443,940	419	420	100%	100%	\$28,146	\$46,312	154,404	81,430	therms
Residential Building Practices and Demonstration Program	\$66,809	\$176,457	23	30	77%	77%	\$2,561	\$4,214	3,105	0	therms
Energy Analysis: Internet Audit Program	\$152,543	\$209,667	5,857	7,000	84%	84%	\$6,382	\$10,501	0	0	
Total	\$17,139,482	\$8,306,848	32,390	26,435	123%		\$924,745	\$1,521,587	4,333,483	2,260,605	

Low Income Program Summary

Program	Total Expenditures	Planned Budget	Actual Participation	Planned Participation	Actual Performance Percentage	Capped Performance Percentage	Achieved After-Tax Performance Incentive	Achieved Pre-Tax Incentive	Actual Savings	Planned Savings	Savings Units
Residential Low Income Program	\$5,062,601	\$5,267,808	1,186	1,140	104%	104%	\$263,344	\$433,310	153,032	161,880	therms

Commercial and Industrial Program Summary

Program	Total Expenditures	Planned Budget	Actual Participation	Planned Participation	Actual Performance Percentage	Capped Performance Percentage	Achieved After-Tax Performance Incentive	Achieved Pre-Tax Incentive	Actual Savings	Planned Savings	Savings Units
Commercial High-Efficiency Heating Program	\$1,170,813	\$899,325	980	544	180%	110%	\$64,395	\$105,956	544,847	261,324	therms
Commercial Building Practices and Demonstration Program	\$4,927,947	\$4,956,105	1,201	770	156%	110%	\$271,037	\$445,968	2,477,719	2,554,440	therms
Business Energy Analyzer	\$85,783	\$92,400	106	1,000	11%	0%	\$0	\$0	0	0	participants
Builder Operator Certification	\$12,237	\$57,750	33	40	83%	83%	\$505	\$831	0	0	therms
Total	\$6,636,793	\$6,487,639	2,331	2,360	99%		\$360,137	\$592,575	3,166,141	2,965,548	
Grand Total - All Programs	\$28,838,876	\$20,062,295	35,907	29,935	120%		\$1,548,226	\$2,547,472	7,652,656	5,388,033	

After-tax Incentive Calculation for each program as directed in DPU 09-140, Information Request 3-1

Actual Performance Percentage = Actual Participation/Planned Participation

If Actual Performance Percentage < 75%, Capped Performance Percentage = 0; if Actual Performance Percentage > 110%, Capped Performance Percentage = 110%

After Tax Incentive = Total Expenditures x 5% x Capped Performance Percentage

National Grid
Energy Efficiency Programs

**Table 6B - Summary of 2009 Year-End Results and Shareholder Incentive Calculation, relative to Updated Plan
January 1, 2009 - December 31, 2009**

Residential Program Summary

Program	Total Expenditures	Planned Budget	Actual Participation	Planned Participation	Actual Performance Percentage	Capped Performance Percentage	Achieved After-Tax Performance Incentive	Achieved Pre-Tax Incentive	Actual Savings	Planned Savings	Savings Units
Residential High-Efficiency Heating, Water-Heating, Controls Program	\$7,071,007	\$8,282,007	18,732	20,638	91%	91%	\$320,899	\$528,011	2,020,350	2,220,848	therms
ENERGY STAR® Replacement Windows Program	\$216,666	\$688,002	1,591	3,040	52%	0%	\$0	\$0	33,001	106,400	therms
Residential Weatherization Program	\$9,068,193	\$9,006,777	5,768	5,686	101%	101%	\$459,948	\$756,805	2,122,624	2,092,448	therms
New Home Construction with ENERGY STAR	\$564,263	\$443,940	419	420	100%	100%	\$28,146	\$46,312	154,404	81,430	therms
Residential Building Practices and Demonstration Program	\$66,809	\$176,457	23	30	77%	77%	\$2,561	\$4,214	3,105	0	therms
Energy Analysis: Internet Audit Program	\$152,543	\$209,667	5,857	7,000	84%	84%	\$6,382	\$10,501	0	0	
Total	\$17,139,482	\$18,806,849	32,390	36,814	88%		\$817,936	\$1,345,843	4,333,483	4,501,126	

Low Income Program Summary

Program	Total Expenditures	Planned Budget	Actual Participation	Planned Participation	Actual Performance Percentage	Capped Performance Percentage	Achieved After-Tax Performance Incentive	Achieved Pre-Tax Incentive	Actual Savings	Planned Savings	Savings Units
Residential Low Income Program	\$5,062,601	\$5,267,808	1,186	1,140	104%	104%	\$263,344	\$433,310	153,032	161,880	therms

Commercial and Industrial Program Summary

Program	Total Expenditures	Planned Budget	Actual Participation	Planned Participation	Actual Performance Percentage	Capped Performance Percentage	Achieved After-Tax Performance Incentive	Achieved Pre-Tax Incentive	Actual Savings	Planned Savings	Savings Units
Commercial High-Efficiency Heating Program	\$1,170,813	\$899,325	980	544	180%	110%	\$64,395	\$105,956	544,847	261,324	therms
Commercial Energy Efficiency Program	\$4,927,947	\$4,956,105	1,201	770	156%	110%	\$271,037	\$445,968	2,477,719	2,554,440	therms
Commercial Building Practices and Demonstration Program	\$440,013	\$482,059	11	6	183%	110%	\$24,201	\$39,820	143,575	149,784	therms
Business Energy Analyzer	\$85,783	\$92,400	106	1,000	11%	0%	\$0	\$0	0	0	participants
Builder Operator Certification	\$12,237	\$57,750	33	40	83%	83%	\$505	\$831	0	0	therms
Total	\$6,636,793	\$6,487,639	2,331	2,360	99%		\$360,137	\$592,575	3,166,141	2,965,548	
Grand Total - All Programs	\$28,838,876	\$30,562,296	35,907	40,314	89%		\$1,441,417	\$2,371,727	7,652,656	7,628,554	

After-tax Incentive Calculation for each program as directed in DPU 09-140, Information Request 3-1

Actual Performance Percentage = Actual Participation/Planned Participation

If Actual Performance Percentage < 75%, Capped Performance Percentage = 0; if Actual Performance Percentage > 110%, Capped Performance Percentage = 110%

After Tax Incentive = Total Expenditures x 5% x Capped Performance Percentage

National Grid
Energy Efficiency Programs

Table 7A - 2009 Variance Analysis, Original Budget

Residential Program Summary

Program	Actual Expenditures	Planned Budget	Cost Variance	Actual Savings	Planned Savings	Savings Variance	Actual Benefits	Planned Benefits	Benefits Variance
Residential High-Efficiency Heating, Water Heating, Controls Program	\$7,071,007	\$4,782,006	48%	2,020,350	1,594,375	27%	\$37,887,939	\$29,611,559	28%
ENERGY STAR® Replacement Windows Program	\$216,666	\$688,002	69%	33,001	106,400	69%	\$1,402,378	\$2,679,592	48%
Residential Weatherization Program	\$9,068,193	\$2,006,777	352%	2,122,624	478,400	344%	\$44,121,213	\$9,944,101	344%
New Home Construction with ENERGY STAR	\$564,263	\$443,940	27%	154,404	81,430	90%	\$2,000,696	\$2,020,923	1%
Residential Building Practices and Demonstration Program	\$66,809	\$176,457	62%	3,105	0	n/a	\$0	\$0	n/a
Energy Analysis: Internet Audit Program	\$152,543	\$209,667	27%	0	0	n/a	\$0	\$0	n/a
Total Residential	\$17,139,482	\$8,306,848	106%	4,333,483	2,260,605	92%	\$85,412,227	\$44,256,175	93%
Low Income Program Summary									
Program									
Residential Low Income Program	\$5,062,601	\$5,267,808	4%	153,032	161,880	5%	\$8,206,772	\$7,888,466	4%
Commercial and Industrial Program Summary									
Program									
Commercial High-Efficiency Heating Program	\$1,170,813	\$899,325	30%	544,847	261,324	108%	\$11,834,911	\$5,626,862	110%
Commercial Energy Efficiency Program	\$4,927,947	\$4,956,105	1%	2,477,719	2,554,440	3%	\$35,825,498	\$36,934,810	3%
Commercial Building Practices and Demonstration Program	\$440,013	\$482,059	9%	143,575	149,784	4%	\$2,075,960	\$2,165,736	4%
Business Energy Analyzer	\$85,783	\$92,400	7%	0	0	n/a	\$0	\$0	n/a
Builder Operator Certification	\$12,237	\$57,750	79%	0	0	n/a	\$0	\$0	n/a
Total	\$6,636,793	\$6,487,639	2%	3,166,141	2,965,548	7%	\$49,736,369	\$44,727,408	11%
Grand Total- All Programs	\$28,838,876	\$20,062,295	44%	7,652,656	5,388,033	42%	\$143,355,368	\$96,872,049	48%

National Grid
Energy Efficiency Programs

Table 7B - 2009 Variance Analysis, Updated Budget

Residential Program Summary

Program	Actual Expenditures	Planned Budget	Cost Variance	Actual Savings	Planned Savings	Savings Variance	Actual Benefits	Planned Benefits	Benefits Variance
Residential High-Efficiency Heating, Water Heating, Controls Program	\$7,071,007	\$8,282,007	15%	2,020,350	2,220,848	9%	\$37,887,939	\$41,201,484	8%
ENERGY STAR® Replacement Windows Program	\$216,666	\$688,002	69%	33,001	106,400	69%	\$1,402,378	\$2,679,592	48%
Residential Weatherization Program	\$9,068,193	\$9,006,777	1%	2,122,624	2,092,448	1%	\$44,121,213	\$43,493,970	1%
New Home Construction with ENERGY STAR	\$564,263	\$443,940	27%	154,404	81,430	90%	\$2,000,696	\$2,020,923	1%
Residential Building Practices and Demonstration Program	\$66,809	\$176,457	62%	3,105	0	n/a	\$0	\$0	n/a
Energy Analysis: Internet Audit Program	\$152,543	\$209,667	27%	0	0	n/a	\$0	\$0	n/a
Total Residential	\$17,139,482	\$18,806,849	9%	4,333,483	4,501,126	4%	\$85,412,227	\$89,395,968	4%
Low Income Program Summary									
Program									
Residential Low Income Program	\$5,062,601	\$5,267,808	4%	153,032	161,880	5%	\$8,206,772	\$7,888,466	4%
Commercial and Industrial Program Summary									
Program									
Commercial High-Efficiency Heating Program	\$1,170,813	\$899,325	30%	544,847	261,324	108%	\$11,834,911	\$5,626,862	110%
Commercial Energy Efficiency Program	\$4,927,947	\$4,956,105	1%	2,477,719	2,554,440	3%	\$35,825,498	\$36,934,810	3%
Commercial Building Practices and Demonstration Program	\$440,013	\$482,059	9%	143,575	149,784	4%	\$2,075,960	\$2,165,736	4%
Business Energy Analyzer	\$85,783	\$92,400	7%	0	0	n/a	\$0	\$0	n/a
Builder Operator Certification	\$12,237	\$57,750	79%	0	0	n/a	\$0	\$0	n/a
Total	\$6,636,793	\$6,487,639	2%	3,166,141	2,965,548	7%	\$49,736,369	\$44,727,408	11%
Grand Total- All Programs	\$28,838,876	\$30,562,296	6%	7,652,656	7,628,554	0%	\$143,355,368	\$142,011,842	1%

APPENDIX 1

PROGRESS REPORT AND UPDATE ON COMPLIANCE ITEMS

**Progress Report and Updates on Compliance Items
Consistent with the Department's Orders in**

**D.P.U. 09-116, D.P.U. 09-117, D.P.U. 09-118, D.P.U. 09-119, D.P.U. 09-120, D.P.U. 09-121,
D.P.U. 09-122, D.P.U. 09-123, D.P.U. 09-124, D.P.U. 09-125, D.P.U. 09-126, D.P.U. 09-127,
D.P.U. 09-128**

On January 28, 2010, the Department of Public Utilities (“Department”) issued Orders in D.P.U. 09-116 through D.P.U. 09-128, approving Energy Efficiency Plans for 2010 through 2012 filed by the Massachusetts Program Administrators. In these Orders, and in a June 22, 2010 Hearing Officer Memorandum, the Department included directives regarding information that the Program Administrators are required to include in their 2009 Energy Efficiency Annual Reports, as follows:

1. a status update on the evaluation, measurement and verification study regarding free ridership and spillover. Gas Three Year Plan Order at 124-125.
2. a progress report on the development of consistent statewide program planning and administrative cost categories, including the identification of unresolved issues. Electric Three-Year Plan Order at 45; Gas Three-Year Plan Order at 42.
3. a progress report on the development of avoided cost factors that improve the reliability of transmission and distribution benefits as well as an explanation of any differences in the models and underlying assumptions by Program Administrators (to be included in the benefit/cost ratio for the next three-year plans). Electric Three-Year Plan Order at 54.
4. documentation regarding efforts to secure outside funding for 2011 and 2012. Electric Three-Year Plan Order at 69; Gas Three-Year Plan Order at 62.
5. the results of the non-electric benefits study that is to be conducted in 2010. Electric Three-Year Plan Order at 130-131; Gas Three-Year Plan Order at 121.
6. a progress report on the development of updated and fully documented assumptions regarding savings from heating oil measures and other non-electric benefits. Electric Three-Year Plan Order at 131.
7. either a copy of the Technical Reference Manual, or if the Technical Reference Manual is not available as of the filing date, a report that details its current status and anticipated completion date.

The Massachusetts Energy Efficiency Program Administrators are pleased to provide the Department and all interested stakeholders with the following up-to-date information on these issues.

1. Evaluation, Measurement & Verification Study on Free Ridership and Spillover

An entity named PA Consulting was selected to conduct this study. A kick-off meeting was held on June 15, 2010. The 2010 initiative is to review the existing methodology developed in 2003 for determining Free Ridership and Spillover in the C&I Sector. This new initiative will entail a broader study of how to measure what results would have occurred absent the program. Although the new initiative may ultimately conclude that Free Ridership and Spillover are still the most valid methodologies, other methods, such as looking at comparison areas, will be investigated. This portion of the study is to be completed in December 2010.

For residential programs, the Program Administrators plan to assess free-ridership, spillover and/or net savings in the individual residential process and impact evaluation studies which will be conducted jointly. For some programs, such as residential lighting, an overall net to gross ratio will be developed, while for other programs individual free-ridership and spillover values will be determined.

2. Consistent Statewide Program Planning & Administrative Cost Categories

A Program Administrator working group, dedicated to ensuring consistent statewide Program Planning & Administrative (“PP&A”) cost categories, has identified some discrepancies among the Program Administrators regarding how costs are assigned to certain categories.

The most significant difference is in the category in which internal labor and related expenses are assigned. Some Program Administrators are assigning all internal labor and related expenses to the PP&A cost category. Other Program Administrators are assigning some internal labor and related expenses (specifically for staff members dedicated to marketing, sales technical assistance and training, or evaluation measurement and verification (“EM&V”)) to the Marketing, Sales Technical Assistance & Training or EM&V cost categories.

The only other discrepancy identified by the working group was that some Program Administrators are assigning database tracking improvements to the PP&A cost category, while others are assigning this cost to the Sales, Training and Technical Assistance cost category.

A follow-up meeting of the working group will be held in August 2010 (prior to 2011 mid-term modification plan filings) to determine a consistent approach to tracking these types of expenses and to set a timeframe to implement a consistent statewide approach.

3. Avoided Cost Factors to Improve Reliability of Transmission and Distribution Benefits

I. Introduction

In 2005, the Program Administrators contracted ICF International, Inc. (“ICF”) to develop a tool to calculate the benefits on the transmission and distribution (“T&D”) systems as a result of the

energy efficiency programs that are offered. As part of the 2009 Avoided Energy Supply Cost (“AESC”) Avoided Cost Analysis, Synapse Energy Economics, Inc. reviewed ICF’s tool and identified inconsistencies in how each Program Administrator utilizes the tool.

Below is a progress report related to Synapse’s comments. They are categorized according to spreadsheet errors and input inconsistencies. Some of the points lead to simple fixes or updates, while others will need collaboration and consensus among the Program Administrators.

Synapse’s report focused on models used by National Grid and NSTAR Electric. As these two Program Administrators work through these issues, they will share their findings and recommendations with the other Program Administrators to increase consistency in the valuation of T&D benefits.

II. Spreadsheet Errors

1. “Insurance expense. The ICF model incorrectly cites page 323, line 156 of the FERC form 1 as the source of Total Plant Annual Insurance Costs. The correct citation is page 323, line 185 of the FERC form 1”
 - As noted by Synapse, National Grid and NSTAR Electric have corrected the citation in their spreadsheets.

2. Carrying charge calculation. “The ICF model spreadsheet contains cell-reference errors that excludes depreciation expense and the cost of capital from the distribution carrying charge, but adds in the state income tax rate.”
 - As noted by Synapse, National Grid corrected all three errors on its spreadsheet.
 - NSTAR Electric has corrected its model so that Line 7 of Carrying Charge Schedule 3 (DS) sums the percentages found on lines 1 through 6 and that it matches the formula used on Line 7 of Carrying Charge Schedule 3 (TR).

3. Financing Errors. Synapse pointed out two financing errors having to do with the calculation of income taxes and interest deductions. First, Synapse noted that WACC is already adjusted for taxes but in the formula below, it appears that the WACC is again multiplied (and further reduced) by the effective state and federal income tax rate. Synapse also questioned the use of real versus nominal interest rates and return on equity

$$(Tf \div (1 - Tf)) * (WACC + de - 1 / life) * (1 - Rr * Fd / WACC)$$

Symbol	Description	Line
<i>Tf</i>	Effective State & Federal Income Tax Rate	Line 1f
<i>WACC</i>	After Tax Cost of Financing	Line 1
<i>de</i>	Depreciation Expense	Line 4

<i>Life</i>	Depreciation Life	Line 4a
<i>Rr</i>	Real interest rate on debt	Line 1b
<i>Fd</i>	Share of project financed through debt	Line 1a

- National Grid and NSTAR Electric are awaiting clarification from Synapse due to contradicting suggestions in the report. In one instance, Synapse suggests that the income tax expense formula use the real interest rate, and in another point suggests that income tax be assessed using the nominal value.
- The tax expense formula is not the same for both transmission and distribution. The transmission tax expense formula uses the nominal interest rate, whereas the distribution tax expense formula uses the real interest rate. These formulae need to be reconciled.
- National Grid and NSTAR Electric are awaiting further clarification from Synapse before taking action to correct either of these formulae.

III. Input Inconsistencies

1. T&D Inputs and Capital Investments. Synapse noted that both National Grid and NSTAR Electric used equal lives for transmission and distribution plants. NSTAR Electric used a life of 30 years, while National Grid used 45 years. Synapse argued that a transmission plant generally has a longer average life than a distribution plant, and that the use of equal lives is non-standard.
 - National Grid and NSTAR Electric have recalculated the average life by first dividing the depreciation expense for the current calendar year by the average plant value of the two most recent calendar years to determine the depreciation rate. The ratio of 1 divided by the depreciation rate is equal to the average life.
 - As a result, National Grid's new average life for a distribution plant is 26 years, and the average life for a transmission plant is 45 years. National Grid is waiting to hear back from the plant accounting department on how often these inputs should be updated.
 - NSTAR Electric's new average life is 31 years for a distribution plant and 45 years for a transmission plant when using average gross plant value to determine the depreciation rate.
 - These calculations will be company-specific, but all Program Administrators should use a consistent formula for calculating average life.

2. Percentage of capital investments avoidable due to increasing load. According to Synapse, NSTAR Electric's treatment of 100% of investments avoidable is implausible, while National Grid's usage of 25% seems too low.
 - National Grid will review its percentage for 2011. National Grid typically looked at its capital budget and determined that transmission and distribution expenses labeled as new business or load relief were the types of expenses deemed "avoidable." The calculation needs to be updated for 2011, but National Grid does not expect the percentage to vary greatly from the 25%.
 - Synapse misinterpreted NSTAR Electric's input of 100% for avoidable investment. NSTAR Electric already excluded the non-avoidable costs in its capital investment figures on a year by year basis. That calculation was conducted outside of the model and then inputted for each year. This method differs slightly from National Grid where a single average percentage was applied to the sum of the incremental investments across all years. The average percentage used by NSTAR Electric is approximately 23% for distribution and 34% for transmission.
3. Weighting of historical and forecast investment costs. Synapse has suggested that summing historical and forecast investment and dividing by the sum of historical and forecast load growth (as National Grid does) may yield a more accurate result than the inputting of specific weighting factors as allowed for by ICF. NSTAR Electric uses the weighting method as recommended by ICF.
 - Reconciliation of this issue has not yet been discussed.
4. Load Growth Assumptions. Synapse noted that the basis for the load forecast and the DSM savings estimates should be consistent. Since DSM savings are generally estimated for normal peak weather, the divisor in the \$/kW computation should be normal peak growth.
 - National Grid is currently using normal peak load data in its analysis. NSTAR is currently using actual peak load data in its analysis; Reconciliation of this issue has not yet been discussed.
5. Avoidable Operations & Maintenance ("O&M") Costs. Avoidable O&M expenses will vary from company to company. However, ICF does not offer any explanations for the percentages they loaded in the tool. Synapse suggested that avoidable O&M expenses should be more in line with the percentage of avoidable capital investments due to increasing load. The line with the greatest variance between National Grid and NSTAR falls under transmission O&M: (565) – Transmission of Electricity by Others. NSTAR had 0% of this cost as avoidable, while National Grid had 100% of this cost as avoidable.

- In the past, National Grid supported the treatment of these costs as 100% avoidable, per ICF's original recommendation because energy efficiency has a direct relationship with lowering the amount of transmission of electricity by others—the more energy efficiency there is, the less transmission by others is necessary. In practice, there are considerations which suggest the percentage should be lowered:
 - ⇒ Geographic. For example, if most of the Energy Efficiency actions/measures are implemented in the eastern part of Massachusetts, but the majority of transmission of electricity by others occurs in the western part of Massachusetts, then not all of those transmission costs are avoidable.
 - ⇒ Corporate Accounting. Utilities also collect revenue for transmitting electricity on behalf of other utilities. This revenue will offset some of the costs and this could be reflected by modifying the percentage avoidable downward.
- Taking the above into consideration, National Grid proposes lowering its percentage of avoidable costs for Transmission of Electricity by Others from 100% to 20%.
- NSTAR Electric supports the use of 0% for avoidable O&M costs in the category of Transmission of Electricity by Others. NSTAR Electric believes that this is a generation-related cost and therefore not avoidable as transmission. Effective energy efficiency measures, as they relate to this category, decrease the need for additional generation investment the benefit of which is incorporated in avoided generation costs.
- Further reconciliation of these assumptions has not been discussed

4. Efforts to secure outside funding for 2011 and 2012

As the Program Administrators were developing their Three-Year Plans, and prior to the Department's final orders on the Three-Year Plans, the Program Administrators were engaged in initial discussions with the Department of Energy Resources, members of the Energy Efficiency Advisory Council, other interested parties, and the banking industry regarding outside financing (i.e., loans that are to be repaid) and funding (i.e., grants/funds that directly off-set program costs and that do not need to be repaid) with specific attention to the following:

- discovering lessons learned from other utilities across the nation;
- having on-going discussions with customers and lending institutions to develop prescriptive and customized financing solutions for energy efficiency investments; and

- engaging consultants supporting financing for this industry.

Based on these initial efforts, in the Three-Year Plans for electric and gas Program Administrators, statewide targets for outside financing and funding were established for 2011 and 2012 at the following levels: \$100 million for the 2011 electric budgets and \$20 million for the 2011 gas budgets; and \$200 million for the 2012 electric budgets and \$40 million for the 2012 gas budgets, with the operating assumption in each instance that 60% of such total amounts would be in the form of funding and 40% of such amounts would be in the form of financing. In its January 28, 2010 Orders on the electric and gas Three-Year Plans, the Department instructed the Program Administrators to provide documentation of their efforts to secure outside funding in this annual report. The following narrative provides such documentation of ongoing efforts to secure both outside funding and, closely related thereto, outside financing. These efforts continue and will help inform any midterm modifications that will be proposed at the Department by the Program Administrators after review with the Energy Efficiency Advisory Council (“EEAC”). The Program Administrators and the EEAC’s consultants have adopted a proposed target date of October 29, 2010 for the filing of any proposed midterm modifications with the Department. (As of this date, the Program Administrators do not have midterm modifications for effect in 2011 that they are currently proposing, but will continue to work with the EEAC and, where applicable, the D.P.U. 08-50 Annual Report Working Group, on potential modifications.)

As discussed in more detail below, with respect to financing, the Program Administrators have segmented the market to better understand customer needs and have identified specific financial tools that are readily available and can be adapted and adopted for Massachusetts. The Program Administrators have engaged in extensive efforts in the Department of Energy Resources (“DOER”) On-Bill Repayment (“OBR”) Working Group, which efforts yielded a detailed report dated May 10, 2010, which is attached as Attachment A, and which provides extensive information on OBR options. The Program Administrators have also engaged in requests for information (“RFI”) and requests for proposal (“RFP”) activities related to outside financing. Further, the Program Administrators have met extensively with banks, lenders, state agencies, and industry experts to pursue effective financing opportunities and these efforts, including efforts with the Massachusetts Bankers Association, actively continue.

As discussed in more detail below and in Attachments B and C, following the Department’s Orders, over the last several months, the Program Administrators have also coordinated with each other and with several EEAC members and organizations to identify and pursue grants for funding. Obtaining grants to help off-set energy efficiency charges for customers has presented a challenge for the Program Administrators, as nearly all current federal grants for energy efficiency have been exhausted. However, the Program Administrators continue to work with councilors and multiple other interested parties in identifying alternative approaches to accessing grant funding. Among other efforts, the Program Administrators have researched, identified, and contacted multiple possible funding sources at the federal, state, and private level. Detailed documentation of outside funding sources reviewed that have been prepared by National Grid (Attachment B) and by NSTAR (Attachment C) illustrate the depth of this effort, with over 70 possible government grants and multiple possible private foundation grants identified.

Relatedly, the Program Administrators have reviewed Internal Revenue Code matters related to funding and optimal approaches to securing outside grants, including looking to match customers with customized grant opportunities. The Program Administrators are engaged with the Northeast Energy Efficiency Partnership (“NEEP”) to ensure that they have not missed any potential funding opportunities, and will continue to pursue outside funding aggressively. Nonetheless, to date, material new government sources of outside funding (such as “cap and trade” initiatives under discussion as the Three-Year Plans were in development) have not materialized and securing material outside funding remains a challenge for the Program Administrators and other interested parties.

The following chronology highlights the Program Administrators’ activities regarding efforts to secure outside funding and financing. The bulleted items represent key initiatives, and reflect significant work undertaken by the Program Administrators in pursuit of these activities:

December 2009/January 2010:

Starting in December 2009, the Program Administrators actively participated in the DOER’s OBR Working Group and have collaboratively worked with other stakeholders to develop “business rules” for on-bill repayments for residential and small C&I customer segments. Program Administrators have also extensively participated in the Rental OBR task force convened by the DOER. There have been over twelve such OBR meetings since December, and they have continued through July.

In addition, during December 2009, NSTAR initiated discussions with other utilities nationally regarding OBR programs and success/failures.

With regard to outside funding, NSTAR and National Grid, in collaboration with the DOER, applied for Federal Energy Efficiency Conservation Block Grants.

February 2010:

National Grid initiates a Request for Information process regarding the availability of federal funds. National Grid identifies and sends the RFI to 45 banks, investment firms and specialty finance firms.

NSTAR determines that OBR has not been tested on a large scale anywhere in the country. Only California has OBR for small business on a limited basis. Other jurisdictions are only pilot phases. Manitoba Hydro (Canada) has an OBR program, backed by customer dollars and has a safety clause for banks at risk to customers. NSTAR investigates Metrus Energy for Large C&I financing.

The Program Administrators continue to be engaged in the OBR Working Group providing DOER with a consensus memorandum on key issues on February 9, 2010, and, where applicable, collaboratively exchanging funding and financing information based on their efforts. This collaboration is a hallmark of the Program Administrators’ efforts and has continued through the present and benefits all Program Administrators.

March 2010:

National Grid chooses to continue conversations with the top five respondents to their RFI. They are each invited to present their financing solutions.

NSTAR reaches out to the National Renewable Energy Laboratory for federal financing for customers. NSTAR also reaches out to the Mass Bankers Association to gauge local interest in energy efficiency financing. NSTAR explores financing for municipalities, universities, schools and hospitals. The Cape Light Compact engaged in the Property Assessed Clean Energy (“PACE”) program. New England Gas Company reaches out to a major local lender with experience in lending in the economically challenged and unique New England Gas Company service area.

The Program Administrators review and discuss financing presentation of DOER made at the March EEAC meeting.

The Program Administrators continue to be engaged in the OBR Working Group and continue collaboration efforts.

April 2010:

NSTAR makes its first presentation to the Mass Bankers Association. NSTAR/Metrus identify possible pilot project financing.

NSTAR and National Grid support MIT’s request to secure a \$129 million multi-year grant for its Center for Advancement of Building Systems.

National Grid meets with all five respondents to its RFI, which include four leading banks and a firm that specializes in the securitization of “non-regular” loans.

The Program Administrators continue to be engaged in the OBR Working Group and continue collaborative efforts, including an ad hoc Program Administrator group focusing on financing solutions.

May 2010:

NSTAR, National Grid and DOER actively participate in the American Council for an Energy Efficient Economy’s financing conference in Chicago to learn about different approaches currently employed nationally relating to energy efficiency financing.

NSTAR and National Grid submit a bid to the City of Boston’s Renew Boston program and secure a \$900,000 grant for small C&I customers.

The Program Administrators continue to be engaged in the OBR Working Group and continue collaborative efforts, including drafting work led by NSTAR on an RFP for a financial consultant for all Program Administrators.

June 2010:

The Program Administrators host a second meeting with the Mass Bankers Association. The meeting is a success, with local banks expressing interest in the energy efficiency market. NSTAR reaches out to Mass Credit Union League for similar meeting. National Grid reaches out to the Small Business Administration. NSTAR issues an RFP for a financial consultant on behalf of all Program Administrators. NSTAR and National Grid host a technology and finance seminar for C&I customers on energy efficiency finance options and benefits. The Berkshire Gas Company engages with a leading local credit union, with expertise in serving customers in Western Massachusetts, and internally reviews possible issuance of a targeted request for proposals.

National Grid invites the DOER to meet with the Wall Street Securitization Firm identified through the Company's RFI.

The Program Administrators continue to be engaged in the OBR Working Group and continue collaborative efforts. After detailed comments from the Program Administrators, a report of the OBR Working Group is submitted to the EEAC on May 10, 2010, and is provided herein as Attachment A.

July 2010:

The Mass Bankers Association invites the Program Administrators to an internal meeting and both decide to initiate a task force to develop energy efficiency-specific financing. NSTAR initiates conversation with Bank of America and Citizens Bank. The first task force meeting is held in July. NSTAR engages in possible pilot financing for municipal/state sector. Six-month statewide HEAT loan targets on track. Capital constraints have not been sensed thus far.

In addition, with regard to funding, the Program Administrators held discussions with NEEP and DOER to share ideas on possible funding sources from federal, state and private sources. Information shared by National Grid and NSTAR with NEEP regarding potential sources is provided herewith as Attachments B and C. NEEP confirms that Program Administrators have been targeting most likely sources and confirms the challenges in securing further outside funding. Discussions with NEEP will continue, with follow-up planned for about one month.

MIT and NSTAR have received a preliminary award for a DOE grant to work with Lawrence Berkley Labs, which was also supported by National Grid. Under this grant, Program Administrators will have access to expertise from the DOE laboratories as well as a number of firms under contract for the program. NSTAR/MIT have the opportunity to receive up to \$500,000 for these services.

The DOER and National Grid jointly meet with the Wall Street Securitization Firm in New York City.

The Program Administrators continue to be engaged in the OBR Working Group and continue collaborative efforts.

Customer-Specific Efforts

In addition to the efforts described above which seek financing solutions on a large-scale basis, the Program Administrators have been successful in identifying financing solutions appropriate for specific customers. For example, the Cape Light Compact has engaged consultants to design unique financing solutions for specific customers. In addition, tax-exempt leases, bonding and savings-backed financing agreement opportunities have been identified as possible financing options for certain customers.

5. Non-Energy Benefits Study

An entity named PA Consulting was selected to conduct a study on non-energy benefits (“NEBs”). A kick-off meeting was held on June 16, 2010. Tasks for this evaluation include: developing a list of measures/equipment for which NEBs could be quantified, conducting a literature review of NEBs for measures with less quantifiable NEBs, interviews with Program Administrator staff, program implementers, conducting participant surveys, and reporting. This study is to be completed in December 2010.

6. Heating Oil Measures & Other Non-Electric Benefits Assumptions

These assumptions will be developed during the impact evaluation phase of the Mass Save program scheduled for 2011. Until these new assumptions are developed, the existing assumptions will be documented in the 2011 TRM – Plan Version, discussed below.

7. Technical Reference Manual.

The Program Administrators, the DOER, the Attorney General, the EEAC and other stakeholders have been working collaboratively to complete Version 1.0 of the Technical Reference Manual (“TRM”) to be filed in the fall of 2010. This version will be called the “2011 MA TRM – Plan Version”, and will contain the savings assumptions and algorithms for both electric and gas prescriptive measures across all programs and sectors.

The Program Administrators will file the 2011 MA TRM – Plan Version with the Department along with major modifications to the 2011 program plans. The MA TRM – Plan Version provides regulators and stakeholders with the assumptions and algorithms that the Program Administrators will use to count savings for the 2011 program year. An update to this Plan Version, which will incorporate results of evaluations completed in the next year, will be filed

with the 2011 Energy Efficiency Annual Report. It will be called the 2011 MA TRM – Report Version.

In the final months leading to the filing of the 2011 MA TRM – Plan Version (along with the 2011 Program Plans), all of the savings documentation for residential, low-income and C&I measures that have been completed by the working groups will be compiled and undergo a final review by Optimal Energy Inc. The reviewed final draft will then be distributed to the Program Administrators and representatives of the Department, DOER and Attorney General’s offices for comments and edits during August 2010. During the fall of 2010, the Program Administrators will be revising their tracking systems as necessary to conform to the specifications in the 2011 MA TRM – Plan Version.

ATTACHMENT A

**ON-BILL REPAYMENT WORKING GROUP
REPORT TO THE ENERGY EFFICIENCY ADVISORY COUNCIL**

ON-BILL REPAYMENT WORKING GROUP

REPORT TO THE ENERGY EFFICIENCY
ADVISORY COUNCIL

MAY 10, 2010

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EXECUTIVE SUMMARY

The On-Bill Repayment (“OBR”) Working Group submits this report to the Energy Efficiency Advisory Council (“EEAC” or “Council”). Today’s report sets forth the results of a collaborative, broad-based working group that has been meeting since September 2009, with approximately 12 full meetings since then.

The mission of the OBR working group was to examine and determine repayment mechanisms that would facilitate the use of outside funding, as envisioned in the Program Administrator 2010-2012 Statewide Energy Efficiency Investment Plans, beginning in 2011. The Working Group’s initial charge was to examine both financing and repayment mechanisms. However, the intensive nature of financing and repayment, and the need for somewhat different knowledge and skill sets, led the Working Group to concentrate on repayment issues and become known as the OBR Working Group.

As with other EEAC Working Groups, the OBR Working Group was chaired by DOER in its staffing capacity to the Council. Membership in the group consisted of voting EEAC members, Program Administrators, other non-voting EEAC members, EEAC consultants, and other interested parties, such as members of the Green Justice Coalition, and a weatherization contractor. The meetings were formally noticed as public meetings and were open to anyone wishing to attend in person or participate by telephone.

The report sets forth the core principles that have achieved full consensus of the working group and shows in matrix format how the principles will be applied to residential and small commercial customers. These principles include:

- Full disclosure in clear language regarding financing terms, default provisions, and remedies to any efficiency program participant who considers and elects to use outside funding offered through the Program Administrators.
- The adoption of appropriately inclusive standards in determining customer eligibility for participation. The OBR Working Group recommends that inclusive standards be applied in determining eligibility for participation and that individual credit checks not be employed. The exact underwriting standards that will be applied will be determined in negotiation with lenders and servicing entities in accordance with the principles expressed here.
- Electric or gas service will not be terminated upon a customer’s failure to pay the energy efficiency portion of a service bill, or failure to pay a companion bill. Partial payments will first be allocated to the energy/distribution portion of the bill.
- Program Administrators will be the conduits for outside financing and repayment including their normal collections process, but do not anticipate serving as the lender.
- Customers who qualify for low-income programs will not be solicited for any financing programs.

Although discussions within the Working Group have coalesced around certain overarching principles, the group recognizes that these principles and expectations are subject to modification and will continue to evolve, depending in part on the particular terms and requirements of outside lenders. Outside financing opportunities that materialize will need to be considered from a repayment (OBR) perspective, and the OBR principles outlined in this report are not intended to be categorically fixed. As experience is gained, strategies and efforts will evolve.

The report also sets forth detailed matrices detailing OBR approaches and issues in different customer categories, reflecting the group's consensus that a segmented approach to OBR is appropriate. Key findings by sector are:

- Major customer segments such as Residential, Small Commercial & Industrial (Small C/I), Renters and Owners, are distinct and require distinct provisions to meet their needs. Within those groups, particularly within the rental market, further segmentation should be conducted, with an analysis of barriers facing the particular segments and an exploration of the type of financing program that will address those barriers most effectively.
- Customer segmentation may require additional tailoring of repayment to meet household income, business type, or other distinctive repayment requirements, which will be discovered through implementation.
- A robust residential OBR model has been established. Renters, in residential and commercial properties require substantial additional work but the Working Group believes that the OBR work should move forward in all sectors and subsectors to ensure that every class of customer is able to participate appropriately in deeper energy savings opportunities provided by the additional leverage of outside funding.
- Work clearly needs to be done to address the needs of renters and households whose income exceeds 60% of median income but for whom the burden of either customer cash contributions or additional obligations brought on through financing is considerable and may need amelioration. Addressing these needs should be accomplished through other venues, which may include the EEAC and its Equity Committee, landlord associations, the legislature, and the Department of Public Utilities ("DPU").

Finally, the report sets forth the following proposed next steps:

- Communicate the findings of the EEAC OBR Working Group to the DPU to determine, what processes and actions, if any, are required in that venue to move the OBR and financing issues forward for 2011.
- Match the OBR concerns to the work being done by PA's, DOER, other EEAC members and other parties on financing to develop a complete and integrated financing/repayment implementable plan.
- Continue to develop the renter matrices further in a small working group devoted to that issue. Set a timeline for resolution but no later than September 1, 2010 for a further report to the EEAC.
- Continue to explore the question of households with incomes above 60% but still experiencing disproportional energy burdens, carefully describe this demographic, characterize relevant living conditions, employment and other relevant factors, and develop cost-effective solutions for addressing the needs of this group.
- A phased implementation approach should be used that will help mitigate investment and other risk, and that will allow for continuous validation of concepts and implementation strategies and details.
- Review the Pay and Save pilot program data and evaluation report for insights that may be useful for design and implementation of full scale financing proposed for 2011 and beyond.
- Address additional concerns raised by the EEAC, the DPU or Working Group members. (also see Section 4 for additional comments)

1. INTRODUCTION

The OBR Working Group was established by the Division of Energy Resources (“DOER”), acting in its role as Chair of the Council, to explore all options for on-bill repayment in order to expand existing on-bill financing options and make energy efficiency programs more accessible to customers. The OBR Working Group has focused on ways to work towards implementation of the financing goals and principles described in the Massachusetts Joint Statewide Three-Year Gas and Electric Energy Efficiency Plans (“Three-Year Plans”) both prior to and following their approval by the Department of Public Utilities (the “Department”) in its Orders, each dated January 28, 2010, regarding the electric Program Administrators’ Three-Year Energy Efficiency Plans and the gas Program Administrators’ Three-Year Energy Efficiency Plans in dockets D.P.U. 09-116 to D.P.U. 09-120 (regarding electric Program Administrators) and dockets D.P.U. 121 to D.P.U. 09-128 (regarding the gas Program Administrators). The Three-Year Plans promote financing mechanisms to help address barriers associated with the potentially substantial up-front costs of installing energy efficiency measures (see § II.B. of each Three-Year Plan); the OBR Working Group seeks to set forth and have the Program Administrators adopt consensus-based standards, representing the views of multiple stakeholders, for the provision of on-bill repayment for residential and Small C/I customers over the next three years.

The OBR Working Group was endorsed by Council resolution on July 28, 2009, in the overall resolution approving the Statewide Electric and Gas Energy Efficiency Programs. As with other EEAC Working Groups, the OBR Working Group was chaired by DOER in its staffing capacity to the Council. Membership in the group consisted of voting EEAC members, Program Administrators, other non-voting EEAC members, EEAC consultants, and other interested parties, such as members of the Green Justice Coalition, and a weatherization contractor. The meetings were formally noticed as public meetings and were open to anyone wishing to attend in person or participate by telephone.

1.1. PRINCIPLES

Items Addressed by OBR Working Group

The OBR Working Group has addressed multiple aspects of on-bill repayment and has agreed on the following eleven core principles:

1. No Promotion of Loans to Low-Income Customers

The OBR Working Group has agreed that the Program Administrators and others involved with implementation of the Three-Year Plans will not promote loans to customers eligible for low-income programs. Customers who are eligible for low-income programs should be directed in the carefully tailored low-income programs, which provide

100% of the funding for energy efficiency measures for eligible participants. All parties seek to avoid over-leverage for any customer, including the most vulnerable customers in the low-income sector.

2. Repayment Tied to Customer for Residential and Small C/I Owned Properties

The OBR Working Group has also determined that, for residential owner customer segments and Small C/I(owner) customers, repayment should be tied to the borrower and not to the meter. As detailed in the residential matrix set forth in Section below, meter-based repayment is not appropriate at this time for this sector given that questions still remain on how it would work and how payment obligations would be handled. Repayment should instead be tied to the customer who has initiated the energy efficiency measures and accepted responsibility for payment.

3. No Termination for Non-Payment

The OBR Working Group has agreed that there will be no termination of energy services based on non-payment of the energy efficiency loan portion of bill. Termination rights could create customer backlash, would be excessive, and would risk violation of customer protection standards and policies established to ensure the provision of energy services to customers. Similarly, in rental situations, rent increase and evictions protections are needed to ensure tenants are not inappropriately charged for the cost of the improvements or evicted for other than standard non payment of rent provisions. These problems argue for the development of robust “Green Leases” that provide adequate statements of responsibilities of landlords and tenants and provide appropriate remedies for abuses in apportioning the costs of financed energy efficiency improvements through the PA programs.

4. Allocation of Partial Payment

The OBR Working Group has also reached consensus on the allocation of partial payments, and has determined that the energy/distribution portion of the bill will be paid down in full prior to the payment of the energy efficiency loan portion. The OBR Working Group has also addressed additional items on the bill, including services and rental charges, and determined that these will also be paid down prior to the energy efficiency loan.

5. Fixed Payments

The OBR Work Group has determined that any OBR re-payments will be fixed over the term of the loan. The use of fixed, monthly finance charges reduces customer concerns regarding loan repayment and lends itself to succinct, clear disclosure. Variable interest rates will not be employed. [Please note, however, prepayment will be allowed.]

6. No Requirement of Positive Cash Flow/No Savings Guarantee

The OBR Working Group has agreed that there will be no absolute requirement of positive cash flow, and no savings guarantee, with respect to any project for which financing is provided. Although all participants of the OBR Working Group aspire towards achieving net savings through on-bill repayment, it is understood that such savings are dependent on many factors (including, for example, commodity costs, weather, measure-mix and building occupancy) and accordingly cannot be guaranteed.

7. Certain Customers at 60%-120% of Statewide Median Income

The Working Group's discussions included a question about the ability of customers whose income ranges from 60%-120% of median income to participate in any financing, and suggestions that such customers should be treated comparably to customers eligible for the low-income programs. Some anecdotal evidence suggests that this income group is currently underserved and harder to reach and as such efforts will be made to design initiatives and explore ways to reach these valued customers. However, while agreeing that there certainly are customers for whom the costs of copayment and perhaps financing are substantial barriers to participation, the Working Group was not able to readily find and examine well documented evidence about the burden of energy and customer copayments on this class of customers, or even determine where the upper end of the vulnerability range lies. We note there is no specific mandate under the Green Communities Act to reach these customers separately from other residential or low-income customers but agree that financial and other barriers that impede participation by any segments of eligible customers are of concern and need to be addressed. The Working Group believes that issues pertaining to targeted income groups need primarily to be addressed by other EEAC Committees (*i.e.* ,Residential and/or Equity).

8. Customer Eligibility

With respect to customer eligibility, the OBR Working Group has determined that on-bill repayment should be available for all qualifying customers including residential customers (other than low-income, as described above) who are either owners or renters, as well as for Small C/I customers. However, due to the split incentive problem (most often tenants pay utility costs but property owners bear the cost of capital investment) and the complexity of meter-based obligations in residential rental markets, the workgroup has been unable to reach a consensus opinion. Discussions will continue with respect to on-bill repayment issues specific to renters. A more detailed discussion of issues related to OBR in the rental market is set forth in Sections 2.4.3. (Residential) and 2.4.2(Small C/I). Large C&I customers will be eligible for uniquely tailored solutions and are not addressed in this report.

9. Credit Checks and Payment History

The OBR Working Group has also determined that credit checks will not be used for qualification purposes in the residential owner segment; in order to decrease the risk of customer defaults, however, payment history will be relevant to qualification decisions and on-bill repayment will only be available to customers who have been current on their energy bill for a certain minimum period of time. Credit checks may be used in rental or Small C/I segments and/or where larger loan sizes require enhanced underwriting. , a subject that will need further exploration once the lender community is engaged. See Section 2.4 for more detail.

10. Collection and Banking Laws

The OBR Working Group agrees that the Program Administrators will not serve as collection agents for outside loans (aside from standard utility bill collection procedures). The Program Administrators will provide a means of repayment by enabling OBR on either a standard or sundry bill, but will not actually be involved with the provision of financing dollars or in any other way acting as a bank, lender or guarantor. The OBR Working Group agrees that the Program Administrators should not become regulated banking institutions that are required to comply with banking laws as a result of OBR efforts, and is continuing to review compliance issues with respect to banking and lending laws.

11. Full and Fair Disclosure

Finally, the OBR Working Group emphasizes that there must be full and fair disclosure to all customers regarding any financing of measures that utilizes OBR, including estimated loan costs, default provisions, remedies, and use

of payment history or other qualifying standards, and that the disclosure must be clear and plainly written. Although the OBR Working Group will not assume primary responsibility for drafting disclosure language, the group may review such language to ensure that it complies all applicable state and federal statutes and regulations.

1.2 ITEMS BEYOND OBR WORKING GROUP SCOPE

As detailed below, numerous core principles have been discussed and agreed upon, achieving full consensus of the OBR Working Group. We note that by consensus, Working Group does not require 100% agreement on each and every issue. However, the Working Group has taken pains to ensure there is substantial agreement on the principles and the expression of the principles detailed in the matrices. Where there is significant disagreement or the members recognized an issue as unfinished, the Working Group and the report has noted such. Resolution on certain issues, however, has not been captured by this report, either because (1) the issues are beyond the Working Group's scope of inquiry and have not been part of OBR Working Group discussions, or (2) the issues have not been resolved by consensus of the Working Group (these unresolved issues are addressed in Section 2.3 and in comments in Section 4.1).

While outside financing is interwoven with, and related to, the purposes of the OBR Working Group, it is a separate and distinct issue, and will be coordinated with on-bill repayment at an appropriate time. Outside financing opportunities that are presented to the parties will carry terms that will necessarily need to be considered from an OBR standpoint. It is anticipated that certain terms set forth herein will continue to evolve and may reflect lender requirements or other conditions in the financing marketplace and the legal and regulatory oversight of that marketplace. The Working Group, however, seeks to establish core guidelines and expectations regarding OBR matters, which will serve as a guide as outside financing opportunities are presented and evaluated.

Also excluded from the OBR Working Group Report are specific Program Administrator billing system issues related to on-bill repayment, and specific Department of Public Utilities issues, if any. The Working Group recognizes there are significant Program Administrator issues regarding specific repayment mechanisms, including issues relating to cost recovery and technical implementation. Many of these items are specific to the individual PAs and therefore are not addressed in this report. All parties understand that sundry billing options are a viable option for on-bill repayment (as opposed to totally integrated bills, which might require substantial billing system expenditures). There may be differing repayment solutions for different classes and groups of customers and those solutions may differ as well among the Program Administrators, depending upon their individual circumstances.

2. ANALYSIS OF ISSUES, OPTIONS AND RECOMMENDATIONS BY SEGMENT (MATRICES)¹

2.1 SUMMARY OF ISSUES

The Working Group quickly found four distinct customer groups with different requirements and needs with respect to OBR. Attached are tables (matrices) summarizing financing and on-bill repayment issues that should be addressed in order to implement one or more effective financing offerings in the energy efficiency programs. The four customer groups are: residential owners, residential renters, small C&I renters, and small C&I owners. For the purposes of the Working Group, however, we created three matrices:

- Residential owner-occupied properties
- Residential rental properties
- Small businesses rented

The Small business owner-occupied category represents a very small percentage of that customer class, and while small c/I owned properties resemble residential owner-occupied properties in some ways, the business characteristics of small C/I customers are a stronger association than the differences between owned and rented properties. Thus three matrices were created by the working group.

Residential owner-occupied properties. Much of the early OBR working group discussion focused on the issues related to residential owner-occupied property, and overall, significant progress was achieved in terms of

¹ The issues and matrices in this report section are derived from EEAC Consultant Draft Based on OBR Working Group Discussions April 29, 2010, and comments provided to DOER by Working Group members.

resolving issues for residential owner-occupied properties. Owned residential real estate financing represents the most straightforward financing segment and formed the basis for other segment proposals.

Small C&I . With respect to small C&I customers, financed through owner obligations, the Working Group built upon the residential owned obligation structure to address business-specific issues and collateral types. Some Program Administrators have been running successful financing programs with thousands of C&I customers for a number of years. These programs have enjoyed very low default rates, very high repayment levels and customer satisfaction and strong associated energy savings. The existing C&I financing mechanisms have also involved substantial customer incentives and bonuses for early repayment. These programs have not, however, generally financed measures that require substantial capital investment on the part of property owners, again leaving the issues around leased and rented property for further resolution.

Residential rental properties. Residential rental properties garnered considerable discussion, but achieved only modest consensus due to the complexity of the problem. The “split incentive”, in which tenants pay utility costs but property owners pay the capital costs of energy efficiency improvement and therefore have very little incentive to make investments for which they realize no off-setting energy savings. The Working Group reviewed a meter approach involving landlord obligation, but did not achieve a clear consensus. The matrix included in this report reflects only preliminary discussions and is presented neither as a consensus view nor as an encapsulation of the full Working Group’s current thinking. In particular, the Program Administrators’ comments on rental repayment approaches are set forth separately in Section 4.

Additionally, the discussions concerning rental properties and renters attempted to grapple with issues of customer income and program level equity. For example, a point was raised that renters comprise 35% of the residential population statewide but even the sparse evidence available indicates that renters are under-served as a percentage of non-low income program participants. The Working Group will continue to assess the particular challenges of the rental community to ensure full access to energy efficiency opportunities. A further set of discussions related to customers whose income is above 60% of statewide median, the maximum level for qualification for low income energy efficiency programs. While the Working Group agreed that the questions of equitably serving renters and equitably serving households whose income is above 60% of median income (there is likely considerable overlap between those two groups) need to be addressed, no solutions were presented within the context of the Working Group’s charge to explore and develop on-bill repayment mechanisms. Some Working Group members recommended that households falling above 60% of the state median household income² should in effect be treated like households below 60% of median and not asked to take on energy efficiency financing debt. Rather, those members suggested that low-income subsidies be extended to customers in the low-mid income range.

Given the concerns about where and how to attach the obligation in residential rented properties, the Working Group was not able to reach a substantial consensus on a residential renter matrix. A preliminary residential rental property proposal is attached in Section 2.4.3, but this should be viewed as a first attempt at solutions in an ongoing discussion.

² --The GJC has referred to the group of customers whose household incomes are at 60-120% of the median, but the 60-120% grouping was set indicatively rather than definitively. Further study about this issue is needed in other venues.

2.2 STATUS OF THE ISSUES

The Working Group operated on a consensus basis but strove to avoid a lowest common denominator approach. Where working group members expressed real differences, the Working Group has pointed up those issues and will address them in further work. In commercial and residential properties most of the individual issues are in fact resolved but key issues, such as the structure of the obligation in residential rentals remain unsettled at this moment. On others, we have been able to craft acceptable solutions to parties. Thus for small C/I rented properties, some Working Group members felt it was essential to have customer service termination as an option, primarily to reduce perceived risk in the eyes of any potential lender. Program Administrators believed this requirement could substantially impede the operations of the existing Small C/I lending operations. A resolution was found in which a U.C.C., lien, sometimes known as a “mechanic’s lien” could be placed, providing the level of assurance or perhaps more assurance than would be provided by termination.

Note that there is a difference between major issues that remain unresolved, and issues for which there is agreement at a high level but the details still need to be worked out. In the matrices we have labeled these details as “TBD”.

Finally, we expect to find that although the Working Group has recognized that a “one size fits all” approach does not work across broad classes of customers--such as renters v. owners and residential v. commercial customers--we also expect to find that in order to maximize the use of outside capital, further distinctions may need to be made among subgroups of customers about questions such as loan terms, repayment schedules, loan requirements by size (loans above a certain size may require enhanced underwriting), and other distinctions that will be discovered and experimented with as we move further into this area and gain experience about what works and what doesn’t.

2.3 ISSUES NOT CONSIDERED IN OBR WORKING GROUP DISCUSSIONS

The following issues were not discussed in the OBR working group, at least not significantly in any efforts to develop specific approaches or recommendations to resolve the issues:

- **Source of financing capital and specific nature of financing offers.** – These issues are being addressed in the other “bucket” of financing issues (including attracting and attaining outside capital for financing, cost of such capital, specific design of the finance program, etc.). That “bucket” is being worked on by various parties and a separate progress report will be made to the EEAC. Ultimately, to develop a complete and comprehensive set of financing packages, the OBR issues will be coordinated when addressing financing terms for specific financing offers. Further, specific interest rates offered to customers will be determined by several factors, including the result of future program design decisions setting overall levels of rebates, interest buy-downs and other customer incentives.

- **PA implementation.** – Once the overall OBR mechanism and financing approach is determined, what will PAs need to do in their billing systems to quickly and efficiently implement OBR repayments, or to implement repayment through a separate bill? The requirements may be different depending on whether repayment is strictly On-Bill as opposed to on a separate or “sundry” bill. The PAs have scoped and commented on the common issues herein; understanding the solutions may be PA-specific in some cases.
- **DPU requirements or issues for the DPU to address.** The role of the DPU is yet to be determined. DOER will address the findings of the OBR Working Group to the DPU in an appropriate manner. Additionally, it may be appropriate to incorporate the complementary issue of financing to the DPU simultaneously. Discussions on this topic are ongoing.

2.4 RESIDENTIAL AND C/I MATRICES

2.4.1 RESIDENTIAL OWNER OCCUPIER MATRIX (FROM 4/29/2010 VERSION WITH COMMENTS FROM WORKING MEMBERS)

Note: This version of the matrix is modeled for residential owner-occupied properties. The guiding purposes for this version of the matrix are to deal with the large number of residential customers in owner-occupied properties for which a single model will work, and to make some progress with a new or improved financing offering in the field soon. There are many market segments and variations that need to be addressed. Many of the more complex situations occur in rental properties (see the residential renter matrix), but condominium developments also present challenges, as do buildings with changes of use, changes in residents' income, etc. The goal and proposed approach is to build the OBR model that will work for many customers and to tackle the progressively more difficult questions in parallel processes.

Issue	Current Proposal	Comments
Principle: program financing should not be offered to low-income customers	Protections to ensure that customers eligible for low income programs participate in those programs (in which the programs provide 100% of the funding for measures, as grants) and do not receive loans or offers for loans.	Some discussions involved changing the subsidy threshold to 80% of SMI from 60% currently, but this topic was deemed to be outside the scope of the workgroup's mandate despite its implications for OBR terms and implementation
Repayment obligation: should repayment be tied to the customer or to the meter?	Tied to the customer for residential owner properties. (See rental matrix for rental property.)	Preference among most of WG (including PAs) is to tie the obligation to the owner, with disclosure requiring that obligation be satisfied on sale of property. Tie to owner simplifies issues in many respects
Termination for non-payment	No termination for nonpayment of EE loan	WG reviewed and considered consumer protections and current statutes on energy services, and recommends no termination for nonpayment of EE loans.

Issue	Current Proposal	Comments
Allocation of partial payments	Allocation of partial payments in similar manner as in Terms and Conditions for Distribution Service (TCDS), with loan charges treated as part of energy service charges, and secondary to the generation and distribution service charges.	Allocation of partial payments in similar manner as in Terms and Conditions for Distribution Service (TCDS). Partial payments would be applied first to any outstanding balances for energy, generation and/or distribution services. Where applicable, equipment rental or customer service charges will also be paid down prior to the energy efficiency loan.
Requirement of positive cash flow	Objective (aspirational) of positive cash flow. Savings to customers are not guaranteed, therefore clear disclosure and information is crucial.	<p>WG discussed additional consideration for low/moderate income customers, with goal to increase access to EE funds for customers at 60-120% median income. Potential for EE loan to add financial burdens to this community.</p> <p>Also need to address customer eligibility, objective of positive cash flow, and loan term in relation to financial risks for specific financing offers.</p>
Savings guarantee	No	Do not guarantee savings, but provide best estimates on savings, and clear disclosure. Also provide education to customers on optimal practices and monitoring results.
Remedy if estimated savings do not materialize	<p>This is an efficiency program issue, not financing/OBR issue per se.</p> <p>Determined by underlying EE program; respond to concerns and resolve with customers who aren't satisfied.</p>	If savings do not materialize because program is not designed or implemented properly, improve QA/QC.

Issue	Current Proposal	Comments
Nature of payment: fixed or floats with savings?	Fixed over the term of the loan	Prepayment allowed without penalty.
Eligible measures	Eligible measures TBD with an emphasis on non-portable measures.	Eligible measures should be cost effective approved measures and non-portable. List TBD
Customer eligibility	TBD	
Customer class	Residential	NOT for customers eligible for the low-income program (see above)
Owners vs. renters	Both eligible, but different offerings (see other matrix on issues in rental property)	Continue work on issues for renters in parallel.
Credit checks	No individual credit checks, with possibility of using utility repayment history as qualifier. FICO scores may be collected for data analysis purposes with appropriate disclosure and permissions but will not be used in underwriting decisions.	Emphasize/support pooled lending and pooled (diversified) risk. PAs continue to investigate legal issues from being party to a financial transaction and providing utility bill history as an underwriting criterion. Income verification may be required to protect <60% median income customers.
Customer bill payment history	Eligibility limited to customers that have been current on their electric bill for at least 12 (potentially as many as 24) consecutive months	12 months vs. 24 months, and for which customer segments. Unregulated fuel customers would rely on electricity bill history. Regulated fuel customers may be evaluated on one or both utility bills ³ .

³ Further research/review should be conducted concerning potential issues of a PA program relying on billing history for another fuel (*e.g.*, gas PA relying on electric billing history)

Issue	Current Proposal	Comments
Maximum loan amount	TBD for specific financing offer	Consider investment needed to achieve deeper savings. Could be minimum loan amounts per servicing issues and transaction costs.
Maximum term	TBD for specific financing offer	Measure life and lender terms will affect this. Terms as long as 10 years or more needed for some projects. Consider measure lives as one driver to extent possible.
Source of capital	Outside capital, separate from PA and program funds; excludes capital raised by PAs for other types of financing programs	Loan principal shall not include program monies from EE funds or PA shareholder funds. PAs are not the source of capital but portal to the customers and the primary collection path for repayment of loans.
Cost of capital	Being addressed related to source of capital, above (seeking lower cost capital)	
Disclosure requirement	Full and fair disclosure regarding measures, costs, savings, loan costs, cash flow, defaults, remedies, and use of payment history. Use plain language explanations (will need disclosures in multiple languages).	Disclosure must be: <ul style="list-style-type: none"> - complete and fair - clear and understandable (plain language) - concise so that someone will read it

Issue	Current Proposal	Comments
Customer interest rate	<p>Unknown at this time.</p> <p>The objective is to offer attractive rates determined by market conditions and applied interest rate subsidy, if applicable.</p>	<p>Concern regarding 60-120% median income customer's ability to access financing and repay without hardship.</p> <p>Tiered interest rates based on income levels are problematic due to additional program complexity, investor concerns over credit quality and the need for greater income verification capabilities.</p>
Collection procedures and protections	<p>Collections subject to standard utility servicing efforts for non-serious delinquencies (anticipated to be 30-60 days). Loans delinquent > preset servicing term would be handed over to a special servicing entity to collections (similar to current utility practice of turning unpaid debts to special servicers for collection. Default and charge-off at 120 days (TBD).</p> <p>Future detailed terms and conditions to be developed.</p>	<p>Standard utility/PA collection procedures⁴. Uncollectibles at some point TBD would be turned over to a service agency. Funds collected from service agency will be used to reimburse injured party or loan loss reserve fund.</p> <p>The financial agreements will specify the duties and limitations for all loans servicing not directly involving the PAs. PAs request that cost recovery for related costs should be addressed and permitted.</p>

⁴ Further work on the details of collection procedures needs to be undertaken, including the treatment of customers installing electric and gas measures, as well as the role/selection of service agency.

Issue	Current Proposal	Comments
Who is at risk for defaults	Loan loss reserve or investors at risk for defaults.	<p>Expectation of low default rates based on existing HEAT Loan defaults (< 1%).</p> <p>Funding for a loan loss reserve could come from federal sources, foundations, EE program funds (similar to how the EE program funds⁵ pay for any defaults in the small business financing program currently) or other sources.</p>
QC on measures / installations	QC on measures/installations (see above)	
Applicability of banking and consumer protection laws	OBR and financing program will be subject to compliance with all laws and regulations including banking/lending statutes.	Need to acquire better understanding of the requirements and the applicability of such laws to PAs as portal vs. provider of financing. The particular issues will become clearer as specific financing offerings are developed.

⁵ Question remains if program funds meet GCA requirements for cost effectiveness.

2.4.2 SMALL C/I MATRIX (FROM 4/29/2010 VERSION WITH COMMENTS FROM WORKING MEMBERS)

On Bill Repayment of commercial energy efficiency loans is already offered through select utilities in Massachusetts. Current programs are financed with utility capital and ratepayer-backed recovery. Broadening the program to longer term loans and changing the expected capital source to the public markets has some implications for the delivery and structure of C&I OBR, but much of the program reflects existing best practices in business lending with OBR.

Issue	Current Proposal	Comments
Repayment obligation: should repayment be tied to the customer or to the meter?	Tied to the customer (owner or tenant).	Preference would be to tie the obligation to customer (owner or tenant) with disclosure requirement that obligation must be satisfied on sale of property or change of tenant. Tie to owner simplifies issues in most respects

Issue	Current Proposal	Comments
Termination for non-payment	UNDECIDED: Need to reduce risk of default through appropriate incentive structure.	<p>TERMINATION: Termination (or at least the threat of shutoff) is important to the program to lower expected defaults and funding costs. Absent adequate incentives to encourage repayment capital providers will require significantly higher interest from the program with implications for EERF funds and/or adoption. Lack of termination also limits program negotiating position with capital providers and makes program more reliant on other measures such as property or fixture liens which may be more exclusionary and potentially more costly to maintain.</p> <p>NON-TERMINATION: The PAs' view is that the potential benefits of the termination option are outweighed by the potential detriments. The primary detriments are: 1) increased risks to participants relating to EE programs which could create a barrier to participation; 2) potential backlash and negative perceptions regarding EE efforts for disruptive service terminations that could force a business to shut; 3) job loss and economic harm to local communities associated with termination; and 4) potential expenses involved in terminating service where customer contests the action. The PAs operating small business financing efforts have experienced low default rates (1%-3% range is typical) to date and do not see need for termination threat, especially if other tools, <i>e.g.</i>, loan loss reserves or back up programs, are implemented.</p>
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Issue	Current Proposal	Comments
Allocation of partial payments	Allocation of partial payments in similar manner as in Terms and Conditions for Distribution Service (TCDS).	Allocation of partial payments in similar manner as in Terms and Conditions for Distribution Service (TCDS). Partial payments would be applied first to any outstanding balances for energy, generation and/or distribution services. Where applicable, DPU approved tariffs on equipment rental or customer service charges will also be paid down prior to the energy efficiency loan.
Requirement of positive cash flow	Aspire to achieve positive cash flow for shorter payback measures. No limits on longer measures.	Positive cash flow not required as some measures have a significant payback period.
Savings guarantee	No	Do not guarantee savings, but provide best estimates on savings. Also provide education to customers on optimal practices and monitoring results.
Remedy if estimated savings do not materialize	Determined by underlying EE program; respond to and resolve with customers who aren't satisfied	If savings do not materialize because program is not designed or implemented properly, improve QA/QC.
Nature of payment: fixed or floats with savings?	Fixed over the term of the loan, but allowing for pre payment without penalty	Fixed over the term of the loan
Eligible measures	Eligible measures (regardless of fuel) TBD with an emphasis on non-portable measures.	Many programs specify only non-portable measures can qualify for financing limiting addressable opportunity, especially in leased space. Program desire to assist in deeper savings projects where some portion of measures may be considered portable. Details TBD
Customer eligibility	TBD	

Issue	Current Proposal	Comments
Customer class	Small commercial as defined by the program eligibility requirements and further defined by loan maximum	
Owners vs. renters	Both eligible.	Work to date focused more on issues in owner property. Renters currently participate in the small business program.
Credit checks	No individual credit checks for loans up to residential loan maximum (use utility bill history as per residential owner model) For loans greater than residential maximum (amount TBD), business or investment property level due diligence	Emphasize/support pooled lending and pooled (diversified) risk. PA's continue to investigate legal issues from being party to a financial transaction.
Customer bill payment history	Customer bill payment used for smaller loan amounts (up to residential maximum) with 12/24 month repayment history.	TBD. Eligibility limited to customers that have been current on their electric and/or Gas bill if applicable for at least 12 [24?] consecutive months. For larger loan balances, tenant / owner must meet traditional underwriting standards to be performed by financing entity (exact terms TBD)
Maximum loan amount	TBD	Consider investment needed to achieve deeper savings. Could be minimums per servicing issues and transaction costs.
Maximum term	TBD	Measure life and lender terms will affect this. Terms as long as 10 years or more needed for some projects. Term not to exceed existing lease, if applicable

Issue	Current Proposal	Comments
Source of capital	Outside capital sourced from market sources (similar to residential model).	Ultimately, preference not to use program monies from EE funds. Some PAs are currently using EE program funds as capital, and other PAs are using or proposing to use company funds (as a substitute for program funds or as a transition to other capital). PAs are not expected to be the source of capital but portal to the customers and the primary collection path for repayment of loans.
Cost of capital	Being addressed (See Source of capital, above)	Cost of capital will be determined by market forces, and program elements among other factors.
Disclosure requirement	Full and fair disclosure Full disclosure regarding measures, costs, savings, loan costs, cash flow, defaults, remedies, and use of payment history.	Disclosure must be complete and fair.
Customer interest rate	Unknown at this time.	TBD

Issue	Current Proposal	Comments
Collection procedures and protections	<p>Standard utility procedures and protections.</p> <p>DPU would need to address any changes to utility collection procedures.</p>	<p>Standard utility/PA collection procedures. Uncollectibles at some point TBD would be turned over to a service agency. Funds collected from service agency will be used to reimburse injured party or loan loss reserve fund.</p> <p>The financial agreements will specify the duties and limitations for all loans servicing not directly involving the PAs.</p> <p>PAs request that cost recovery for related costs should be addressed and permitted.</p>
Who is at risk for defaults	<p>Capital provider or loan loss reserve at risk for defaults.</p> <p>Structure of credit enhancement (loan loss reserve fund) and financing initiative TBD</p>	<p>Expectation of low default rates based on existing small business program proxies (< 2%).</p> <p>Funding for a loan loss reserve could come from federal sources, foundations, EE program funds (similar to how the EE program funds⁶ pay for any defaults in the small business financing program currently) or other sources.</p>
QC on measures / installations	QC on measures / installations	
Applicability of banking and consumer protection laws	OBR and financing program will be subject to compliance with all laws and regulations including banking/lending statutes.	Need to get better understanding of the requirements and the applicability to PAs as portal vs. provider of financing.

⁶ Question remains if program funds meet GCA requirements for cost effectiveness.

2.4.3. RESIDENTIAL RENTAL MATRIX (FROM 4/29/2010 VERSION WITH COMMENTS FROM WORKING MEMBERS)

Summary:

The workgroup has made progress in addressing the rental community, but significant issues remain unresolved despite the group's best efforts. Competing interests between tenant protections, low-mid income advocacy, financial community requirements and PA concerns, have made it difficult to find a collectively acceptable approach. Further discussions are required in this area, including some that go beyond the scope of the work group's activities (including addressing the potential for additional subsidies for rental and 60-120% income communities and PA concerns over implementation cost/complexity). Despite a lack of consensus on key issues, the workgroup's conversations have coalesced around a meter based obligation structure with certain elements widely supported.

Matrix Overview:

The On Bill Repayment workgroup has been working to improve the equitable distribution of System Benefit Charges to the rental community through the potential use of meter based repayment obligations. Two significant issues (among many) have been identified as major barriers to rental adoption of energy efficiency measures. The two issues are the split equity problems between tenant (receive energy savings) and landlords (pay higher costs for efficiency) and the economic disincentive to adopt energy efficiency measures. Both issues are structural problems that are unlikely to be solved by market forces in the foreseeable future and require a new approach to drive energy efficiency adoption.

As many council members are aware, the rental community is currently paying into System Benefit Charge (SBC) pools, but anecdotally⁷ receiving very little of the benefits (rebates, interest rate buy-down or other subsidies applied toward energy efficiency improvement). Among the most significant barriers to energy efficiency (EE) adoption in the rental market are the split incentives problem between landlord (LL) and tenants and an economic disincentive to adopt EE measures. On Bill Repayment (OBR) provides one of the leading potential solutions for solving the split incentive issue through meter-based obligations that would split the savings and cost of improvements equitably between landlords and tenants.

For purposes of this report, \the group has focused on meter-based obligation structures because they tied the cost of financing improvements to the energy user substantially bridging the split equity problem. Meter obligations also had the added benefit of ensuring

⁷ PAs are reviewing programs to determine use of SBCs among renters.

that the proper incentives remain in place to facilitate appropriate participant behavior. In order to appropriately balance the cost to the landlord (construction/remodel expenses) from adopting energy efficiency with the benefit expected to accrue to the tenant (energy bill savings), we have posited that a portion of the financing cost of improvements be allocated to the tenant (not to exceed expected savings) through a meter obligation. The landlord would be required to pay-in an upfront amount (which itself could be financed separately) equal to the amount needed to reduce the expected finance costs to some percentage below expected savings. All work would be based on voluntary agreement from both landlord and tenant subject to pre-agreed upon terms⁸.

Although the Working Group has provisionally included a matrix reflecting this meter-based model, it should be emphasized that the members have not reached consensus on this model. While the matrix captures the thread of some discussions, it does not represent the view of the Working Group as a whole, and further discussions and analysis will be required before a consensus model can be established. In particular, the Program Administrators have not endorsed the model set forth in the matrix and have instead advanced their comments separately. These comments are preliminary, and the Program Administrators anticipate that significant further discussion (including discussions with representatives of the landlord and rental communities) and analysis will be required to develop a viable, mutually agreement repayment model for the rental sector.

Issue:	Proposed:	Comments:
Repayment obligation:	METER with Landlord (LL) guaranty	LL is required to guaranty as the primary recipient of benefit (new EE improvements to property). Tenant shares benefit through Meter based finance charges.
Allocation of partial payments:	EXISTING -	Allocation of partial payments in similar manner as in Terms and Conditions for Distribution Service (TCDS). Partial payments would be applied first to any outstanding balances for energy, generation and/or distribution services. Where

⁸ See Appendix –Rental Agreement

Issue:	Proposed:	Comments:
		applicable, DPU approved tariffs on equipment rental or customer service charges will also be paid down prior to the energy efficiency loan.
Termination for non-payment, Eviction:	NONE – Landlord/tenant agreement would include eviction capability failure to pay rent. (Finance payments are deemed a rent surrogate just as a “green lease” that included higher rents for energy efficiency improvements would be and therefore non-payment could lead to eviction under this model)	<p>No Termination for non-payment.</p> <p>Non-payment could, under certain circumstances, precipitate eviction due to failure to pay rental surrogate.</p> <p>This model raises the risk of eviction under certain circumstances. Clear protections needed.</p>
Requirement of positive cash flow	Aspirational using best estimate. Extending loan duration or requiring LL to put down part of capital cost to lower tenant payments (see financial model for details). Landlord and Tenant must both approve measures to protect both parties.	<p>The sum of landlord contribution and utility rebate should, using best estimates, result in positive cash flow for tenant. This is critical for tenants with income below 120% SMI.</p> <p>We need to determine whether that down payment is feasible for/attractive to landlords.</p>
Savings guarantee	No, (see also “Nature of Charge” below)	
Remedy if savings do not materialize	Contractual agreement between LL and Tenant spells out both parties’ legal obligations as well as future assumptions which are limited to best efforts and best analysis.	Ideally, there would be tenant recourse or a mechanism for adjusting the ‘split’ in cases where the retrofit does not turn out to be cash flow

Issue:	Proposed:	Comments:
	<p>Tenant can move at lease expiry or break lease subject to existing terms.</p>	<p>positive.</p> <p>Tenants also need recourse if landlords violate the terms of the “green lease”.</p> <p>More research needed on “green lease” models.</p>
<p>Nature of charge:</p>	<p>Financing charges are fixed for life of obligation. Energy costs/use will vary with weather/temperature, actual efficiency gains, and tenant behavior among other factors. This has to be made very clear to both the EEAC and landlord/tenant</p>	
<p>Eligible measures</p>	<p>Cost effective EE improvements as determined by DOER</p>	<p>These items should not be portable</p>
<p>Customer eligibility</p>	<p>Eligibility is determined by LL credit quality. Underwriting will follow traditional underwriting measures of an investment property and will not be based on tenant credit.</p> <p>(The LL has every incentive to screen the credit quality of tenants and due to guaranty will have further incentive to do so under OBR)</p>	
<p>Customer class</p>	<p>RESIDENTIAL RENTAL ONLY</p>	
<p>Owners vs. renters</p>	<p>RENTAL</p>	
<p>Credit checks</p>	<p>YES, related to LL and investment property</p>	

Issue:	Proposed:	Comments:
Customer bill payment history	No, responsibility of the Landlord to ascertain credit quality of tenants.	Landlord should not be authorized to carry out additional tenant credit checks. Landlords have opportunity to check tenant credit at time of initial lease.
Maximum loan amount	TBD // limits per unit and property maximum	
Maximum term	TBD – Has implications for tenant cash flow and LL required upfront capital. Traditionally limited to expected measure life.	Maximum term to be determined by negotiations with capital provider
Source of capital	Outside capital sourced from market sources (similar to residential model).	<p>Ultimately, preference not to use program monies from EE funds.</p> <p>PAs are not expected to be the source of capital but portal to the customers and the primary collection path for repayment of loans.</p>
Disclosure requirement	<p>YES, Landlord and Tenant must both have disclosed and agreed to:</p> <p>A best estimate of expected savings and financing charges</p> <p>Capital commitments (Landlord) and agreement to repay (Tenant)</p> <p>Authorization to allow detailed credit check (Landlord)</p> <p>Alteration of terms for eviction to include EE finance payment (Tenant)</p> <p>Landlord agreement to guaranty</p>	<p>Agreement to treat finance payments as rent proxy creates possibility of increased eviction risk that may be unacceptable. Need to establish leases i.e. “Green Lease” that would state responsibilities of landlords and tenants and offer suitable protections to ensure rents are not inappropriately increased or tenants inappropriately evicted for non-payment.</p>

Issue:	Proposed:	Comments:
	EE finance payment backed by potential lien on investment property	
Interest rate	TBD	Subject to market conditions and subsidy \$'s
Collection procedures/protections	<p>Tenants will be responsible for contractually agreed upon finance charges. Terms related to failure to pay obligation will be spelled out in rental agreement and are expected to be similar to partial payment of rent.</p> <p>If normal collection measures (set forth in program Terms & Conditions - T&C) do not remedy loan, loan balance is turned over to special servicer that will contact the LL and seek remediation. Should contact the tenant if he/she is still living there. LL should be contacted after the servicer determines there is no recourse with the tenant.</p> <p>Remedy of the loan by the servicer (including LL payments, tenant remedy, etc.) will result in the METER based obligation being returned to the utility OBR program.</p> <p>Failure to remedy will result in default and associated collection measures.</p>	
Who is at risk in case of Default	Investors / Loan Loss Reserve Fund (if applicable).	
Relationship to low income program	Low income LL/Tenant may choose to enter into these agreements subject to meeting	<60% qualifies for WAP and subsidized improvements. Low

Issue:	Proposed:	Comments:
	above criterion	<p>income tenants may choose to enter into an established METER lease agreement, but new obligations will not be written to tenants <60% median income.</p> <p>In mixed buildings, where some tenants qualify for LEAN but not a majority, program needs to closely coordinate with LEAN, operationally, financially and otherwise.</p>
QC on measures / installations	EXISTING measures are deemed adequate to monitor and verify installation.	Question – higher efficiency systems (boiler, solar hot water, etc.) may require regular maintenance to achieve projected efficiency. Can this be worked into agreements as the LL and Tenant have different incentives with respect to efficiency targeted maintenance?
Applicability of banking laws	OBR and Financing program will be subject to compliance with all laws and regulations including banking/lending statutes.	

3. ISSUES NOT ADDRESSED BY THE WORKING GROUP REPORT

As noted in earlier sections of this report, some issues raised by members of the Working Group were either peripheral to the group's charge to explore and recommend principles and mechanisms for on-bill repayment of outside financial capital resources that will be incorporated into the Program Administrator Energy Efficiency Investment Plans for the years 2011-2012 and beyond. These issues include:

- Status of customers whose income is above 60% of the statewide median income up to some higher level (initially posed as 60-120% of median);
- Service to residential renters compared to owners in the residential energy efficiency programs, characterized as "Mass Save" and including primarily the electric and gas ⁹.
- The "Pay and Save" pilot program mandated under the Green Communities Act. The pilot was in progress during the course of the Working Group's discussions. An evaluative report was issued and made available for comment after the this round of Working Group meetings leading to this report was completed.

3.1 CUSTOMERS ABOVE 60% OF STATEWIDE MEDIANINCOME

Members of the Working Group, particularly those representing the Green Justice Coalition (GJC), advanced the position that residential customers whose income ranges above the 60% of state median income should be viewed as in the equivalent situation with respect to being asked to pay the customer share of energy efficiency measures, which is currently set at 25% of total measure costs. This position posed several difficulties for the Working Group's fulfillment of its charge.

First, the question of customer share of efficiency program costs was not in the Working Group's charge. The question is a policy question that had not been previously addressed by the EEAC or the DPU. The EEAC has recently formed an Equity Committee, which is presumably the venue for raising the issue in the Council. Further, since the DPU is the regulatory arbiter of determinations about the income eligibility boundaries of low income

⁹ For the 2010-2012 period, Program Administrators have designed statewide multifamily energy efficiency programs that will serve buildings of more than four dwelling units. Additionally, the Low Income programs are offering a parallel multifamily program built upon the traditional Low Programs offered.

programs, additional work would have to be done to engage that body and develop a final determination.

Second, while the Working Group members acknowledged that the burden of energy costs certainly impacts customers whose income is above 60% of median, there was no agreement in the group about where to set the upper end of income with respect to thinking about different policies on customer contribution. It was noted that the federal Department of Housing and Urban Development (HUD) sets 80% of median as the upper range of low income for the purposes of determining eligibility for federal housing assistance. That's one marker but the Working Group did not have the time or resources to consider other possible markers, higher or lower than 120% of median income, that could be considered as an upper boundary. There was agreement that more work is needed to understand the issue and make recommendations. The general consensus was that this income-related question is certainly valid but this Working Group was not the most appropriate place to consider it.

3.2 SERVICE TO RENTERS

In a discussion somewhat similar to the question of income-related decisions, some members of the Working Group proposed intensive efforts to increase the percentage of residential program participants who are renters. Data in this area are scarce because PA's have not been required previously to report on the numbers or percentages of renters served under the PA's electric RCS program or the gas weatherization program, popularly known as Mass Save. The RCS legislation specifically is targeted to 1-4 family buildings, and as acknowledged elsewhere, until this year, there was no statewide multifamily program targeted to that residential sub-sector (we note that Low Income programs have done work in various types of multifamily low income housing over the years and are also launching a new multifamily effort in 2010). GJC presented census statistics indicating that statewide, 35% of dwelling units are occupied by renters, but fully developed PA or other data on what percentage of renters have been served are spotty at best, and need further work.

This is again an issue that while central to the question of equitable service among residential customers, is somewhat secondary to the question of how to finance and repay obligations in the OBR context. The Working Group had a number of detailed discussions involving members who have had many years' experience of working with renters and landlords and did not come to any clear consensus beyond the recognition that there are complex, legal, financial and regulatory issues, that property owners and managers are diverse in their composition e.g. owner-occupiers landlords at one end, corporate property managers at another and numerous variations in between. Further property owner perceptions of their own interests and the value of energy efficiency for them varies greatly. Most tenants pay their own utility costs, while the costs of capital improvement are borne by owners – with this common situation there is a widely recognized split incentive that works against finding an equitable balance of costs and benefits in rental housing, short of

regulatory or legislative solutions that would mandate certain efficiency practices. Such game changing initiatives are not currently on any legislative or regulatory agendas.

The Working Group member consensus is that the issue of equitable service to renters is important but the equity issue itself is not in the scope of the OBR Working Group and beyond a recommendation that further work concerning renters is needed, the Working Group has not gone beyond the development of what is admittedly an early step in the residential renter matrix.

3.3 PAY AND SAVE PILOT AND REPORT

While the OBR Working Group discussions were in progress, the DPU, in accordance with a mandate in the Green Communities Act (Chapter 169 of the Acts of 2008), ordered electric and gas utilities to conduct a financing pilot known as Pay and Save in each of their territories. As stated in the GCA, the pilot was limited to a maximum financed amount of \$500 in residences and \$1,000 for Small C/I participants. These amounts are considerably less than the financed investments contemplated in the drive to achieve deeper and broader savings under the GCA mandate to acquire all cost-effective energy efficiency. Indeed the existing Small C/I financing option offered by National Grid and others significantly exceeds the C/I limitation, with some thousands of customers participating in financing over the past several years.

At the conclusion of time- and finance-limited Pay and Save pilot programs, an evaluation for all the pilot programs was conducted by Black and Veatch. This evaluation will be posted on the EEAC website. The evaluation included a survey of participants and non-participants in the pilot. The evaluators concluded there was a high percentage of free ridership with respect to financing, that participation was limited and that many customers felt the financing option was more trouble than it was worth. The survey found some conflicting responses, including responses to questions with respect to whether increased financing would be attractive. The evaluation concluded that there was little interest in financing, a conclusion, which some parties, including DOER believed was not warranted by the limited nature of the pilot.

Despite the limited nature of the pilot there may be some lessons learned with respect to how customers view financing opportunities from their respective vantage points. To be successful, any financing/OBR repayment mechanisms must be perceived by customers as providing good value and being customer-friendly. Therefore there may be value in further exploration of what was observed in the pilot.

4. COMMENTS ON RENTAL UNITS AND OTHER ISSUES:

This section primarily presents comments made by Program Administrators but it also includes issues raised by other stakeholders in the course of the OBR discussions over several months and many meetings.

GENERAL COMMENT: The Program Administrators present these comments as a preliminary working proposal for a residential renter section. The PAs regard these comments as a straw/position paper intended to reflect the PAs' overarching concerns with the approach outlined in the rental matrix and as a means to focus discussion. The Program Administrators stress that the following section requires additional analysis, discussion, and vetting, and does **not** represent a consensus position.

Renters

- Overall, the PAs stress that the proposed rental option does not provide benefits over the owner option, but can create an unnecessarily complicated system that would insert the PAs into the relationship between landlords and tenants. The Program Administrators point out that the core beneficiary is the landlord by actually financing the difference between the total cost less the rebates, tax benefits and capital improvements to the property. The tenant benefits primarily by a reduction in energy bills, thereby potentially reducing the cost of rent or the utility bill.
- Instead of the approach outlined in the rental matrix, the Program Administrators propose developing a loan program for landlords (based on the owner-obligation scenario). Should the landlord wish to shift a portion of the cost to the tenant, that may be accomplished through a higher rent. This general approach would avoid complex billing, transaction-tracking and legal issues. For example, given that the state sanitary code requires landlords to provide the means for heat and hot water, making tenants responsible to pay (even if in a loan) for new heating/DHW systems may violate the state sanitary code. Furthermore, the PAs believe that the potential evictions associated with energy efficiency programs could be problematic and create unwanted "backlash" against the programs.

4.1 AT-RISK GROUPS

Several workgroup members have expressed concern over the implications of placing additional financial burdens on at-risk groups (<60% median income and 60-120% median

income). Although the model suggests setting financing costs at a safe margin¹⁰ below expected savings, there was concern that this group could be vulnerable to volatile income streams and more exposed to eviction, etc. as a result of the additional fixed payment obligations. Several suggestions / issues are listed below. These comments do not reflect the consensus of the OBR Working Group (and some of the suggestions/issues are outside the scope of the OBR Working Group's efforts), but are presented to set forth suggestions/issues raised by some of the non-PA participants:

- Low income programs must be even better coordinated than before, as we increase outreach to low-to-moderate income communities and start to reach neighborhoods and multi-unit buildings that may be occupied by a range of household incomes, some below 60% of median income, some in the 60-120% median income range, and some above that.
- We need to be cautious about offering financing to households in the 60% to ~120% SMI range, as additional debt may adversely affect their financial security. There is still the issue of how to identify these customers and whether or not the utilities should be responsible for attempting to ID these customers and steer them to the appropriate EE programs.
- For households in the 60~120% range, the group discussed offering higher levels of rebates and incentives than for households above the 120% range¹¹.
- Outreach and marketing (such as community mobilization initiatives) to be specifically tailored towards these particular sectors, including landlords.
- In addition to getting to consensus on the renter matrix, several other steps must also be taken in order to ensure adequate participation and access to these programs by renters and 60-120% homeowners: thought this piece concerned renters, not owners.
- Restructure utility rebates/incentives and marketing/outreach.

¹⁰ The margin being the difference between finance payments and expected savings of which the target margin was never finalized although 10% and 15% were numbers used in discussions.

¹¹ Questions arose as to the appropriate level of increased incentives. The PAs believe this implies a tiered rebate/incentive system and further program segmentation. Further segmentation would need to be reviewed by the EEAC and DPU. [PA NOTE:Further program segmentation would require large administrative undertaking and collection of income data. Such a separate effort for this specified income sector is not mandated under the GCA (as opposed to Low Income programs, which are). This issue merits discussion but would be a change to existing DPU-approved plans. EMV work with allow some market research but with limits. and the research might not address overall program design.

- Program budgets should be allocated specific to renters and 60-120% homeowners. Programs should be designed specifically to the needs of these sectors. A market research consultant should be hired by the PAs to address both of these populations.

APPENDIX A -CASH FLOW MODEL OF COSTS, SAVINGS AND FINANCE

SOURCE: DOER ¹²

Appendix- Financial Demonstration Model:

RENTAL BOILER & HOT WATER EXAMPLE

Assumptions:	Notes
N Gas Utility (yearly) \$ 1,650	based on 1100 Therms @ \$1.50 per Therm // Average for MA is 1,070 Therms or \$1,650
% HVAC & Hot Water	95% (May include some cooking, drying, fireplace, etc.)
Targeted Energy bef. Imp. \$ 1,568	Amount targeted for upgrade and efficiency gains
Old Boiler Efficiency	65% (Average of Natural Gas Fired Boiler pre 1975)
New Boiler Efficiency	90% (Actual not AFUE - Targeted Boiler / Hot Water Efficiency)
Boiler Replacement Cost \$ 10,000	(Estimate for equivalent boiler, hot water and install)
Utility Rebates	\$ - Rebate applied to interest rate buy down (See K19)
Fed Tax Credits	\$ - Assumes home owner qualifies for immediate tax credit
Net	\$ 10,000

Energy Cost Inflation	3%		
Down	50.0%	\$ 5,000	Dep/yr \$ 364
Principle	\$ 5,000		
	Subsidized	Market	
Interest Rate	0.0%	6.5%	
Duration	144 months		
Duration	12 years		

Consumer Payment:

	Yearly	Monthly
Payment	\$ 417	\$ 35
Savings	\$ 435	\$ 36
Net	\$ 19	\$ 2
Savings Ratio	105%	

Energy Use

	Before	After
Therms	1,100	810
Cost	\$ 1,650	\$ 1,215
Efficiency	65%	90%
Heating Equiv.	679	679
Cost	\$ 1,650	\$ 1,215
	\$ 435	

PV of Subsidy	\$ 1,534
Discount Rate	6.5%

Current boiler & hot water subsidy is \$1,600 for >95%

¹² The data in this model was compiled by the DOER and has not been reviewed or verified by the Program Administrators.

ATTACHMENT B

NATIONAL GRID – GOVERNMENT GRANT FUNDING LIST

National Grid – Government Grant Funding List

Government Grants (Federal) www.grant.gov									
#	Closing Date	Title	Agency	Funding Number	Eligibility Requirements	Notes	Application Submitted	Level of Funding Requested	Anticipated Award Date
Energy-Related Grants Currently Open									
G-1	08/01/2010	Program Year 2010 Weatherization Formula Grants	National Energy Technology Laboratory	DE-FOA-0000216	Only available for States and Federally Recognized Native American Tribal Governments	08-01-10 due date may impact our ability to support Commonwealth's effort, if any.			
G-2	08/31/2010	State Energy Program (SEP) PY 2010 Formula Award Funding Opportunity Announcement	National Energy Technology Laboratory	DE-FOA-0000308	Only available for States	56 Awards (25M total program funding) Has Mass Applied or is Considering proposing? Offer to assist Commonwealth?			
Environment-Related Grants Currently Open									
G-3	09/02/2010	"MARKET-BASED APPROACHES TO REDUCING GREENHOUSE GAS EMISSIONS THROUGH ENERGY EFFICIENCY IN HOMES AND BUILDINGS"	Environmental Protection Agency	EPA-OAR-CPPD-10-11	State governments County governments City or township governments Public and State controlled institutions of higher education Native American tribal governments (Federally recognized) Private institutions of higher education	Multiple awards; 10 grants ranging in value from \$60,000 - \$180,000, and up to 4 large cooperative agreements ranging in value from \$300,000 - \$1,200,000 from this announcement, subject to the availability of funds, quality of evaluated proposals, and other applicable considerations. The total awarded amount is not expected to exceed \$5,360,000. Have downloaded full announcement, RFP and EPA Grant Kit May be an opportunity to support cities & towns			
Housing-Related Grants Currently Open (http://portal.hud.gov/portal/page/portal/HUD/program_offices/administration/grants/fundsavail)									
G-4	02/16/2011	Assisted Housing Stability and Energy and Green Retrofit	Department of Housing and Urban Development	HUD-RA-01	Owners of properties receiving project-based assistance pursuant to section 202 of the Housing Act of 1959 (12 U.S.C. 17012), section 811 of the Cranston- Gonzalez National Affordable Housing Act (42 U.S.C. 8013, or Section 8 of the United States Housing Act of 1937 as amended (42 U.S.C. 1437f).	No application associated with this announcement. Provides link to HUD portal for full announcements. None are currently open. This is what they have funded: Promoting Energy Efficiency and Creating Green Jobs These investments are powerful vehicles for economic recovery because they work quickly, are labor-intensive, create jobs where they are needed most, and lead to lasting neighborhood benefits. Many will also reduce greenhouse gas emissions and save Americans money by retrofitting housing to make it more energy efficient. <ul style="list-style-type: none"> Public Housing Capital Fund: \$4 billion invested in energy efficient modernization and renovation of our nation's critical public housing inventory. Native American Housing 			

National Grid – Government Grant Funding List

Government Grants (Federal) www.grant.gov									
#	Closing Date	Title	Agency	Funding Number	Eligibility Requirements	Notes	Application Submitted	Level of Funding Requested	Anticipated Award Date
						<p>Block Grants: \$510 million invested in energy efficient modernization and renovation of housing maintained by Native American housing programs, and the development of sustainable communities.</p> <ul style="list-style-type: none"> • Assisted Housing Energy Retrofit: \$250 million invested in energy efficient modernization and renovation of housing of HUD-sponsored housing for low-income, elderly, and disabled persons. • Lead Hazard Reduction: \$100 million invested in lead based paint hazard reduction and abatement activities. 			
Economic Development Administration Grants Currently Open									
G-5	09/30/2010	Economic Development Assistance Programs	Economic Development Administration	EDA062220 09EDAP	Not Applicable				
“Other Funding” Grants Currently Open									
G-6	07/26/2010	<u>Energy Audits and Renewable Energy Development Assistance Grants</u>	Business and Cooperative Programs	RDCP-10-REAP-AUDITS	Eligible entities include a unit of State, tribal, or local government; institutions of higher education; rural electric cooperatives; or a public power entity. Additional Information on Eligibility: Citizenship - To be eligible, applicants, owned by private persons, must be at least 51 percent owned by persons who are either: 1) citizens of the United States (U.S.), the Republic of Palau, the Federated States of Micronesia, the Republic of the Marshall Islands, or American Samoa; or 2) legally admitted permanent residents residing in the U.S. Capacity to perform - The applicant must have sufficient capacity to perform the activities proposed in the application to ensure success. The Agency will make this assessment based on the information provided in the application. Legal authority and responsibility - Each applicant must have, or obtain, the legal authority necessary to carry out the purpose of the grant.	The energy audits and renewable energy development assistance program is designed to help agricultural producers and rural small businesses reduce energy costs and consumption and help meet the nation's critical energy needs. The 2008 Farm Bill mandates that the recipient of a grant that conducts an energy audit for an agricultural producer or a rural small business require the agricultural producer or rural small business to pay at least 25 percent of the cost of the energy audit, which shall be retained by the eligible entity for the cost of the audit.			
						<p>30 Awards; \$2.4 M Total Program Funding</p> <p>07-26-10 due date may impact our ability to support any applications</p>			

National Grid – Government Grant Funding List

Government Grants (Federal) www.grant.gov						
USDA Rural Development Special Initiatives For Community Facilities direct loans, guaranteed loans, and grants, section 343(a)(13) of the Consolidated Farm and Rural Development Act (7 U.S.C. 1991(a)(13)) defines "rural" and "rural area" as a "city, town, or unincorporated area that has a population of not more than 50,000 inhabitants."						
#	Opportunity	Eligibility Requirements	Notes	Application Submitted	Level of Funding Requested	Anticipated Award Date
Business and Cooperative Grant Assistance						
G-7	Repowering Assistance Program (Section 9004)	Not Applicable				
G-8	Bioenergy Program for Advanced Biofuels Payments to Advanced Biofuel Producers (Section 9005)	Not Applicable				
G-9	Rural Business Enterprise Grant (RBEG Program)	Rural public entities (towns, communities, State agencies, and authorities), Indian tribes and rural private non-profit corporations are eligible to apply for funding. At least 51 percent of the outstanding interest in any project must have membership or be owned by U.S. citizens or resident aliens.	The RBEG program provides grants for rural projects that finance and facilitate development of small and emerging rural businesses help fund distance learning networks, and help fund employment related adult education programs. To assist with business development, RBEGs may fund a broad array of activities.			
G-10	Rural Energy for America Program Grants/Energy Audit and Renewable Energy Development Assist (REAP/EA/REDA)Section 9007	Eligible entities include a unit of State, tribal, or local government; institutions of higher education; rural electric cooperatives; or a public power entity. The program is design to assist farmers, ranchers, and rural small businesses.	<p>The REAP/EA/REDA Grant Program will provide grants for energy audits and renewable energy development assistance.</p> <p>How much are the grants? The grants are awarded on a competitive basis and can be up to \$100,000. Recipients of an energy audit are required to pay at least 25% of the cost of the audit.</p> <p>What types of projects are eligible? Energy audits and renewable energy development assistance will allow agriculture producers and rural small businesses to become more energy efficient and use renewable technologies. For all projects, the system must be located in a rural area, must be technically feasible, and must be owned by the applicant</p> <p>How to Apply To apply for Repowering Assistance Payments please contact your Rural Development State Office. See contact list) Section 9007-FY 2010 Notice of Funds Availability REAP-EA-REDA 5-27-2010</p> <p>NEED TO FIND OUT IF \$ STILL AVAILABLE</p>			
G-11	Rural Energy for America Program Grants Renewable Energy Systems/Energy Efficiency Improvement Program (REAP/RES/EEI)Section 9007	The program is designed to assist farmers, ranchers and rural small businesses that are able to demonstrate financial need. All agricultural producers, including farmers and ranchers, who gain 50% or more of their gross income from the agricultural operations are eligible. Small businesses that are located in a rural area can also apply. Rural electric cooperatives may also be eligible to apply.	<p>Rural Energy For America Program Grants/Renewable Energy Systems/Energy Efficiency Improvement Program (REAP/RES/EEI)</p> <p>The REAP/RES/EEI Grants Program provides grants for energy audits and renewable energy development assistance. It also provides funds to agricultural producers and rural small businesses to purchase and install renewable energy systems and make energy efficiency improvements.</p> <p>How does the B&I Guaranteed Loan Program compare to the Rural Energy for America Program Guaranteed Loan and Grant? To assist you in determining which program best fit your needs this comparison chart identifies the programs common and</p>			

National Grid – Government Grant Funding List

Government Grants (Federal) www.grant.gov						
USDA Rural Development Special Initiatives For Community Facilities direct loans, guaranteed loans, and grants, section 343(a)(13) of the Consolidated Farm and Rural Development Act (7 U.S.C. 1991(a)(13)) defines "rural" and "rural area" as a "city, town, or unincorporated area that has a population of not more than 50,000 inhabitants."						
#	Opportunity	Eligibility Requirements	Notes	Application Submitted	Level of Funding Requested	Anticipated Award Date
			<p>distinct requirements in an easy to read format</p> <p>How much are the grants? The grants are awarded on a competitive basis and can be up to 25% of total eligible project costs. Grants are limited to \$500,000 for renewable energy systems and \$250,000 for energy efficiency improvements. Grant requests as low as \$2,500 for renewable energy systems and \$1,500 for energy efficiency improvements will be considered. At least 20% of the grant funds awarded must be for grants of \$20,000 or less.</p> <p>What types of projects are eligible? Most rural projects that reduce energy use and result in savings for the agricultural producer or small business are eligible as energy efficiency projects. These include projects such as retrofitting lighting or insulation, or purchasing or replacing equipment with more efficiency units. Eligible renewable energy projects include projects that produce energy from wind, solar, biomass, geothermal, hydro power and hydrogen-based sources. The projects can produce any form of energy including, heat, electricity, or fuel.</p> <p>How to Apply To apply for funding for the REAP Grant Program please contact your Rural Development State Office.</p> <p>Section 9007 9007-FY 2010 Notice of Solicitation of Applications 4-26-2010</p> <p>Energy Coordinators Contacts</p> <p>NEED TO FIND OUT IF \$ STILL AVAILABLE</p>			
G-12	Rural Energy For America Program Grants (REAP Feasibility Study Grants)Section 9007	The program is designed to assist farmers, ranchers and rural small businesses. All agricultural producers, including farmers and ranchers, who gain 50% or more of their gross income from the agricultural operations are eligible. Small businesses that are located in a rural area also apply. Rural electric cooperatives may also be eligible to apply.	<p>SECTION 9007 Rural Energy For America Program Grants (REAP Feasibility Study Grants)</p> <p>The REAP/Feasibility Grant Program provides grants for energy audits and renewable energy development assistance. It also provides funds to agricultural producers and rural small businesses to conduct feasibility study for a renewable energy system.</p> <p>How much are the grants? The grants are awarded on a competitive basis and can be up to 25% of total eligible project costs. Grants are limited to</p>			

National Grid – Government Grant Funding List

Government Grants (Federal) www.grant.gov						
USDA Rural Development Special Initiatives For Community Facilities direct loans, guaranteed loans, and grants, section 343(a)(13) of the Consolidated Farm and Rural Development Act (7 U.S.C. 1991(a)(13)) defines "rural" and "rural area" as a "city, town, or unincorporated area that has a population of not more than 50,000 inhabitants."						
#	Opportunity	Eligibility Requirements	Notes	Application Submitted	Level of Funding Requested	Anticipated Award Date
			<p>\$50,000 for renewable energy feasibility studies.</p> <p>What types of projects are eligible? Eligible feasibility studies for renewable energy systems include projects that will produce energy from wind, solar, biomass, geothermal, hydro power and hydrogen-based sources. The energy to be produced includes, heat, electricity, or fuel. For all projects, the system must be located in a rural area, must be technically feasible, and must be owned by the applicant.</p> <p>How to Apply To apply for funding for the REAP Grant Program please contact your Rural Development State Office.</p> <p>Energy Coordinators Contacts NEED TO FIND OUT IF \$ STILL AVAILABLE</p>			
G-13	<u>Rural Economic Development Loan And Grant (REDLG)</u>	<p>To receive funding under the REDLG program (which will be forwarded to selected eligible projects) an entity must:</p> <ul style="list-style-type: none"> • Have borrowed and repaid or pre-paid an insured, direct, or guaranteed loan received under the Rural Electrification Act or, • Be a not-for profit utility that is eligible to receive assistance from the Rural Development Electric or Telecommunication Program • Be a current Rural Development Electric or Telecommunication Programs Borrower 	<p>RURAL ECONOMIC DEVELOPMENT LOAN AND GRANT (REDLG) The REDLG program provides funding to rural projects through local utility organizations. Under the REDLoan program, USDA provides zero interest loans to local utilities which they, in turn, pass through to local businesses (ultimate recipients) for projects that will create and retain employment in rural areas. The ultimate recipients repay the lending utility directly. The utility is responsible for repayment to the Agency. Under the REDGrant program, USDA provides grant funds to local utility organizations which use the funding to establish revolving loan funds. Loans are made from the revolving loan fund to projects that will create or retain rural jobs. When the revolving loan fund is terminated, the grant is repaid to the Agency.</p> <p>What types of projects are eligible? REDLG grantees and borrowers pass the funding on to eligible projects. Examples of eligible projects include:</p> <ul style="list-style-type: none"> • Capitalization of revolving loan funds • Technical assistance in conjunction with projects funded under a zero interest REDLoan • Business Incubators • Community Development Assistance to non-profits and public bodies (particularly job creation or enhancement) • Facilities and equipment for education and training for rural residents to facilitate economic development • Facilities and equipment for medical care to rural residents • Telecommunications/computer networks for distance learning or long distance medical care <p>How to Apply</p>			

National Grid – Government Grant Funding List

Government Grants (Federal) www.grant.gov						
USDA Rural Development Special Initiatives For Community Facilities direct loans, guaranteed loans, and grants, section 343(a)(13) of the Consolidated Farm and Rural Development Act (7 U.S.C. 1991(a)(13)) defines “rural” and “rural area” as a “city, town, or unincorporated area that has a population of not more than 50,000 inhabitants.”						
#	Opportunity	Eligibility Requirements	Notes	Application Submitted	Level of Funding Requested	Anticipated Award Date
			To apply for funding for the REDLG program, please contact your Rural Development State Office. Availability of Funds During FY 2010, approximately \$33.077 million is available for loans.			
G-14	Rural Business Opportunity Grants (RBOG)	Not Applicable				
G-15	Small Socially-Disadvantaged Producer Grant (SSDPG)	Not Applicable				
G-16	Value-Added Producer Grants (VAPG)	Not Applicable				
Housing and Community Facilities Grant Assistance						
G-17	Rural Housing Repair and Rehabilitation Grants	Not Applicable				
G-18	Housing Application Packaging Grants	Not Applicable				
G-19	Individual Water and Waste Grants	Not Applicable				
G-20	Self-Help Technical Assistance Grants	Not Applicable				
G-21	Technical and Supervisory Assistance Grants	Not Applicable				
G-22	Housing Preservation Grants	Not Applicable				
G-23	Farm Labor Housing Loans and Grants	Not Applicable				
G-24	Community Facilities Grants	Not Applicable				
G-25	Rural Community Development Initiative	Not Applicable				
Utilities Grants						

National Grid – Government Grant Funding List

Government Grants (Federal) www.grant.gov						
USDA Rural Development Special Initiatives For Community Facilities direct loans, guaranteed loans, and grants, section 343(a)(13) of the Consolidated Farm and Rural Development Act (7 U.S.C. 1991(a)(13)) defines “rural” and “rural area” as a “city, town, or unincorporated area that has a population of not more than 50,000 inhabitants.”						
#	Opportunity	Eligibility Requirements	Notes	Application Submitted	Level of Funding Requested	Anticipated Award Date
G-26	High Energy Cost Grant Program	<p>Eligibility: To be an eligible applicant under this program:</p> <ul style="list-style-type: none"> You must be an eligible applicant; The grant project must serve an eligible extremely high energy cost community; The proposed project must improve energy generation, transmission, or distribution facilities service an eligible community; and The administrative costs of the project must not exceed 4 percent of grant funds. <p>Eligible Applicant: You are eligible to apply if you are any of the following:</p> <ul style="list-style-type: none"> a legally-organized for-profit or nonprofit organization such as, but not limited to, a corporation, association, partnership (including a limited liability partnership), cooperative, or trust; a sole proprietorship; a State or local government, or any agency or instrumentality of a State or local government, including a municipal utility or public power authority; an Indian tribe, a tribally-owned entity, and Alaska Native Corporation; an individual or group of individuals; or any of the above entities located in a U.S. Territory or other area authorized by law to participate in programs of the Rural Utilities Service or under the Rural Electrification Act. 	<p>High Energy Cost Grant Program Purpose: The High Energy Cost Grant Program provides financial assistance for the improvement of energy generation, transmission, and distribution facilities servicing eligible rural communities with home energy costs that are over 275 percent of the national average. Eligible Energy Projects: Grants under this program may be used for the acquisition, construction, installation, repair, replacement, or improvement of energy generation, transmission, or distribution facilities in communities with extremely high energy costs. On-grid and off-grid renewable energy projects, and energy efficiency, and energy conservation projects are eligible. Denali Commission High Energy Cost Grants (CFDA 10.857) are made to the Denali Commission for energy generation, transmission, and distribution facilities serving rural Alaskan communities with average home costs exceeding 275% of the national average. Visit the Denali Commission for more information. State Bulk Fuel Revolving Fund Grants (CFDA 10.858) are made to state government entities to establish and support revolving funds to provide a more cost-effective means of purchasing fuel for remote communities that are not served by surface transportation year round. State agencies that are interested in this program should consult the Agency Contact below for more information about eligibility and how to apply.</p> <ul style="list-style-type: none"> Program Regulations Grants under this program have supported revolving loan program of the Alaska Energy Authority and the Alaska Department of Commerce, Community and Economic Development. <p>Contact Information Karen Larsen Rural Development Electric Programs U.S. Department of Agriculture 1400 Independence Avenue, SW Stop 1560, Room 5165-South Washington, DC 20250-1560 Telephone: (202) 720-9545 Fax: (202) 690-0717 Email karen.larsen@wdc.usda.gov</p>			
G-27	Denali Commission High Energy Cost Grants	Not Applicable				
G-28	State Bulk Fuel Revolving Fund Grants	Not Applicable				
G-29	Distance Learning and Telemedicine Grant Program	Not Applicable				
G-30	Public Television Digital Transition Grant Program	Not Applicable				

National Grid – Government Grant Funding List

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#	Opportunity	Eligibility Requirements	Notes	Application Submitted	Level of Funding Requested	Anticipated Award Date
G-31	Community Connect Grant Program	Not Applicable				
G-32	Weather Radio Transmitter Grant Program	Not Applicable				
G-33	Water and Waste Disposal Direct Loans and Grants	Not Applicable				
G-34	Emergency Community Water Assistance Grants (ECWAG)	Not Applicable				
G-35	Wastewater Revolving Fund Grants	Not Applicable				
G-36	Solid Waste Management Grants	Not Applicable				
G-37	Section 306C Water and Waste Disposal Grants to alleviate health risks	Not Applicable				
G-38	Section 306D Water and Waste Grants for Alaskan Villages, incl. technical assistance	Not Applicable				
G-39	Section 306E Grants for the Construction, Refurbishment and Servicing of Low and Moderate Income Individual Well Systems	Not Applicable				
G-41	Technical Assistance and Training Grants for Rural Waste Systems	Not Applicable				
G-42	Predevelopment Planning Grants	Not Applicable				

National Grid – Government Grant Funding List

Government Grants (State)															
Massachusetts Green Communities http://www.mass.gov/?pageID=eoeesubtopic&L=3&L0=Home&L1=Energy%2c+Utilities+%26+Clean+Technologies&L2=Green+Communities&sid=Eoeea															
#	Opportunity	Eligibility Requirements	Notes	Application Submitted	Level of Funding Requested	Anticipated Award Date									
G-43	Massachusetts Green Communities Grant	<p>MUST Apply to be Designated a Green Community prior to submitting Grant. Current 2010 Grant Schedule is CLOSED:</p> <table border="1"> <thead> <tr> <th>DATE</th> <th>EVENT</th> </tr> </thead> <tbody> <tr> <td>Friday – March 19, 2010</td> <td>Begin accepting grant applications</td> </tr> <tr> <td>Friday – May 14, 2010</td> <td>Deadline for designation applications to be submitted by communities intending on submitting grant applications by May 28th</td> </tr> <tr> <td>Friday – May 28, 2010</td> <td>Grant Applications due</td> </tr> <tr> <td>Monday – June 28, 2010</td> <td>Announce Grant Awards</td> </tr> </tbody> </table> <p>The Grant Program, an initiative of the Green Communities Division, provides funding to help municipalities pursue energy efficiency measures, large renewable energy projects, and innovative methods that use less fossil fuel. Cities and towns can apply for the Grant Program after they have demonstrated that they have met the following five criteria and have been officially designated as a “Green Community.”</p> <p>Criterion #1: Provide as-of-right siting in designated locations for renewable/alternative energy generation, research & development, or manufacturing facilities</p> <ul style="list-style-type: none"> • Guidance for As-of-Right Siting of Renewable or Alternative Energy R&D or Manufacturing Facilities PDF • Model As-of-Right Bylaw for Large-Scale Photovoltaic Installations Word • Model As-of-Right Bylaw for Use of Wind Facilities PDF <p>Criterion #2: Adopted an expedited application and permit process for as-of-right energy facilities</p> <ul style="list-style-type: none"> • Guidance for Expedited Permitting Options - revised 3/26/10 Word <p>Criterion #3: Establish benchmark for energy use and developed a plan to reduce baseline by 20 percent within 5 years</p> <ul style="list-style-type: none"> • Sample Energy Reduction Action Plan Outline - revised 05/04/10 PDF <p>Criterion #4: Purchase only fuel-efficient vehicles</p> <ul style="list-style-type: none"> • Guidance and Model Policy for Purchasing only Fuel Efficient Vehicles Word <p>Criterion #5: Set requirements to minimize life-cycle energy costs for new construction; one way to meet these requirements is to adopt the new Board of Building Regulations and Standards (BBRS) Stretch Code</p> <ul style="list-style-type: none"> • Overview Summary of Stretch Code PDF • Summary Table of Stretch Code PDF • Stretch Code Adoption Process for a Town Word • Residential Cash Flow Analysis - new 4/28/10 PDF • Home Loan Investment Bank Case Study PDF • Fidelity Bank Corporate Office and Branch Case Study PDF • Question and Answer for Stretch Energy Code Appendix 120.AA PDF • “The ‘Stretch’ Code – Upping the Ante for Cutting Energy Costs in Buildings” PDF by Marc Breslow (see page 1 of newsletter) • Stretch Code Webinar: Presentation PDF • Stretch Code Webinar: Presentation w/audio (.wmv) • Independent HERS Raters [Mass. ENERGY STAR Homes] <p>The Green Communities Division will work closely with cities and towns to meet these criteria. To learn more, refer to the following guidelines:</p> <ul style="list-style-type: none"> • Qualification Guidelines for Green Community Grant Program PDF <p>If you want to participate in the Grant Program and are served by a municipal light plant (MLP), the MLP must adopt the Massachusetts Renewable Energy Trust’s renewable energy charge.</p> <p>The Grant Program’s ambitious criteria are designed to tap Massachusetts cities and towns’ potential to become models for how communities across the nation can manage their energy use and costs and advance the clean energy economy.</p> <p>Approximately \$7 million dollars is available for award in June 2010 to municipalities who meet these criteria. Below are the Program Opportunity Notice and Applications:</p> <ul style="list-style-type: none"> • Program Opportunity Notice for Green Communities Designation and Grant Award Word • Green Communities Designation Form - revised 05/11/10 Word • Green Communities Grant Program Application Word 	DATE	EVENT	Friday – March 19, 2010	Begin accepting grant applications	Friday – May 14, 2010	Deadline for designation applications to be submitted by communities intending on submitting grant applications by May 28th	Friday – May 28, 2010	Grant Applications due	Monday – June 28, 2010	Announce Grant Awards			
DATE	EVENT														
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National Grid – Government Grant Funding List

Government Grants (State)						
Massachusetts Executive Office of Housing and Economic Development						
#	Opportunity	Eligibility Requirements	Notes	Application Submitted	Level of Funding Requested	Anticipated Award Date
G-44	Section 8 Energy Retrofit Applications	Local Housing Authorities	<p>Commonwealth and Local Housing Authority Jointly propose to US Housing and Urban Development (HUD). The following Communities have submitted Proposals</p> <p>Billerica Housing Authority - 15 River Street PDF</p> <p>Norwood Housing Authority - William Shyne Circle PDF</p> <p>Somerville Housing Authority - Bryant Manor, 75 Myrtle Street PDF</p> <p>Whitman Housing Authority - Harvard Court PDF</p>			
Housing Energy Programs DHCD's Energy Programs provide eligible households assistance in the following areas: paying a portion of winter heating bills; heating system repair and replacement						
G-45	<u>Cold Relief Information</u>	The Low Income Home Energy Assistance Program assists low-income individuals and families with the cost of heating their homes during the winter season. The Program is managed by the DHCD in conjunction with 22 regional nonprofit and local government organizations.				
G-46	<u>Heating System Repair & Replacement Program (HEARTWAP)</u>	The Heating System Repair and Replacement Program provides heating system repair and replacement services to low-income households.				
G-47	<u>Low Income Home Energy Assistance (LIHEAP)</u>	Known commonly as Fuel Assistance, the Low Income Home Energy Assistance Program provides eligible households with help in paying a portion of winter heating bills.				
G48	<u>Weatherization Assistance Program (WAP)</u>	The Low Income Weatherization Assistance Program provides eligible households with full-scale home energy conservation services.				
Grant and Funding Programs In service to Massachusetts' residents and municipalities, the Division of Community Services offers programs, funding, and technical assistance to support the advancement towards self-sufficiency of low-income households and the revitalization of our cities and towns.						
G49	<u>Bridge Financing (BF)</u>	The Bridge Financing Program provides up to \$2 million in short-term financing (eighteen months or less) to bridge funding timing gaps for ready-to-go projects that meet CDBG requirements.				
G50	<u>Community Development Action Grant (CDAG)</u>	The Community Development Action Grant Program (CDAG) provides funding to communities for projects that build local economies, eliminate blight, create jobs and produce workforce and affordable housing that would not occur by private enterprise alone.				
G51	<u>Community Development Block Grant (CDBG)</u>	The Community Development Block Grant Program is a federally funded, competitive grant program designed to address revitalization efforts and the needs of low- and moderate-income residents by supporting housing, community and economic development activities in small cities and towns throughout the Commonwealth				
G52	<u>Community Development Block Grant - Recovery Act Program (CDBG-R)</u>	The federal Department of Housing and Urban Development (HUD) has allocated \$9.1 million from the American Recovery and Reinvestment Act (ARRA) to Massachusetts for distribution through the Massachusetts Community Development Block Grant (CDBG) Program. The money will be granted to non-entitlement cities and towns.				
G53	<u>Community Services Block Grant (CSBG)</u>	The Community Services Block Grant is a federally funded, poverty reduction program that was created to promote and provide an array of services and activities to encourage self-sufficiency and to make permanent improvements in the lives of low-income families and individuals.				
G54	<u>Economic Development Fund (EDF)</u>	The Economic Development Fund, a component of the Massachusetts Community Development Block Grant Program, provides funding for projects that create and/or retain jobs, improve the local and/or regional tax base, or otherwise enhance the quality of life in the community.				
G55	<u>Gateway Plus Action Grant</u>	Funding to 18 Gateway Cities to support local strategic planning efforts to increase diversity of housing options, increase economic opportunities, foster and strengthen civic engagement, and revitalize neighborhoods.				
G56	<u>Individual Development Account (IDA)</u>	The Individual Development Account is a state funded pilot program that provides funds for low to moderate income wage earners to reach self sufficiency and ultimately achieve homeownership.				
G57	<u>Massachusetts Downtown Initiative (MDI)</u>	The primary mission of the Massachusetts Downtown Initiative is to make downtown revitalization an integral part of community development in cities and towns across the Commonwealth.				
G58	<u>Neighborhood Housing Services (NHS)</u>	Neighborhood Housing Services Program assists residents and public/private entities to reinvest in urban neighborhoods in Boston, Cambridge, Chelsea, Quincy, and Springfield by rehabilitating housing and making it affordable for low and moderate-income families.				

National Grid – Government Grant Funding List

Government Grants (State)						
Massachusetts Executive Office of Housing and Economic Development						
#	Opportunity	Eligibility Requirements	Notes	Application Submitted	Level of Funding Requested	Anticipated Award Date
G59	Neighborhood Stabilization Program (NSP)	NSP1 is a \$54.8 million grant program from the Housing and Economic Recovery Act (HERA) awarded by the federal Department of Housing and Urban Development (HUD) to Massachusetts and four of its cities. These NSP funds are to be used primarily for the acquisition and rehabilitation of abandoned and foreclosed properties. NSP2 is a competitive grant program from the American Recovery and Reinvestment Act (ARRA) awarded by federal Department of Housing and Urban Development (HUD).				
G60	Peer to Peer Technical Assistance Program	The Peer-To-Peer Technical Assistance Program provides small grants to municipalities for short-term problem solving or technical assistance projects				
G-61	The <u>Massachusetts Business Resource Team</u> is a new service is available in Massachusetts under the Massachusetts Executive Office of Economic Development. The Business Resource Team is here to help businesses identify and access state programs and resources that match current needs. Whether you're expanding, relocating, hiring new employees or looking for working capital, the Massachusetts Business Resource Team can help you. 1-877-BIZ-TEAM					
G-62	<u>Berkshire Growth</u>					
G-63	<u>Economic Development Council of Western Massachusetts</u>					
G-64	<u>How to Start a Business in Massachusetts</u>					
G-65	<u>MassDevelopment</u>					
G-66	<u>Massachusetts Office of Business Development</u>					
G-67	<u>Massachusetts Office of International Trade & Investment</u>					
G-68	<u>Massachusetts Port Authority</u>					
G-69	<u>Massachusetts Small Business Development Center Network</u>					
G-70	<u>Massachusetts State Government</u>					
G-71	<u>Procurement Technical Assistance Center</u>					
G-72	<u>U.S. Export Assistance Center</u>					
G-73	<u>State and Local Government on the Net</u>					

ATTACHMENT C

NSTAR – ENERGY EFFICIENCY GRANT SEARCH FINDINGS

Energy Efficiency Grant Search Findings

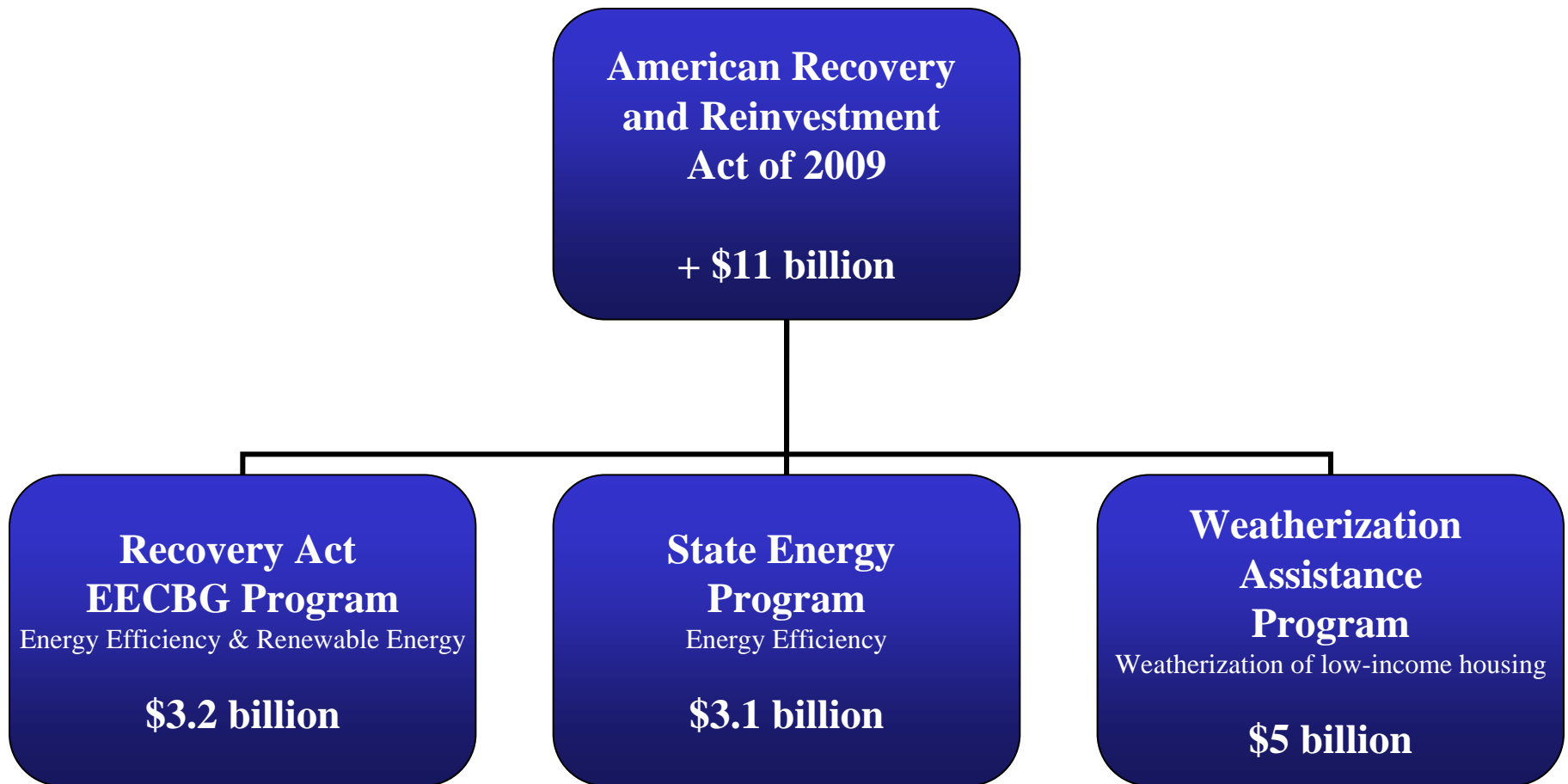
June 2010



Summary

- Federal, state, and private sources of energy efficiency funding were researched
- Federal
 - The State Energy Program (SEP) PY 2010 is currently accepting applications
 - MA's portion of the SEP is \$605,000
 - SEP requires 20% contribution by state
- State
 - No funding sources
- Private
 - Limited options available to non-profits and institutions

American Recovery and Reinvestment Act Funds



Sources:

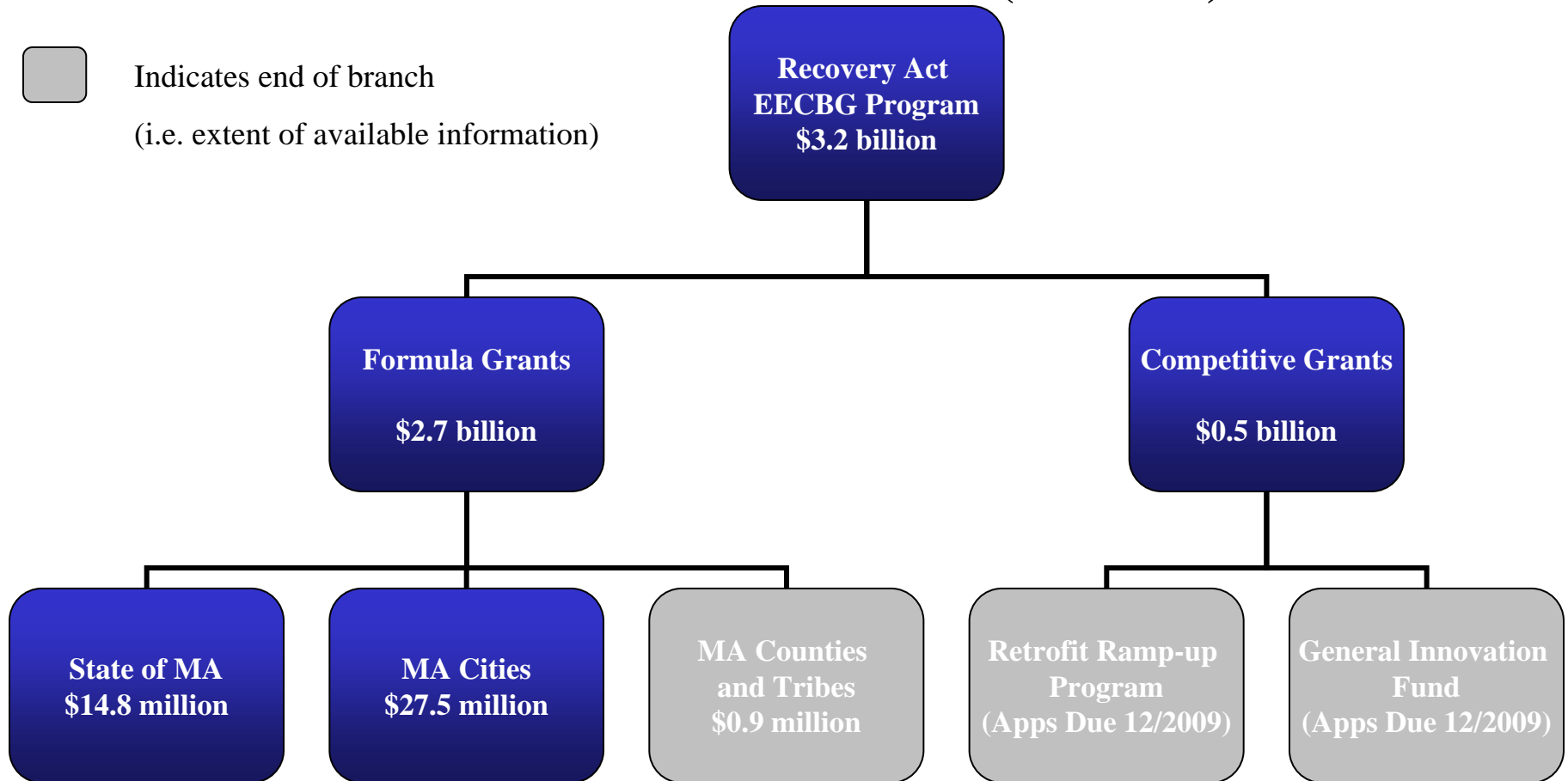
http://www1.eere.energy.gov/wip/recovery_act.html

Recovery Act Energy Efficiency

Conservation Block Grant (EECBG)



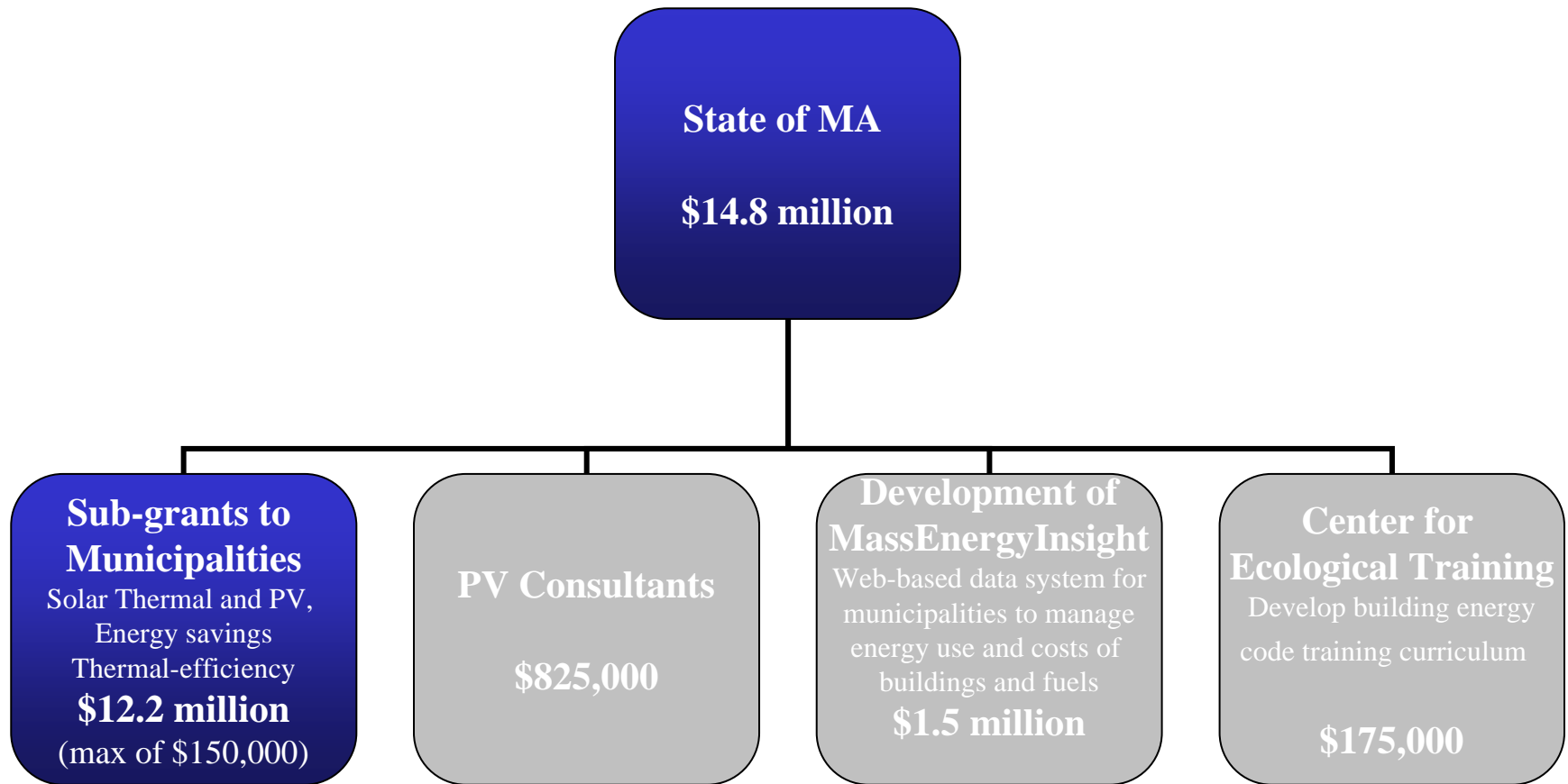
Indicates end of branch
(i.e. extent of available information)



Sources:

<http://www1.eere.energy.gov/wip/eeecbg.html>; http://www1.eere.energy.gov/wip/eeecbg_allocation.html;
http://www1.eere.energy.gov/wip/docs/eeecbg_allocation_ma.xls; http://www1.eere.energy.gov/wip/eeecbg_grants.html;
http://www1.eere.energy.gov/wip/pdfs/eeecbg_competitive_foa148_amendment3.pdf

MA's Division of ARRA Funds



Source:

http://www.mass.gov/?pageID=eoeaterminal&L=3&L0=Home&L1=Energy%2c+Utilities+%26+Clean+Technologies&L2=Green+Communities&sid=Eoea&b=terminalcontent&f=doer_green_communities_eecbg-prg&csid=Eoea

MA's Division of ARRA Funds

Sub-grants to Municipalities

Solar Thermal and PV, Energy savings

Thermal-efficiency

\$12.2 million

(max of \$150,000)

- A list of the municipalities, their award, and the project type can be found at http://www.mass.gov/Eoeea/docs/doer/green_communities/grant_program/EECBG-Awards.xls

MA's Division of ARRA Funds

MA Cities

Clean Technology and energy efficiency at municipalities and schools

\$27.5 million

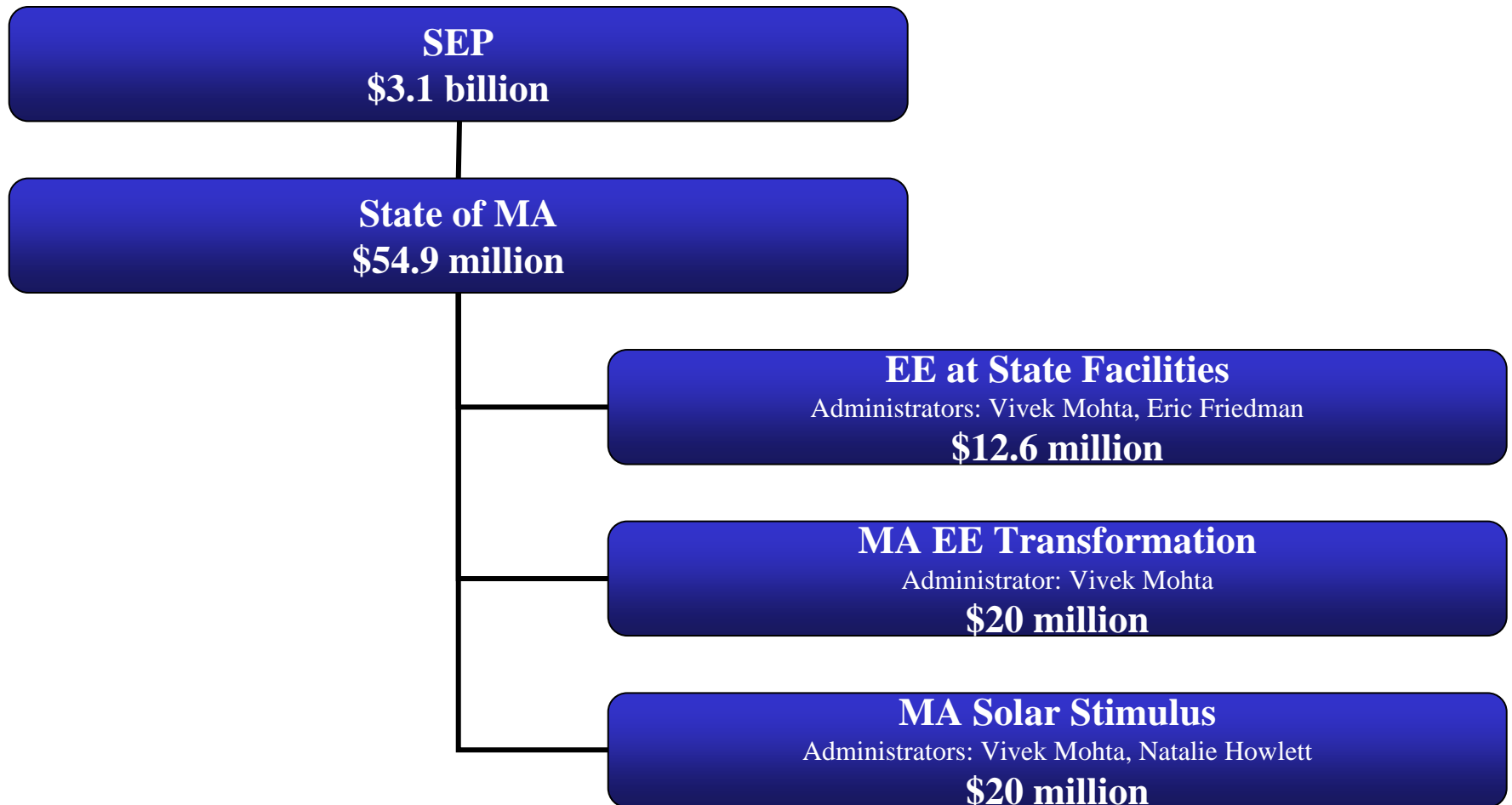
Amherst	\$162,000	Fitchburg	\$168,000	Peabody	\$494,200
Arlington	\$159,700	Framingham	\$657,000	Pittsfield	\$189,100
Attleboro	\$179,600	Haverhill	\$542,700	Plymouth	\$514,300
Barnstable	\$202,400	Holyoke	\$175,700	Quincy	\$881,200
Beverly	\$169,600	Lawrence	\$651,300	Revere	\$485,500
Billerica	\$180,200	Leominster	\$175,500	Salem	\$174,300
Boston	\$6,506,200	Lowell	\$954,700	Somerville	\$651,100
Brockton	\$865,000	Lynn	\$788,100	Springfield	\$1,498,200
Brookline	\$494,400	Malden	\$501,500	Taunton	\$519,600
Cambridge	\$139,400	Marlborough	\$178,000	Waltham	\$630,500
Chelsea	\$164,000	Medford	\$504,000	Westfield	\$170,300
Chicopee	\$499,100	Methuen	\$179,200	Weymouth	\$485,800
Everett	\$149,300	New Bedford	\$869,300	Woburn	\$174,600
Fall River	\$861,300	Newton	\$799,600	Worcester	\$1,733,000

Total	\$26,478,500
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Source:

http://www.mass.gov/?pageID=eoeaterminal&L=3&L0=Home&L1=Energy%2c+Utilities+%26+Clean+Technologies&L2=Green+Communities&sid=Eoeea&b=terminalcontent&f=doer_green_communities_eecbg-prg&csid=Eoeea

State Energy Program (SEP)



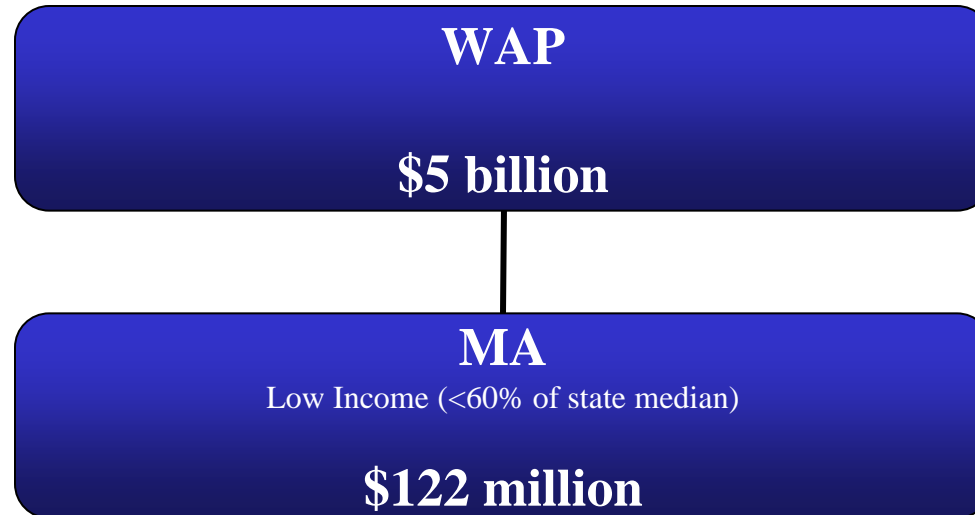
Notes: \$1.9 million of the \$54.9 million is for personnel and fringe benefits. \$0.5 million is for indirect charges.

Sources: http://www1.eere.energy.gov/wip/recovery_act_sep.html; http://www1.eere.energy.gov/wip/recovery_act_states.html;
http://www1.eere.energy.gov/wip/project_map/project_details_new.aspx?pid=24;
http://www1.eere.energy.gov/wip/pdfs/arra_sep_plan_ma_20100408.pdf

State Energy Program (SEP)

Program Name	Implementation Date	Objective	Description	\$ Amount
High Performance Buildings Program/MA EE Transformation	4/1/09-3/31/12	Demonstrate solutions to a number of long-standing challenges in improving building energy performance and facilitate market transformation	<ul style="list-style-type: none"> • Deep energy retrofit, outreach, education • Financing programs • Market transformation • \$500K-\$5M awards 	\$20M
Leading by Example/EE at State Facilities	4/1/09-3/31/12	Accelerate and expand clean energy projects at public buildings	<ul style="list-style-type: none"> • Accelerate pipeline of clean energy projects 	\$14.9M
MA Solar Stimulus	4/1/09-3/31/12	Fostering substantial expansion of the installed capacity of solar PV in MA	<ul style="list-style-type: none"> • Provide technical assistance • Provide financial incentives • Identify opportunities for market expansion 	\$20M
Total				\$54.9M

Weatherization Assistance Program (WAP)



Sources:
http://www1.eere.energy.gov/wip/recovery_act_wap.html
http://www1.eere.energy.gov/wip/pdfs/wx_closeup_ma.pdf
<http://www.mass.gov/Ehed/docs/dhcd/cd/wap/waprecoveryplan2009.pdf>
http://www.mass.gov/?pageID=ehedterminal&L=3&L0=Home&L1=Community+Development&L2=Housing+Energy+Programs&sid=Ehed&b=terminalcontent&f=dhcd_cd_wap_wap&csid=Ehed

Weatherization Assistance Program (WAP)

II.3 Subgrantees

Tentative

Grantee	City	Funding	Units
Action for Boston Community Development	Boston	\$ 10,042,805	1,423
ACTION, Incorporated	Gloucester	\$ 8,506,370	1,182
Berkshire Community Action Council Inc.	Pittsfield	\$ 3,007,805	423
Citizens for Citizens	Fall River	\$ 8,572,490	1,214
Community Action of the Franklin, Hampshire and Quabbin	Greenfield	\$ 4,653,995	657
Community Action Programs, Intercity	Chelsea	\$ 10,256,750	1,450
Expiring Use/Preservation Special Project Initiative	Boston	\$ 6,000,000	923
Greater Lawrence Community Action Council Inc.	Lawrence	\$ 7,669,940	1,084
Housing Assistance Corporation	Hyannis	\$ 2,881,175	405
Public Housing Special Project Initiative	Boston	\$ 25,000,000	3,846
Quincy Community Action Programs	Quincy	\$ 5,045,885	711
South Middlesex Opportunity Council	Framingham	\$ 8,711,120	1,232
Springfield Partners in Community Action	Springfield	\$ 8,466,965	1,199
Worcester Community Action Council	Worcester	\$ 8,324,195	1,177
TOTALS		\$ 117,139,495	16,926

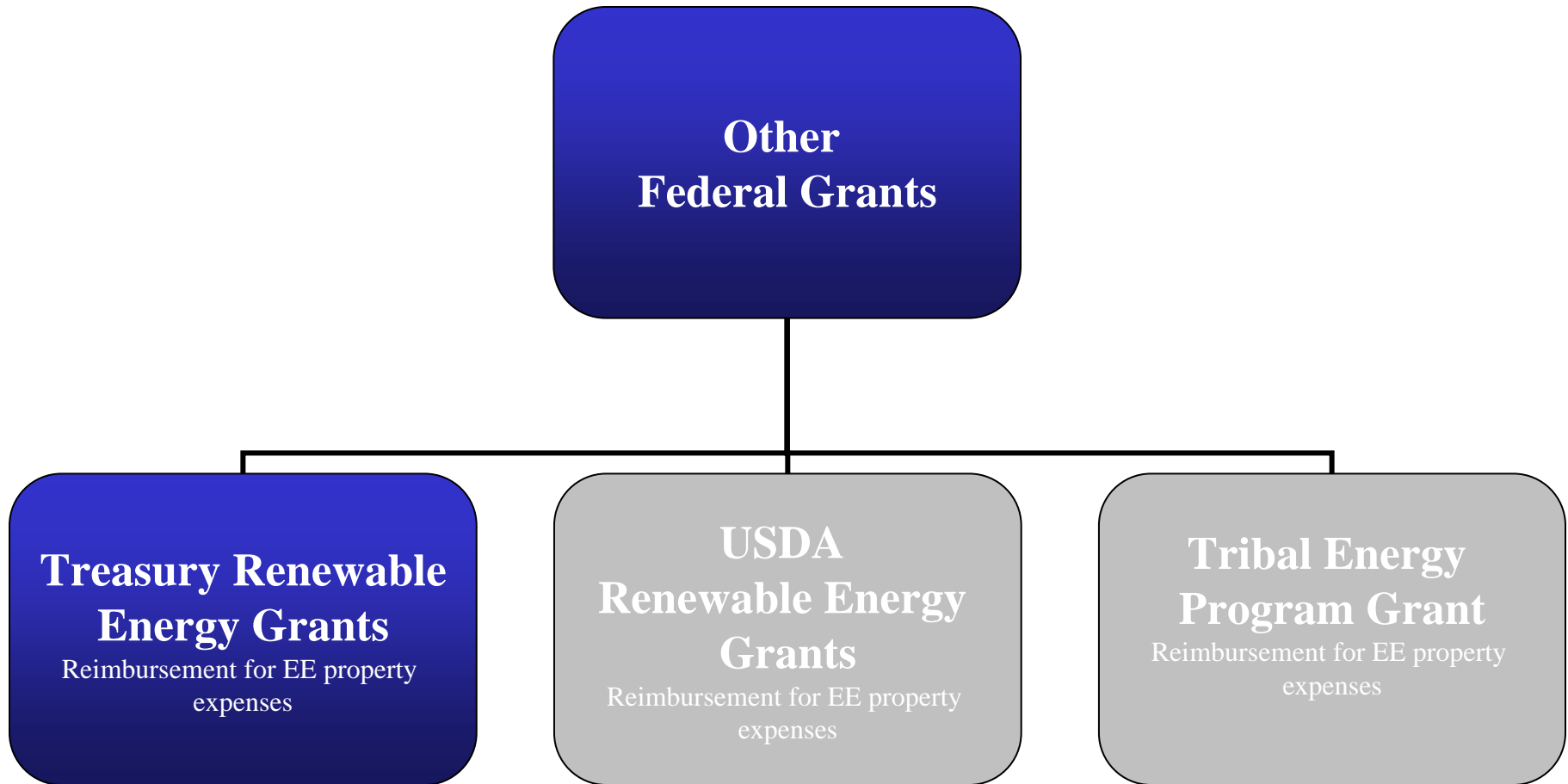
Notes: Tentative allocation. Where did money end up?

David MacLellan is NSTAR Electric's Policy Advisor Council Member. (mass.gov/Ehed/docs/dhcd/cd/wap/waprecoveryplan2009.pdf)

Sources: <http://www.mass.gov/Ehed/docs/dhcd/cd/wap/waprecoveryplan2009.pdf>

<http://www.bostonabcd.org/news/press-releases/documents/WeatherizationExpands32009.pdf>

Other Federal Energy Efficiency ‘Grant’ Programs



Sources:

<http://www.dsireusa.org/incentives/index.cfm?State=US&ee=1&re=1>

<http://www.treas.gov/recovery/docs/guidance.pdf>

<http://www.rurdev.usda.gov/rbs/busp/9006grant.htm>

http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=US07F&re=1&ee=1

Other Federal Energy Efficiency ‘Grant’ Programs

Treasury Renewable Energy Grants

Reimbursement for EE property
expenses

Specified Energy Property	Credit Termination Date	Applicable Percentage of Eligible Cost Basis
Large Wind	Jan 1, 2013	30%
Closed-Loop Biomass Facility	Jan 1, 2014	30%
Open-loop Biomass Facility	Jan 1, 2014	30%
Geothermal under IRC sec. 45	Jan 1, 2014	30%
Landfill Gas Facility	Jan 1, 2014	30%
Trash Facility	Jan 1, 2014	30%
Qualified Hydropower Facility	Jan 1, 2014	30%
Marine & Hydrokinetic	Jan 1, 2014	30%
Solar	Jan 1, 2017	30%
Geothermal under IRC sec. 48	Jan 1, 2017	10%*
Fuel Cells	Jan 1, 2017	30%**
Microturbines	Jan 1, 2017	10%***
Combined Heat & Power	Jan 1, 2017	10%
Small Wind	Jan 1, 2017	30%
Geothermal Heat Pumps	Jan 1, 2017	10%

Sources:

<http://www.treas.gov/recovery/docs/guidance.pdf>

Green Communities Grant Program

Green Communities Grant Program

**MA Cities and Towns
\$7 million**

(Apps due 5/28/10, Announcement of grant awards 6/28/10)

Source:

http://www.mass.gov/?pageID=eoeaterminal&L=3&L0=Home&L1=Energy%2c+Utilities+%26+Clean+Technologies&L2=Green+Communities&sid=Eoeea&b=terminalcontent&f=doer_green_communities_gc-grant-program&csid=Eoeea

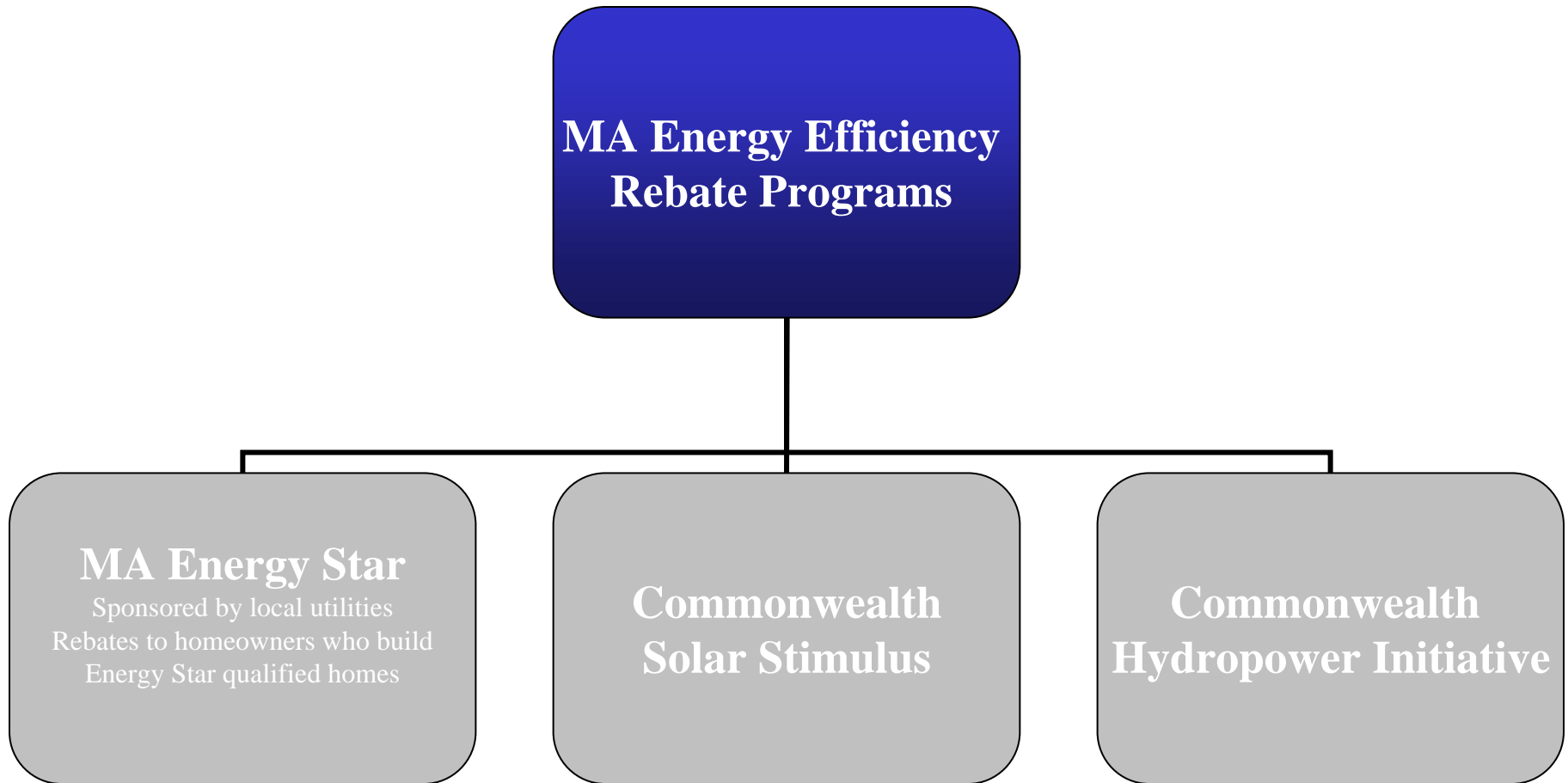
http://www.mass.gov/Eoeea/docs/doer/green_communities/grant_program/Green_Communities_Grant_Program_2010_PON.doc

Green Communities Grant Program

As of May 21, 2010, the following 35 municipalities were designated ‘Green Communities’ and are therefore eligible for the Green Communities Grant.

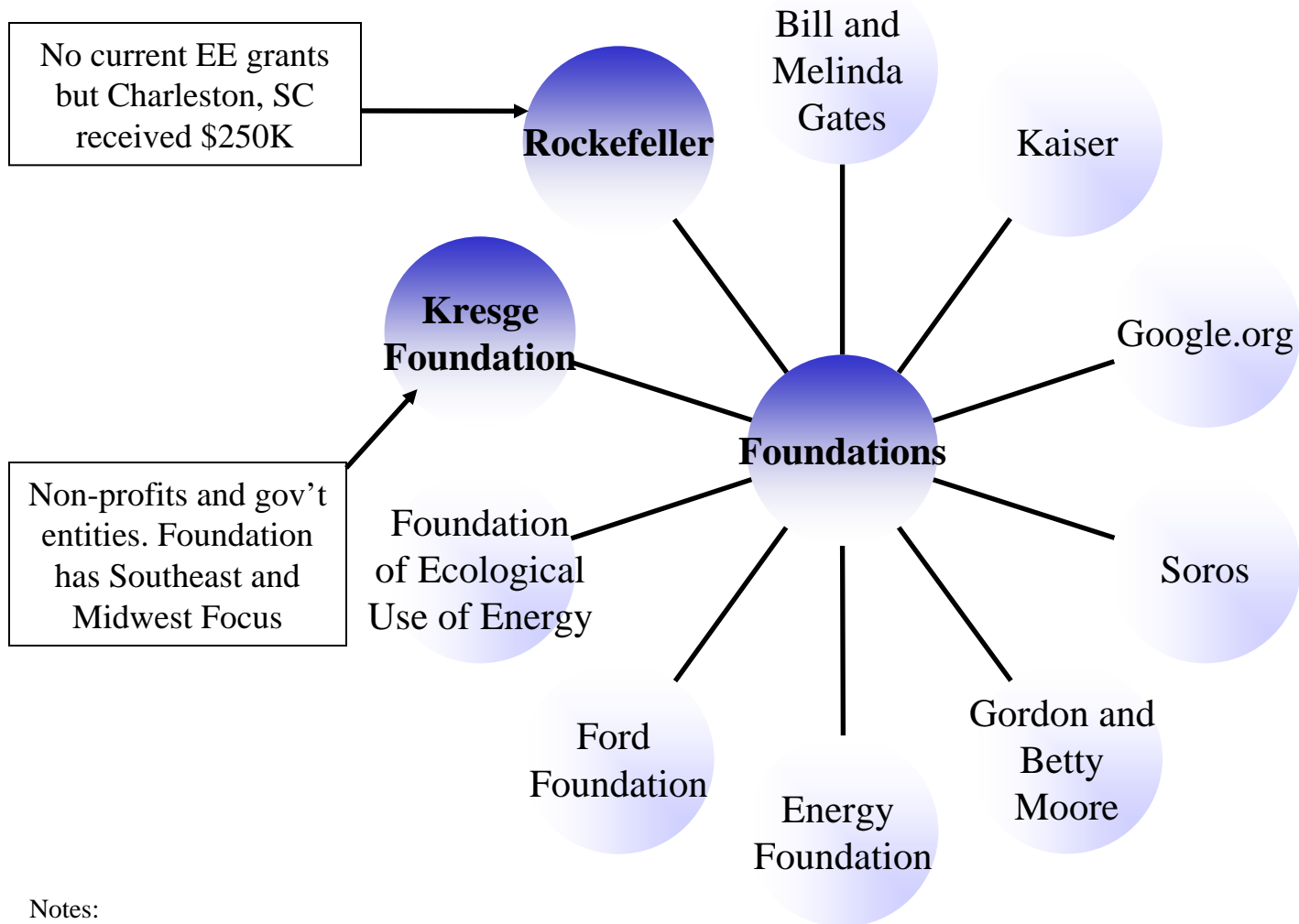
ACTON	GREENFIELD	LINCOLN	PALMER
ANDOVER	HAMILTON	LOWELL	PITTSFIELD
ARLINGTON	HANOVER	MASHPEE	SALEM
ATHOL	HOLYOKE	MEDFORD	SPRINGFIELD
BECKET	HOPKINTON	MELROSE	SUDBURY
BELCHERTOWN	KINGSTON	MONTAGUE	TYNGSBOROUGH
CAMBRIDGE	LANCASTER	NATICK	WENHAM
CHELMSFORD	LENOX	NEWTON	WORCESTER
EASTHAMPTON	LEXINGTON	NORTHAMPTON	

State Energy Efficiency Rebate Programs



Sources: <http://www.massenergystarhomes.com/>; <http://www.massenergystarhomes.com/homebuilders/value.htm>;
<http://www.masscec.com/index.cfm?pid=11052>; http://www.masstech.org/Grants_and_Awards/comm_hydro_09/hydro_09.html

Private Sector Research



Notes:

Foundations identified by reviewing the top philanthropists from businessweek and personal knowledge

(http://www.businessweek.com/interactive_reports/philanthropy_individual.html)

http://www.kresge.org/index.php/what/environment_program/energy_efficiency/http://www.kresge.org/index.php/what/environment_program/energy_efficiency/

<http://www.rockefellerfoundation.org/what-we-do/current-work/developing-climate-change-resilience>

<http://www.postandcourier.com/news/2010/may/26/grant-to-boost-citys-green-goals/>

Appendix 2 Variance Analysis

This section identifies programs for which savings, costs, or benefits vary by more than 20 percent from planned values. The table below displays the costs, benefits, and spending associated with each program, and the corresponding variance from planned values. The variances that are greater than 20% are shown in Tables 7A and 7B below. Table 7A is for the plan as originally filed and approved in DPU 08-109, and Table 7B reflects the increased funding request proposed by the Company in DPU 09-92.

Table 7A - 2009 Variance Analysis, Original Budget

Residential Program Summary

Program	Actual Expenditures	Planned Budget	Cost Variance	Actual Savings	Planned Savings	Savings Variance	Actual Benefits	Planned Benefits	Benefits Variance
Residential High-Efficiency Heating, Water-Heating, Controls Program	\$7,071,007	\$4,782,006	48%	2,020,350	1,594,375	27%	\$37,887,939	\$29,611,559	28%
ENERGY STAR® Replacement Windows Program	\$216,666	\$688,002	69%	33,001	106,400	69%	\$1,402,378	\$2,679,592	48%
Residential Weatherization Program	\$9,068,193	\$2,006,777	352%	2,122,624	478,400	344%	\$44,121,213	\$9,944,101	344%
New Home Construction with ENERGY STAR	\$564,263	\$443,940	27%	154,404	81,430	90%	\$2,000,696	\$2,020,923	1%
Residential Building Practices and Demonstration Program	\$66,809	\$176,457	62%	3,105	0	n/a	\$0	\$0	n/a
Energy Analysis: Internet Audit Program	\$152,543	\$209,667	27%	0	0	n/a	\$0	\$0	n/a
Total Residential	\$17,139,482	\$8,306,848	106%	4,333,483	2,260,605	92%	\$85,412,227	\$44,256,175	93%
Low Income Program Summary									
Program									
Residential Low Income Program	\$5,062,601	\$5,267,808	4%	153,032	161,880	5%	\$8,206,772	\$7,888,466	4%
Commercial and Industrial Program Summary									
Program									
Commercial High-Efficiency Heating Program	\$1,170,813	\$899,325	30%	544,847	261,324	108%	\$11,834,911	\$5,626,862	110%
Commercial Energy Efficiency Program	\$4,927,947	\$4,956,105	1%	2,477,719	2,554,440	3%	\$35,825,498	\$36,934,810	3%
Commercial Building Practices and Demonstration Program	\$440,013	\$482,059	9%	143,575	149,784	4%	\$2,075,960	\$2,165,736	4%
Business Energy Analyzer	\$85,783	\$92,400	7%	0	0	n/a	\$0	\$0	n/a
Builder Operator Certification	\$12,237	\$57,750	79%	0	0	n/a	\$0	\$0	n/a
Total	\$6,636,793	\$6,487,639	2%	3,166,141	2,965,548	7%	\$49,736,369	\$44,727,408	11%
Grand Total- All Programs	\$28,838,876	\$20,062,295	44%	7,652,656	5,388,033	42%	\$143,355,368	\$96,872,049	48%

Table 7B - 2009 Variance Analysis, Updated Budget

Residential Program Summary

Program	Actual Expenditures	Planned Budget	Cost Variance	Actual Savings	Planned Savings	Savings Variance	Actual Benefits	Planned Benefits	Benefits Variance
Residential High-Efficiency Heating, Water-Heating, Controls Program	\$7,071,007	\$8,282,007	15%	2,020,350	2,220,848	9%	\$37,887,939	\$41,201,484	8%
ENERGY STAR® Replacement Windows Program	\$216,666	\$688,002	69%	33,001	106,400	69%	\$1,402,378	\$2,679,592	48%
Residential Weatherization Program	\$9,068,193	\$9,006,777	1%	2,122,624	2,092,448	1%	\$44,121,213	\$43,493,970	1%
New Home Construction with ENERGY STAR	\$564,263	\$443,940	27%	154,404	81,430	90%	\$2,000,696	\$2,020,923	1%
Residential Building Practices and Demonstration Program	\$66,809	\$176,457	62%	3,105	0	n/a	\$0	\$0	n/a
Energy Analysis: Internet Audit Program	\$152,543	\$209,667	27%	0	0	n/a	\$0	\$0	n/a
Total Residential	\$17,139,482	\$18,806,849	9%	4,333,483	4,501,126	4%	\$85,412,227	\$89,395,968	4%
Low Income Program Summary									
Program									
Residential Low Income Program	\$5,062,601	\$5,267,808	4%	153,032	161,880	5%	\$8,206,772	\$7,888,466	4%
Commercial and Industrial Program Summary									
Program									
Commercial High-Efficiency Heating Program	\$1,170,813	\$899,325	30%	544,847	261,324	108%	\$11,834,911	\$5,626,862	110%
Commercial Energy Efficiency Program	\$4,927,947	\$4,956,105	1%	2,477,719	2,554,440	3%	\$35,825,498	\$36,934,810	3%
Commercial Building Practices and Demonstration Program	\$440,013	\$482,059	9%	143,575	149,784	4%	\$2,075,960	\$2,165,736	4%
Business Energy Analyzer	\$85,783	\$92,400	7%	0	0	n/a	\$0	\$0	n/a
Builder Operator Certification	\$12,237	\$57,750	79%	0	0	n/a	\$0	\$0	n/a
Total	\$6,636,793	\$6,487,639	2%	3,166,141	2,965,548	7%	\$49,736,369	\$44,727,408	11%
Grand Total- All Programs	\$28,838,876	\$30,562,296	6%	7,652,656	7,628,554	0%	\$143,355,368	\$142,011,842	1%

The Green Communities Act requires that the Company “provide for the acquisition of all available energy efficiency and demand reduction resources that are cost effective or less expensive than supply,” codified as G.L. c. 25 §21 (b). In attempting to meet that statutory requirement, the Company undertook aggressive efforts to provide cost effective energy efficiency programs for all customer sectors. As a result, spending for some programs was above the 20 percent of planned spending. However, the programs remained cost effective and thus reflect the Company's energy efficiency goals as well as the requirements of the Green Communities Act as stated above.

Programs with a Benefit/Cost Ratio Less than 1

The Commercial Building Practices and Demonstration Program had a benefit/cost ratio less than 1.0. This program is intended to establish successful applications of new or underutilized energy efficient procedures, processes, or technologies. The 2009 overall program was planned to be cost-effective, however, some of the actual projects are cost-effective and some may not be. One project that received an incentive in 2009 was a CHP fuel cell, with an actual total project cost of \$1.8 million, much greater than the expected planned average cost per project of \$109,000. This caused the program b/c to be less than 1.

The Residential Building Practices and Demonstration, Energy Analysis-Internet Audit, Business Energy Analyzer, and Builder Operator Certification Programs all had benefit-cost ratios of zero. These programs are demonstration, information, or training programs intended to promote energy efficiency, and are effective in that role. They were no planned or achieved benefits for these programs.

Programs National Grid Intends to Discontinue

National Grid discontinued the ENERGY STAR Replacement Windows Program in 2010 because in 2008, the Gas Networks Collaborative determined that it was ineffective. This program was phased out in 2009.

Analysis of Variances by Program (BCR activity)

The sections that follow contain an explanation for each component of a program that varies more than 20 percent from planned values and how those activities affected or did not affect the performance incentive calculation.

Residential Sector

Residential High-Efficiency, Heating, Water Heating, Controls Program

In Table 7A, this program exceeded the 20% variance in all three categories. The increases can be explained by increased rebate values, adjusted after the plan was filed and, as a result of those increased rebates, higher participation in the program. In 2009, at the request of DOER, all Massachusetts gas utilities increased the rebate levels for gas heating equipment because of DOER's concerns over significantly high gas prices and the negative effect that the U.S. economic recession would have on implementing energy efficiency. Consequently, the Company requested additional funds for this program in DPU 09-92. With these additional funds, all categories were within the $\pm 20\%$ variance as shown in Table 7B.

Under the original plan, shown in Table 7A, the Company achieves the exemplary performance cap for this program because of the high participation achieved. Under the updated plan, shown in Table 7B, where participation goals are recalibrated to be consistent with the requested funding increase, exemplary performance is not achieved, so the earned performance incentive is lower.

Energy Star Replacement Windows Program

This program exceeded the 20% variance in all three categories. In 2008 the Gas Networks Collaborative determined that the Windows Rebate Program was ineffective and made the decision to phase it out. The variances in all three categories, therefore, are explained by the windows program being in the phase out process in 2009.

Because this program did not achieve 75% of target participation, the Company earned no performance incentive for this program in 2009.

Residential Weatherization Program

In Table 7A, this program exceeded the 20% variance in all three categories. Similar to the equipment program, the increases can be explained by increased rebate values, adjusted after the plan was filed and, as a result of those increased rebates, higher participation in the program. In 2009, at the request of DOER, all Massachusetts gas

utilities increased the rebate levels for gas weatherization because of DOER's concerns over significantly high gas prices and the negative affect that the U.S. economic recession would have on implementing energy efficiency. Consequently, the Company requested additional funds for this program in DPU 09-92. With these additional funds, all categories were within the $\pm 20\%$ variance as shown in Table 7B.

Under the original plan, shown in Table 7A, the Company achieves the exemplary performance cap for this program because of the high participation achieved. Under the updated plan, shown in Table 7B, where participation goals are recalibrated to be consistent with the requested funding increase, exemplary performance is not achieved, so the earned performance incentive is lower.

New Home Construction With Energy Star

This program exceeded the 20% variance in savings and spending. These increases were due to a language change from the EPA allowing four and five story, individually-metered properties to participate in the program and receive the ENERGY STAR label. Although overall participation in this program in 2009 was essentially the same as planned, these additional, multifamily units resulted in greater than anticipated savings and spending.

Because participation was approximately equal to the target, the Company's earned incentive was not affected by the increased savings or spending.

Residential Building Practices and Demonstration Program

This program exceeded the 20% variance for spending. The decrease can be explained by the limited availability of participants installing and monitoring solar, domestic, hot water systems, which were the program's primary effort for 2009. Twenty three demonstration projects of new or underutilized energy efficient procedures, processes, or technologies were supported through this program in 2009, compared to the target of 30, but they were smaller on average than planned, and received smaller rebates. No savings or benefits were planned for this program.

The earned performance incentive was not affected by the variance in spending.

Energy Analysis: Internet Audit Program

This program exceeded the variance for spending. No savings or benefits were planned for this program.

The earned performance incentive was not affected by the variance in spending.

Low Income Sector

Residential Low Income Program

All categories were within the $\pm 20\%$ variance.

Commercial and Industrial Sector

Commercial High Efficiency Heating Program

This program exceeded the 20% variance in all three categories. The large increases can be explained by a difference in the mixture of rebated measures. Higher numbers of the more expensive measures were rebated than planned. The Company supported the actual mix of measures in the interest of increasing energy efficiency.

The earned performance incentive was not affected by the variance in spending, because actual participation exceeded the planned participation by more than 10%, achieving the exemplary performance incentive.

Commercial Energy Efficiency Program

All categories were within the $\pm 20\%$ variance.

Commercial Building Practices and Demonstration Program

All categories were within the $\pm 20\%$ variance.

Business Energy Analyzer

All categories were within the $\pm 20\%$ variance.

Builder Operator Certification

This program exceeded the 20% variance in program spending. The Building Operator Certification training seminars were co-sponsored by both gas and electric program administrators so this program did not have to fund the entire cost. In addition, one training session was cancelled because of Building Operator Certification regulations. No savings or benefits were planned for this program.

The earned performance incentive was not affected by the variance in spending.