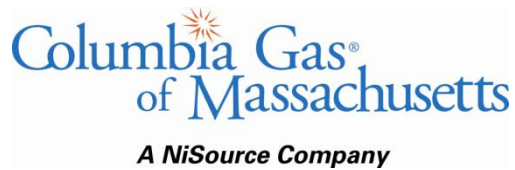




2013-2015

**Massachusetts
Joint Statewide Three-Year
Electric and Gas Energy Efficiency Plan
July 2, 2012 Submission to EEAC**



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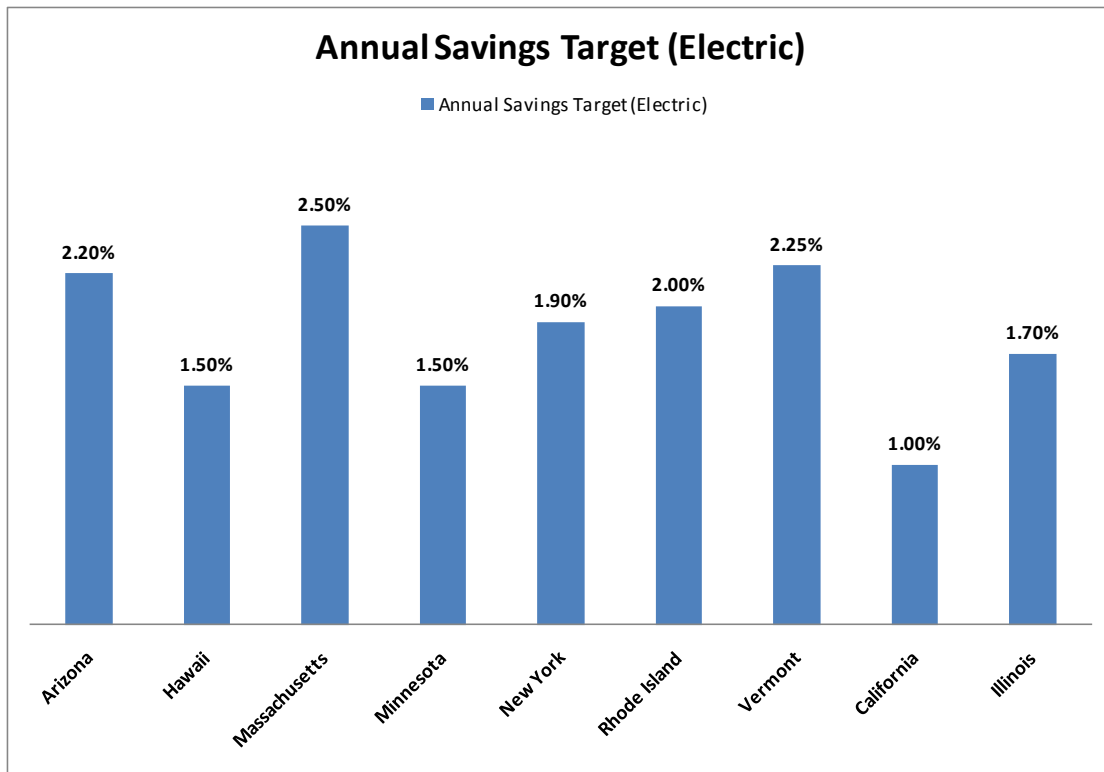
2013-2015 MASSACHUSETTS JOINT STATEWIDE THREE-YEAR ELECTRIC & GAS ENERGY EFFICIENCY PLAN

Prologue:

THE BIG PICTURE: AGGRESSIVE SAVINGS, STREAMLINED COSTS, AND INNOVATION

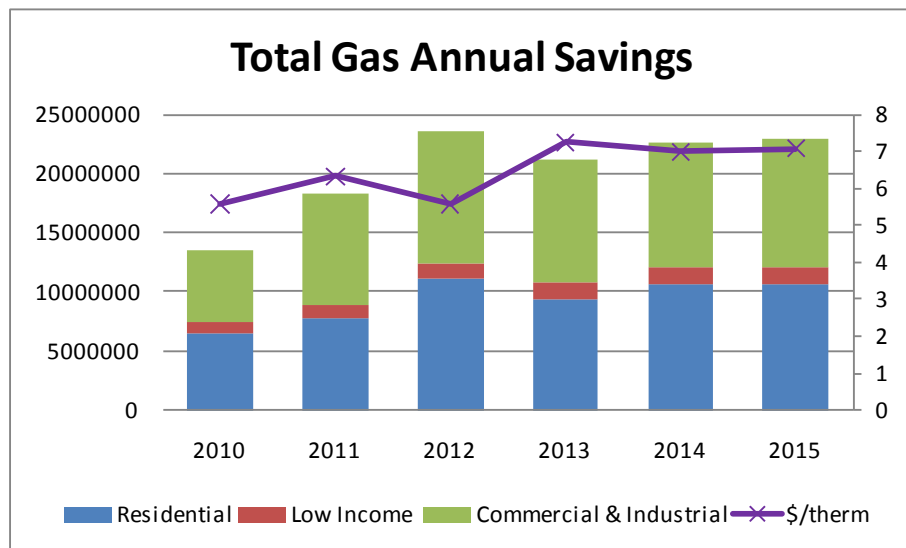
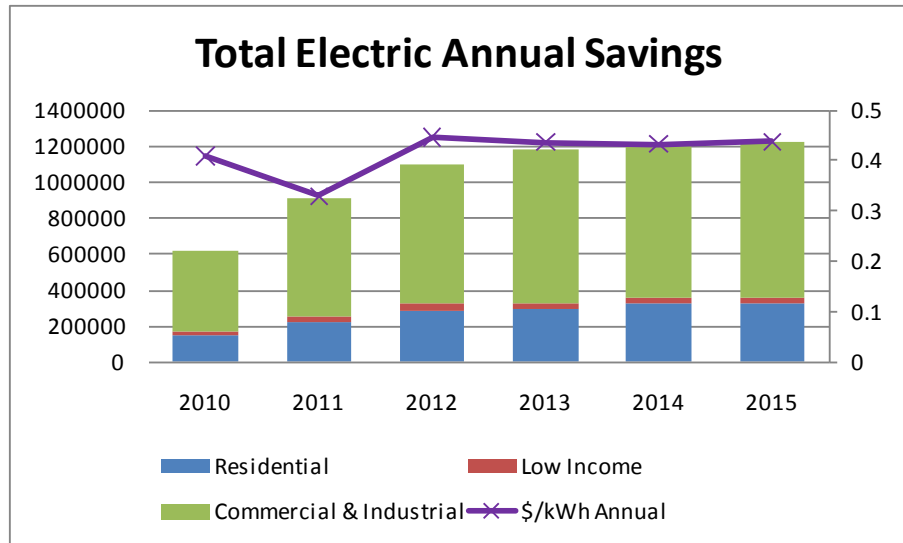
- The PAs are proposing the most aggressive savings goals for an integrated gas and electric statewide energy efficiency program anywhere in the nation.

Electric target of 2.5 percent of retail sales compares with California target of approximately 1 percent.



NSTAR, Western Massachusetts Electric Company, and National Grid electric savings levels each **exceed** 2.5 percent. Gas target of 1% of retail sales. National Grid, NSTAR, and Columbia Gas of Massachusetts have all adopted savings targets that meet or exceed this level. Four gas PAs have **increased** savings goals from April 30th proposals, even with the challenges of new evaluation results.

Annual saving set at consistently high levels over the three years of the Plan, with level costs, as shown below:



- To achieve these challenging savings levels in light of: (1) new codes and standards requirements for more efficient equipment, and (2) evaluation results, the Program Administrators will dramatically **ramp up production** and **reach more customers**, with more equipment installed and services provided.

	Electric					
	2010	2011	2012	2013	2014	2015
Participants						
Lighting	272,494	732,165	829,524	1,086,920	1,137,574	1,145,087
HES Audits	29,809	35,366	45,978	48,970	50,734	52,729
Low Income Audits	17,431	15,130	29,448	28,271	28,948	30,061
C&I retrofit	5,441	7,708	8,004	9,216	9,004	9,321

Participants	2010	2011	2012	2013	2014	2015
Residential	190,393	307,696	393,616	445,535	446,638	448,764
Low Income	3,935	4,024	5,458	6,163	6,294	6,438
C&I	5,904	7,688	14,104	17,596	17,600	17,913

- These savings targets and costs factor in the very real challenges posed by increasing efficiency baselines (especially EISA lighting standards), CHP project availability, and EM&V studies showing decreased net savings in certain programs (in particular on the gas side). To maintain savings, PAs must consistently do more.
- Results to date demonstrate that the PAs have prudently expended customer funds and have been able to deliver savings at historic levels below projected costs; this commitment to cost-efficiency will continue in 2013-2015.

NEW BREAKOUT INNOVATIONS FOR 2013-2015

- **Efficient Neighborhoods+:** The PAs are proposing this bold new initiative to serve lower income and working-class communities that incorporates extensive public feedback and targets economically challenged neighborhoods and will explore target communities such as the Commonwealth’s “Gateway Cities” and Green Communities.
- The PAs will drive the **lighting revolution** they have led: new technologies, more savings, better lighting quality, more satisfied customers.
- State-of-the-art **new approaches** target the healthcare sector, office space and municipalities: multi-year MOUs, new technologies, Office of the Future efforts and a new approach across the Commonwealth to serve and proactively engage with cities and towns, including Green Communities.
- **Public education:** a new commitment to schools, developing curricula and driving a culture of sustainability based upon suggestions from stakeholders.
- Enhanced use of **market segmentation studies** and sector-focused “Go-to-Market” approaches.

CONTINUATION OF AREAS OF EXCELLENCE

- A commitment to Massachusetts’ outstanding EM&V: continuation of the successful EMC; ensuring confidence in results; learning from experience.
- Sharing of best practices and adoption of new technologies: the C&IMC, RMC, Low-Income Best Practices Group, Statewide Marketing Committee, and MTAC; each group integrated across gas and electric PAs – no state matches the effort and cooperation of the Massachusetts Program Administrators.
- Cohesive and extensive marketing and outreach efforts including extensive community engagement and creative new campaigns.
- Continued sensitivity to customer bill impacts and sustainability.

BENEFITS ACROSS THE BOARD

- **Over \$8 Billion** in economic benefits for customers.
- Environmental benefits, as a legacy for future generations, comparable to taking approximately 398,700 cars off the road or eliminating the output of a 460 MW power plant for one year.
- Important job creation benefits- ongoing research is indicating that each million dollars spent on residential weatherization supports 12 direct in-the-field full time jobs.
- Robust BCRs of 3.19 (electric) and 1.73 (gas).
- Improved quality of life for our most vulnerable low-income customers as a result of the historic partnership between LEAN and the PAs.

THANKS: MANY HANDS PULLING ON THE OARS

- The PAs have received constructive input from councilors, government officials, stakeholders, energy experts and consultants, and participants in the groundbreaking Appreciative Inquiry Summit and Energy Expos. This Plan has benefited from extensive input.
- The PAs appreciate their team: every PA contributes, every PA leads, and every PA learns.
- The PAs are committed to continuous improvement. Even the best efforts can be improved over time.



I. EXECUTIVE SUMMARY

A. Introduction

The gas and electric distribution companies and municipal aggregator (“Program Administrators” or “PAs”)¹ are pleased to submit this 2013-2015 three-year energy efficiency plan (the “Plan”) in accordance with Green Communities Act (“GCA”).² The objective of the Program Administrators is to set aggressive, sustainable goals for the next three years through a sustained and integrated statewide energy efficiency effort that (1) captures all available cost-effective energy efficiency, (2) maximizes net economic benefits, (3) achieves energy, capacity, climate and environmental goals and (4) considers both short-term customer bill impacts and longer-term benefits expected from proposed efforts. The Plan is intended to be viewed as an integrated and interrelated whole, whose various and interconnected parts will work together as a package over the next three years to provide innovative energy efficiency services, deliver on PAs’ savings goals, maintain the Commonwealth’s first-in-the-nation energy efficiency status and advance the Commonwealth’s energy efficiency policy objectives and clean energy and climate plan goals.

Based on the goals set forth in this Plan, the Program Administrators expect that the net present economic value of the benefits to be achieved under the Plan is greater than **\$8 billion** statewide over the three years. The Plan marks the most aggressive integrated gas and electric savings effort undertaken in the nation and keeps Massachusetts at the forefront of leadership in energy efficiency. Importantly, today the Program Administrators are filing one, single integrated gas and electric Plan, as opposed to two separate three-year Plans as was done with the initial Plan for effect in 2010-2012. This achievement reflects the remarkable working relationship among Program Administrators, which includes sharing of ideas and best practices and is a critical component of the Program Administrators’ successful delivery of energy efficiency to date.

B. Core Goals for 2013-2015

In the 2013-2015 Plan, the Program Administrators seek to build on the lessons learned from the initial Three-Year Plan, including both its successes and challenges, and are refining the Plan to best achieve the Commonwealth’s energy efficiency goals. The 2010-2012 Three-Year Plan laid the foundation for continuing growth in energy efficiency efforts in the Commonwealth, and the PAs propose to continue to build on these efforts in 2013-2015. The Program Administrators will pursue all available cost-effective energy efficiency, subject to reasonable short-term customer bill impacts, as mandated by the Green Communities Act, and will seek to maximize benefits to the Commonwealth and its citizens.

¹ Bay State Gas Company d/b/a Columbia Gas of Massachusetts, The Berkshire Gas Company, Blackstone Gas Company, Boston Gas Company and Colonial Gas Company each d/b/a National Grid, Cape Light Compact, Fitchburg Gas & Electric Light Company d/b/a Unitil, Massachusetts Electric Company and Nantucket Electric Company each d/b/a National Grid, New England Gas Company, NSTAR Electric Company and NSTAR Gas Company, and Western Massachusetts Electric Company.

² An Act Relative to Green Communities, Acts of 2008, chapter 169, section 11.

The 2013-2015 Plan is focused on both short-term and longer-term goals that include creating greater awareness of available energy efficiency services, improving the customer experience for program participants, focusing on education-based initiatives in schools as a way to help to create a culture of sustainability in the state, training for trade allies in support of infrastructure development, and continuing to ensure that efforts remain dynamic, incorporating evolving measures and services and responding to findings from program evaluation efforts. Proposed efforts are anticipated to result in historic levels of savings, while taking into account the challenges of achieving these results at a time when incremental savings for many actions are reduced due to improved codes and standards. For comparison purposes, NSTAR Electric estimates that if savings in the third year of this plan (2015) were calculated consistent with how savings are calculated in 2012, the anticipated savings would be approximately 2.9% of its sales in 2015. In addition, the Plan also takes into account the impact of low energy costs, particularly low natural gas costs, which create longer payback periods for consumers considering energy efficiency investments.

Another key goal of the 2013-2015 Plan is to address the Council Priorities set forth in the Council's Resolution of February 14, 2012 (see Section I.G of this Plan). The PAs are setting aggressive but sustainable goals that will capture all available cost-effective energy efficiency over the next three years. The PAs are also combining multiple core initiatives into fewer programs in order to allow for fluidity of resources, to reduce customer confusion, and to seek deeper savings in all sectors. Consistent with the GCA and their public service obligation, the PAs will seek to improve the cost efficiency of program delivery and pursue available funding and financing options to maximize benefits. The PAs are also committed to consistently addressing market barriers, including accessibility and affordability, as well as any tenant-landlord or unique service territory barriers, through their programs, potential pilots, community engagement efforts, and hard-to-measure programs. Specifically, the PAs are currently implementing an initiative to study possible solutions to pre-weatherization barriers, and will apply these lessons learned to 2013-2015. For reporting purposes, PAs will continue to explore data management and analytics that provide benefits to the PAs and multiple stakeholders; active, continuing discussions on data matters are ongoing, as is discussed in more detail in Section III.N.

The PAs have made significant progress integrating gas and electric energy efficiency services and commit in this Plan to further progress in both the residential and non-residential sectors. In addition, customer outreach efforts continue to rely on consistent messaging and seamless delivery in all sectors.

An additional PA objective for the 2013-2015 Plan is to implement the Plan as one three-year plan rather than three one-year plans where practicable, which will provide greater flexibility and allow the PAs to build upon lessons learned and best practices developed throughout the course of the Plan. This will also allow for a better, more efficient use of resources for PAs, regulators, and other stakeholders. The PAs remain committed to coordination and cooperation with each other and with other stakeholders in order to identify and share best practices, including seeking out information on the customer experience for both planning and implementation purposes.

C. A Retrospective – Past and Current Achievements

In the proposed Plan, the PAs build on the detailed 2010-2012 three-year plans by continuing elements that worked, discontinuing elements that did not, moving forward with the lessons learned, and implementing new innovations and strategies to seek even greater levels of success in 2013-2015. There is a solid foundation of programs from which to build, informed by sharing best practices, a commitment to efforts that evolve dynamically in response to market changes, evaluation findings, and the introduction of new measures and services within programs. These leading efforts have been recognized both within the Commonwealth and nationally, including the receipt of awards and honors, such as the following:

Year	Award	Reason	Awarded to
2010	US Environmental Protection Agency	ENERGY STAR® Homes Leadership in Housing Award	Joint Management Committee (“JMC”) (New Homes working group)
2010	US Environmental Protection Agency	ENERGY STAR® Award for Sustained Excellence for Energy Efficiency Program Delivery	National Grid
2010	US Environmental Protection Agency	ENERGY STAR® Award for Sustained Excellence for Energy Efficiency Program Delivery	Northeast Energy Efficiency Partnerships (“NEEP”) (with electric PAs recognized)
2010	National Energy Education Development Project (NEED)	National and State Senior Level School of the Year	Sandwich High School and Cape Light Compact (“CLC”)
2010	National Energy Education Development Project (NEED)	National and State Elementary Level School of the Year Finalist	Eastham Elementary School and CLC
2010	National Energy Education Development Project (NEED)	State Middle School of the Year	Cape Cod Lighthouse Charter School and CLC
2010	National Energy Education Development Project (NEED)	State Senior Level School Finalist	Nauset Regional High School and CLC
2010	Publicity Club of New England Bell Ringer Awards	Publicity Club of New England Bell Ringer Awards	National Grid
2010	Platts 2010 Global Energy Awards	Energy Efficiency Program of the Year Energy Supplier, Finalist for Home Energy Reports Program	National Grid
2011	Mayors Climate Protection Center	Honorable Mention - Best Practices 2011 Climate Award	City of New Bedford (New Bedford Community Retrofit Program)
2011	US Environmental Protection Agency	ENERGY STAR® for Homes Leadership in Housing Award	JMC
2011	Association of Energy Services Professionals	Outstanding Achievement in Marketing and Communications	Mass Save Statewide

Year	Award	Reason	Awarded to
2011	American Council for an Energy-Efficient Economy	Massachusetts ranked number one in the nation for energy efficiency	Massachusetts PAs
2011	US Environmental Protection Agency	ENERGY STAR® Award for Excellence in ENERGY STAR® Promotion	National Grid
2011	US Environmental Protection Agency	ENERGY STAR® Award for Sustained Excellence for Energy Efficiency Program Delivery	NEEP (with electric PAs recognized)
2011	PowerGrid International Award	Best Energy Efficiency/Demand Response Project of the Year, Home Energy Reports Program	National Grid
2011	ESource	Best Business Ad	Mass Save Statewide
2011	National Energy Education Development Project (NEED)	National and State Special Project of the Year	Harwich Community Learning Center and CLC
2011	National Energy Education Development Project (NEED)	National Senior Level Rookie School of the Year	Boston Latin and NSTAR
2011	National Energy Education Development Project (NEED)	State Elementary School of the Year and National Finalist	Eastham Elementary School and CLC
2011	National Energy Education Development Project (NEED)	State Senior Rookie Finalist	Cape Cod Academy and CLC
2011	National Energy Education Development Project (NEED)	State Senior School Finalist	Nauset Regional High School and CLC
2011	Interstate Renewable Energy Council	Renewable Energy Innovation Award	CLC Energy Education Programs
2011	MA Association of Science Teachers	Science Educator of the Year-Barnstable County	CLC Education Staff
2012	US Environmental Protection Agency	ENERGY STAR® Award for Sustained Excellence for Energy Efficiency Program Delivery	Northeast Retail Products Initiative
2012	US Environmental Protection Agency	ENERGY STAR® for Homes Leadership in Housing Award	JMC
2012	US Environmental Protection Agency	ENERGY STAR® Award for Sustained Excellence in Energy Efficiency Program Delivery	JMC
2012	AESP	Outstanding Achievement in Residential Program Design & Implementation	NSTAR's Community Based Outreach Initiative
2012	National Energy Solutions Center	Award for Partnership with Smith College	Columbia Gas of Massachusetts

Year	Award	Reason	Awarded to
2012	National Energy Solutions Center	Award for partnership with Mary Immaculate Nursing and Restorative Center	Columbia Gas of Massachusetts
2012	US Environmental Protection Agency	ENERGY STAR® Award for Excellence in ENERGY STAR® Promotion	National Grid
2012	“e” inc.	2012 Planet Protector Award	NSTAR Electric - Residential Education
2012	National Energy Education Development (NEED)	Senior Level Rookie of the Year National and State	Acton Boxborough High School & NSTAR
2012	National Energy Education Development (NEED)	Senior Level Finalist - National & State	Boston Latin School & NSTAR
2012	National Energy Education Development (NEED)	National and State Special Projects of the Year	Harwich Community Learning Center and CLC
2012	National Energy Education Development (NEED)	State Senior Finalist	Sandwich High School and CLC
2012	National Energy Education Development (NEED)	State Junior School of the Year	Bourne Middle School and CLC
2012	National Energy Education Development (NEED)	State and National Elementary School of the Year	Eastham Elementary School and CLC
2012	National Energy Education Development (NEED)	State Elementary Rookie of the Year	Forestdale School and CLC
2012	Tools of Change peer selection panel	Smart Home Energy Monitoring Pilot Designated a Landmark Case Study	Cape Light Compact

D. The Future – Achievements to Come

In this section, the Program Administrators are pleased to provide statewide summaries of certain key aspects of the targets for their three-year energy efficiency plan for 2013-2015.³ The first summary table addresses statewide electric savings and budget targets, and the second summary table addresses statewide gas savings and budget targets.

The Program Administrators have worked collaboratively together and with the Council, the Council’s consultants (“Consultants”), and other multiple and diverse stakeholders, to develop these statewide targets and their individual PA-specific proposals. The proposals reflect feedback and suggestions on the Program Administrators’ short form 2013-2015 submission of

³ Note that the PAs utilized the same single-page summary format adopted by the Energy Efficiency Advisory Council (the “Council”) with respect to their initial 2010-2012 gas and electric plans.

April 30, 2012, as well as ideas brought forward in the Program Administrators' ground-breaking Appreciative Inquiry process, suggestions presented by various stakeholders at Council meetings, and in informal discussions with stakeholders.

As a result of stakeholder input, today's Plan calls for, among other things, a bold new initiative: Efficient Neighborhoods+. This core initiative targets economically challenged neighborhoods throughout the Commonwealth, and will explore target communities such as the City of Boston and the Commonwealth's "Gateway Cities"⁴ and Green Communities. The Plan also sets forth creative new approaches to working with municipalities and a new focus on the healthcare sector.

The Plan maintains and enhances the Program Administrators' nationally recognized commercial and industrial ("C&I") and residential efforts, and the enormously successful partnership with the Commonwealth's Low-Income Service Provider/Weatherization Assistance Program ("WAP") Network. The proposals to be implemented benefit all customer sectors over the three-year period 2013-2015, resulting in long term economic and environmental benefits for Massachusetts residents and businesses, and should result in the Commonwealth continuing its nation-leading energy efficiency programming.

⁴ The following communities have been designated as Gateway Cities: Barnstable, Brockton, Chelsea, Chicopee, Everett, Fall River, Fitchburg, Haverhill, Holyoke, Lawrence, Leominster, Lowell, Lynn, Malden, Methuen, New Bedford, Pittsfield, Quincy, Revere, Salem, Springfield, Taunton, Westfield, and Worcester.

1. Statewide Electric Targets Summary:

	2013 Target	2014 Target	2015 Target	Total 2013-2015
Savings Target as % of Retail Energy Sales	2.5%	2.5%	2.5%	2.5%
Target Annual Energy Savings in GWh	1,177	1,206	1,219	3,603
Performance Incentive (\$ million)	28.1	28.8	29.1	85.9
Threshold to Begin Earning Incentives	75%	75%	75%	75%
Performance Incentive Cap	125%	125%	125%	125%
Program Costs (\$ million)	\$514	\$522	\$534	\$1,569
Cost Per Annual kWh Saved	\$.44	\$.43	\$.44	\$.435
Cost Per Lifetime kWh	\$.039	\$.040	\$.039	\$.039

PA proposals provide flexibility for one or more individual PA's savings goals to be reasonably lower or higher than the savings target (with detailed justification), but with the statewide savings targets (set forth in GWh above) remaining the same. Cape Light Compact and Unitil have appropriate variances from the statewide targets because of the unique characteristics of their service areas as has been historically recognized by the Council. National Grid, NSTAR, and Western Massachusetts Electric Company are proposing savings goals in excess of the 2.5 percent target.

Incentive pool is allocated to individual PAs based on the dollar benefits and dollar net benefits target each year.

Incentive mechanism provides higher incentives for the higher savings targets.

Incentive pool of \$85.9 million is the maximum pool at the target savings level for the three years.

Performance Incentives approach is based upon current approach.

Program cost to achieve is less than 2012 MTM costs.

Program consolidation per Residential Management Committee and C&I Management Committee recommendation.

For cost-effectiveness, the PAs used the 2011 Avoided Energy Supply Cost and current Non-Energy Impacts studies, with updates on certain NEIs based upon best current information. Any new carbon compliance cost issues would be decided on a separate track as determined through the Department of Public Utilities' investigation in D.P.U. 11-120, Phase I with any new values applied prospectively.

PAs to perform defined follow-up study on 2011 Avoided Energy Supply Cost Study (*e.g.*, confirming DRIPE) based upon Attorney General comments.

These values are statewide targets; as indicated in tables provided with this Plan, not all PAs propose to achieve these targets because of their unique service area characteristics. Targets may require adjustments in the event of new legislation, material new EM&V results or any material regulatory framework changes.

2. Statewide Gas Targets Summary:

	2013 Target	2014 Target	2015 Target	Total 2013-2015
Savings Target as % of Retail Energy Sales	1.0%	1.0%	1.0%	1%
Target Annual Energy Savings (therms)	21,174,076	22,576,640	22,956,799	66,707,515
Performance Incentive (\$ million)	5.3	5.6	5.7	16.7
Threshold to Begin Earning Incentives	75%	75%	75%	75%
Performance Incentive Cap	125%	125%	125%	125%
Program Costs (\$ million)	\$153	\$158	\$162	\$473
Cost Per Annual Therm Saved	\$7.24	\$6.99	\$7.08	\$7.10
Cost Per Lifetime Therm	\$.54	\$.55	\$.55	\$.55

PA proposals provide flexibility for one or more individual PA's savings goals to be reasonably lower or higher than the savings target (with detailed justification), but with the statewide savings targets (set forth in therms above) remaining the same. New England Gas, Unitil, and Berkshire Gas will have appropriate variances from the statewide targets because of the unique characteristics of their service areas as has been historically recognized; each of these PAs also has increased savings goals from the April 30th proposals.

Goals reflect savings reductions based upon most recent EM&V findings.

Incentive pool is allocated to individual PAs based on the dollar benefits and dollar net benefits target each year.

Incentive mechanism provides higher incentives for the higher savings targets.

Incentive pool of \$16.7 million is the maximum pool at the target savings level for the three years.

Performance Incentives approach is based upon current approach.

Program cost to achieve assumes continued low gas costs in 2013-2015, requiring some increased incentives to meet aggressive savings targets, as well as reduced savings levels based upon most recent EM&V results.

Program consolidation per Residential Management Committee and C&I Management Committee recommendation.

For cost-effectiveness, the PAs used the 2011 Avoided Energy Supply Cost and current NEIs studies, with updates on certain NEIs based upon best current information. Any new carbon compliance cost issues would be decided on a separate track as determined through the Department investigation in D.P.U. 11-120, Phase I with any new values applied prospectively.

These values are statewide targets; as indicated in tables provided with this Plan, not all PAs propose to achieve these targets because of their unique service area characteristics. Targets may require adjustments in the event of new legislation, material new EM&V results or any material regulatory framework changes.

E. Significant Updates & Highlights

1. Bold New Initiative Targeting Economically Challenged Neighborhoods

The Program Administrators are proposing a bold new initiative targeting economically challenged neighborhoods in cities throughout Massachusetts, and will explore target communities such as Boston and cities identified as “Gateway Cities” by the Commonwealth and Green Communities. This new initiative, Efficient Neighborhoods+ is described in further detail in Section III.F.6.b.i below. The Program Administrators have developed this initiative based on feedback and suggestions at Council meetings, including the Council meeting of January 10, 2012, and at the Appreciative Inquiry Summit, as well as informal discussions with councilors and stakeholders, especially those councilors who have raised particular concerns with respect to low to moderate income customers. The initiative, which will be refined over a review period as described in Section III.F.6.b.i, is aimed at providing energy efficiency services in neighborhoods that contain high portions of economically challenged customers, including lower income and lower middle class families. The initiative calls for neighborhood-focused outreach, including special incentive structures, and engagement with community representatives and local government agencies. By utilizing a neighborhood approach that is developed based upon the Commonwealth’s Gateway Cities program, the PAs will be able to target economically-challenged customers that have been a core priority for the Council and stakeholders, without requiring income verification steps that can create barriers to participation and raise privacy concerns.

2. Continuing Focus on Segmentation: Healthcare, Commercial Real Estate & Municipalities

The PAs will continue to refine their go-to-market approach that is based on segmenting their non-residential customer base by industry type, identifying common messaging, barriers, opportunities, decision making processes and other unique attributes, thereby allowing for greater penetration into the market. These efforts continue to be actively tested and refined across the spectrum of C&I customers. For example:

- As set forth in section III.F.6.d below, as part of their C&I effort, the Program Administrators have a customized approach to the healthcare sector, which is one of the core economic drivers in Massachusetts. The PAs have had a great deal of success in tailoring efforts to this important sector, along with multi-year agreements focused on both electric and gas energy efficiency opportunities with some of the largest hospitals in the Commonwealth. Building on this success, the PAs will continue to focus on this important sector in 2013-2015. Of special importance is the PAs’ new engagement with the Fraunhofer Center for Sustainable Energy Systems CSE, located in Cambridge, Massachusetts. Fraunhofer will be supporting the effort to identify and address opportunities for efficient equipment specific to the healthcare industry. The expected results from this effort include equipment selection criteria and operating opportunities, as well as engagement with manufacturers to provide additional focus on energy in this key sector.

- While engaging with customers from the commercial real estate sector, the PAs have found several factors affecting efficiency investments. These factors include some of the unique characteristics of the tenant/landlord relationship, primarily through varying lease structures as well as differences in owner operated or third party operated buildings. In addition, the owner’s long or short term philosophy for the asset also impacts these decisions. The PAs continue to engage with several large property managers and are actively testing various structures to address some of these barriers. Results from these efforts will be available by the second quarter of 2013.
- The municipal sector also has unique attributes affecting its decisions on efficiency. Cities and towns are generally resource constrained for both technical guidance as well as implementation. In addition, the plan/spec process for municipal decision making can be challenging to the design/build nature of efficiency. The PAs address these areas by engaging communities at the highest levels and providing assistance on several fronts, including technical assistance and turn-key implementation services. There have been significant successes with large cities leveraging the MOU/SEMP process. The PAs have also engaged a number of communities to develop a streamlined approach more appropriate and scalable for smaller towns. Specifically, National Grid and NSTAR will implement a dedicated track for municipal customers within the C&I Retrofit Program in 2013 and will share experiences with other PAs for review for potential broader implementation.

3. Public Education

The PAs have been at the forefront of creating a “culture of sustainability” in Massachusetts. Within the brief period of the past three months, the Program Administrators have hosted, after extensive planning, two major forums: the Appreciative Inquiry Summit at Gillette Stadium of May 15-16, and the Energy Expo at the Intercontinental Hotel on June 2, 2012. Over 600 stakeholders and efficiency experts participated in these events. At these events, the PAs were able to obtain notable, high-profile speakers, including Governor Patrick, John Fernandez, Massachusetts Eye and Ear Infirmary CEO and president, and two of the top 10 “Most Influential Bostonians” as recognized in Boston Magazine: John Fish, chairman and CEO of Suffolk Construction and Anne M. Finucane, Global Strategy and Marketing officer at Bank of America. All of these influential speakers emphasized the importance of energy efficiency and attention to issues of sustainability, and the PAs are grateful for their participation. Energy efficiency is closer to the forefront of the public’s consciousness and as a result, it has become clear, based upon comments from multiple stakeholders in events such as the Appreciative Inquiry Summit, that an enhanced public education initiative regarding energy efficiency enjoys broad support. In today’s filing, in Section III.H.3, the Program Administrators outline their approach to exploring and developing state-of-the-art energy efficiency curricula and training, not only for school-aged children, but also in community colleges, vocational schools, and other educational opportunities. Such a commitment to public education is squarely consistent with G.L. c. 25, § 21(b)(2), which endorses public education efforts.

4. Enhanced Integration of Gas and Electric Energy Efficiency Services Plan

The Program Administrators continue to refine their program designs to reflect the enhanced integration of gas and electric efforts. Regular communication and interaction with each other allows the Program Administrators to share best practices and lessons learned, and the ability to provide gas and electric information to customers in an integrated manner in order to promote comprehensive installations. The PAs have developed effective strategies and made significant progress in integrated program delivery during the initial three-year plan of 2010-2013. Based upon anecdotal information from Councilors and some of the findings in the Synapse study presented to the Council on April 10, 2012, the Program Administrators are continuing to analyze ways in which to streamline further the customer experience and make it more seamless. The PAs are committed to seeking further synergies to provide customers with a streamlined experience, where electric and gas opportunities are provided to customers simultaneously. The filing of one integrated joint electric and gas statewide Plan for 2013-2015 reflects the commitment and success of the Program Administrators in embracing seamless program delivery for customers. One specific area for particular focus of integrated efforts will be wastewater facilities, which the Program Administrators are already targeting with the assistance of the Department of Environmental Protection (“DEP”), which has identified several potential facilities that can benefit from efficiency measures.

5. Program Consolidation

In their 2012 MTM filings, the Program Administrators proposed to consolidate the Low-Income Single Family Retrofit and Low-Income Multi-Family Retrofit Programs into a single Low-Income Retrofit Program, noting the expected benefits of increasing flexibility to meet customer needs.⁵ The Program Administrators plan to further consolidate efforts in both the residential and C&I sectors.⁶ Residential sector programs will be consolidated into two primary categories: Whole House and Products. Similarly, the Program Administrators also plan to consolidate the C&I sector programs into two primary categories: New Construction and Retrofit. The primary purpose and benefit of this consolidation is greater implementation flexibility to address shifts in market conditions and consumer demand and reduced customer confusion. For purposes of transparency, and to satisfy the priority placed by the Council on more discrete data, the Program Administrators will continue to track and report spending and savings associated with each core initiative within each program, but overall program level reporting will be done in the aggregate.

6. Budget/Savings Goals: Comparison to 2010-2012

For electric Program Administrators, the proposed three-year annual savings for the period 2013-2015 is more than one million megawatt hours (“MWh”) greater than the combined 2010-2012 levels. As compared to 2010-2012, this Plan includes a budget increase of approximately \$370 million in order to increase savings and reach the Commonwealth’s energy efficiency goals. Electric budgets in 2013 include a \$23 million increase over 2012. These

⁵ Throughout the 2013-2015 Plan, the residential low-income sector will remain a separate budget sector and retain the consolidated program categories the Program Administrators proposed in their 2012 Mid-Term Modification filings.

⁶ Pilot programs will retain individual budget line item status and specific names throughout the 2013-2015 Plan.

changes equal an additional \$1.83 billion in projected benefits in 2013-2015 as compared to 2010-2012.⁷ For comparison purposes, NSTAR Electric estimates that if savings in the third year of this plan (2015) were calculated consistent with how savings are calculated in 2012, the anticipated savings would be approximately 2.9% of its sales in 2015.

For gas Program Administrators, the proposed three-year annual savings for the period 2013-2015 is almost 11,000,000 therms greater than the combined 2010-2012 levels. The 2013 planned savings relates closely to 2012 MTM savings levels to account for the setting of challenging but achievable goals. As compared to 2010-2012, this Plan will include a budget increase of nearly \$157 million dollars in order to increase savings and reach the Commonwealth's energy efficiency goals. Gas budgets in 2013 include a less than \$22 million increase over 2012. These changes equal an additional \$135 million in projected benefits in 2013-2015 as compared to 2010-2012.

The total projected additional benefits in this 2013-2015 Plan are over \$1.96 billion more than the benefits in 2010-2012. The Program Administrators sought to set goals that seek all available cost-effective energy efficiency. Therefore, the goals are aggressive and challenging, but also sustainable and cognizant of bill impacts, all in accordance with the Council's priorities.

7. Innovation and Best Practices

In 2013-2015, the Program Administrators are committed to seeking even greater levels of innovation, and new mechanisms with which to serve customers and promote deeper energy efficiency savings. The Program Administrators seek to implement best practices at all times, and the list of awards noted in Section I.C above is testament to their success. The Program Administrators strongly support continuing education programs for their staff, and members of the Massachusetts Program Administrator team are frequent speakers at national and regional energy efficiency events. The PAs will continue active participation in the Massachusetts Technical Assessment Committee ("MTAC"), which is a forum invented, organized, and implemented by the Program Administrators in order to systematically and, at a statewide level, review and discuss new technologies and innovations in the field of energy efficiency. Technologies and innovations that pass MTAC screening are eligible for implementation on a common basis throughout the Commonwealth. As described in more detail in Section III.F.4 below, the MTAC is an outstanding example of the approaches employed by the Program Administrators to foster innovation, embrace new technologies and provide consistency in program offerings across Program Administrators and service areas. The PAs coordinate to ensure that any innovative strategies spearheaded by one PA are shared with others, including the level of success of such ventures. The PAs also learn from various assessments, including the Point 380 study, and will take into account the information gleaned from participants at the Appreciative Inquiry held in May 2012, and any reports, consolidated comments and ideas generated at the Appreciative Inquiry Summit. Other customer feedback, including public comments at Council meetings, contractor best practices meetings facilitated by the PAs, feedback at training sessions, and other direct customer feedback are all taken into account by

⁷ The figures in this section are based upon statewide "rolled-up" Program Administrator proposals for 2013-2015, as set forth in the Excel spreadsheets included with this Plan.

the PAs when reviewing innovating strategies and determining best practices. The Program Administrators will continue to collaboratively look for innovative ways to secure all available cost-effective energy efficiency in a manner that is sustainable and takes bill impacts into account.

To achieve the GCA's mandate for a sustained and integrated statewide energy efficiency effort, the Program Administrators will continue to engage in the unprecedented levels of integration, coordination and cooperation that have been the hallmark of the initial three-year plan, including working together on all levels of programming, implementation, and regulation. The Program Administrators currently work together in formal groups, in regularly scheduled and recurring meetings, and through *ad hoc* discussions. Examples of PA groups organized to plan together and share experiences and ideas include: the Residential Management Committee, the C&I Management Committee, the Evaluation Management Committee, Low-Income Best Practices, and the Statewide Marketing Committee, all of which meet regularly with representatives from all PAs, in person, and for extended time periods, and cover all elements of planning, implementation, and evaluation, including discussions related to best practices for reaching goals. In order to support innovation and new technologies, the PAs all participate in the MTAC where they determine best practices with respect to new technologies collaboratively. The PAs also participate in various topical groups related to different programs, initiatives, and technologies.

The PAs also prepare materials for Council meetings jointly, including programming and implementation presentations, data dashboards, and quarterly reports. Many regulatory requirements are also shared by the Program Administrators, who coordinate regulatory filings including, without limitation, three-year plan filings and related draft submissions, annual reports, mid-term modifications, comments and presentations related to investigations by the Department of Public Utilities ("Department"), and RCS compliance filings. Efforts such as energy efficiency bill impact model construction, preparation and quality control of PA-specific and statewide "rolled-up" D.P.U. 08-50 tables, and formation of the EM&V plan have been accomplished through a group effort of the Program Administrators. A common statewide website (MassSave.com) devoted to energy efficiency, coordinated training sessions, marketing materials, and presentations to interested stakeholders, and special events, including the Appreciative Inquiry Summit, is another example of work that has been accomplished through coordination across all Program Administrators, with many people working together to share ideas, develop best practices, coordinate messaging, and accomplish common goals. The Program Administrators have a regular monthly in-person meeting, and participate in frequent discussions and subject matter group meetings. The PAs provide appropriate flexibility for individual PAs to try a unique initiative, with the understanding that any results are shared and that successful initiatives and strategies can be adopted by other PAs.

The Program Administrators discuss all aspects of the three-year plan and energy efficiency programming on frequent topical group calls, as well as on one-to-one calls and emails, in which each PA regularly reaches out to others to share and analyze planning and implementation successes and challenges, and benefit from shared knowledge and PA expertise.

8. Reducing Administrative Burdens/Streamlining Processes

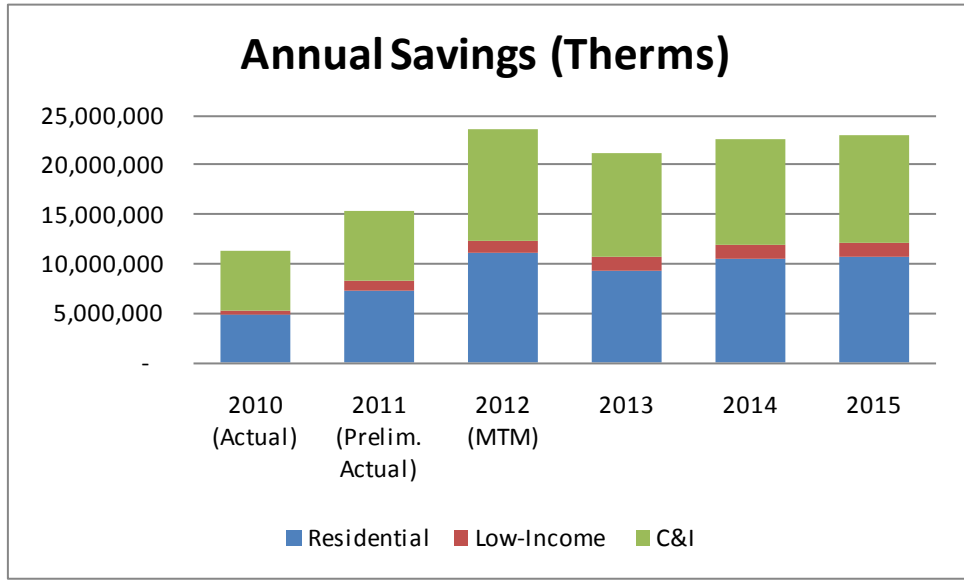
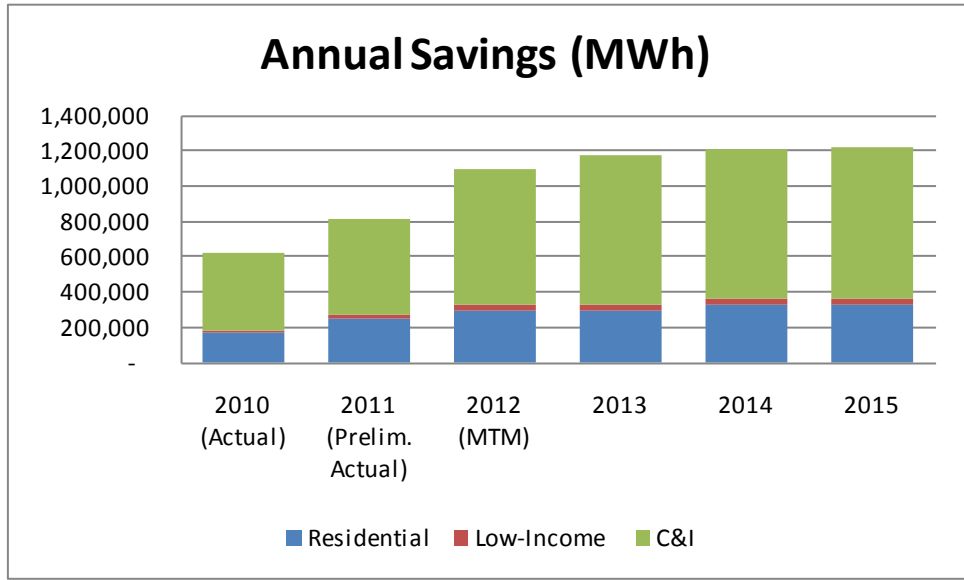
Council meetings have been an important tool in planning for and implementing the initial three-year plan. As the second Three-Year Plan begins, the Program Administrators will have (1) three years of GCA-related energy efficiency experience with more mature programs, which will inform future efforts to achieve energy efficiency effectively and cost effectively; (2) a better understanding of the concerns and interests of the councilors and an effective means of continuing dialogue with them (through Council resolutions and other Council documents, Council Executive Committee meetings and individual communications as well as Consultant communications); (3) an established means of reporting data to the Council (through monthly, quarterly and annual reports). Given the success and experience with this construct, the Program Administrators will seek ways to streamline processes in 2013-2015, including ways to spend more time with customers seeking savings. The PAs appreciate and recognize the work and time invested by councilors in preparing for Council meetings to ensure the mandates of the GCA are being achieved. The Program Administrators devote time and attention to being as well prepared as possible for each meeting, and respond to councilors' concerns during and after Council meetings. The Program Administrators continue to support the role of the Council established in the Green Communities Act and recognize that their energy efficiency programs have benefitted from the many excellent suggestions of councilors. The PAs will seek councilor input on ways to streamline processes and reduce meetings, while maintaining transparency and providing the optimal amount of information to the councilors. The Program Administrators are seeking to leverage collective experience, identify possible efficiencies and optimize all stakeholders' time given the experience gained through the initial three-year plan. The Program Administrators believe that the ongoing proceedings in the Department's investigation in D.P.U. 11-120 will also serve as a useful forum for exploring improved efficiencies.

F. Overview of the Key Aspects of the Plan

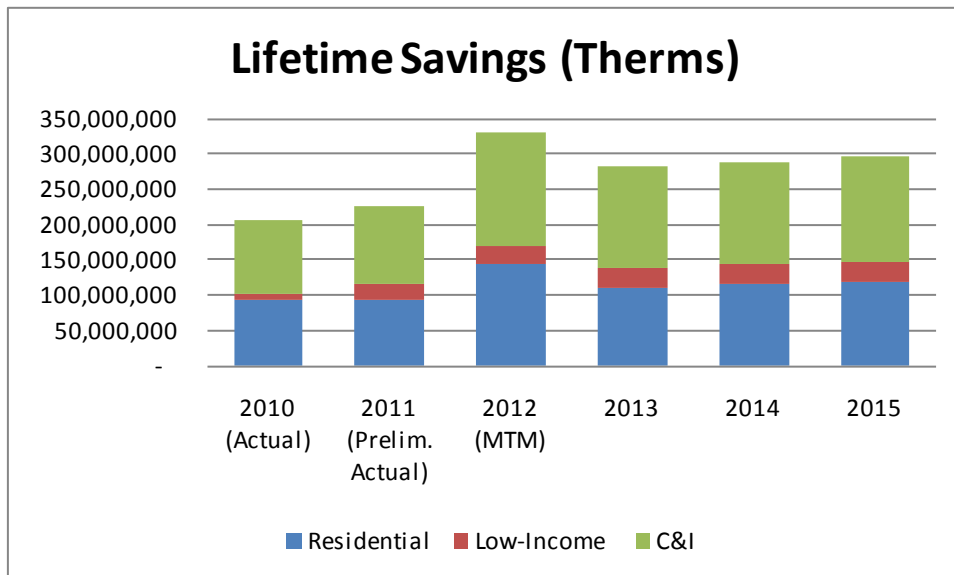
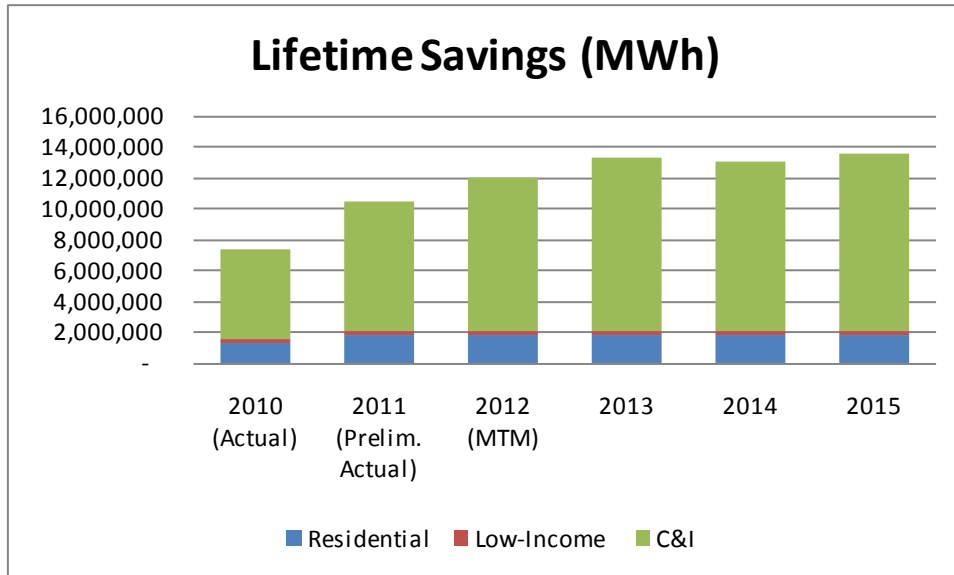
1. Savings and Core Benefits

The Program Administrators are proposing to obtain all available cost-effective energy efficiency through an aggressive and sustainable level of savings for their energy efficiency activities. The PAs' savings goals are consistent with the Department's orders and the Council's priorities, both of which emphasize setting challenging goals that take into account bill impacts and sustainability of efforts over an extended period. Based upon the statewide targets representing the aggregation of each Program Administrator's proposals for 2013-2015 (set forth in the tables provided with this Plan), the 2013-2015 Plan calls for electric savings on an overall statewide basis of 3,603,259 annual MWh over the three-year period and 39,958,324 lifetime MWh savings. This Plan also calls for gas savings on an overall statewide basis of 66,707,515 annual therms over the three-year period and 866,179,423 lifetime therm savings. As a direct result of these savings, GHG emissions will be reduced by approximately 25,632,813 short tons over the life of those savings. This achievement, over the three years of the plan, is comparable to the environmental benefits achieved of taking approximately 398,700 cars off the road or eliminating the output of a 460 MW power plant for one year.

Please see the following tables for a graphical comparison of annual savings from 2010 through 2015.



Please see the following tables for a graphical comparison of lifetime savings from 2010 through 2015.

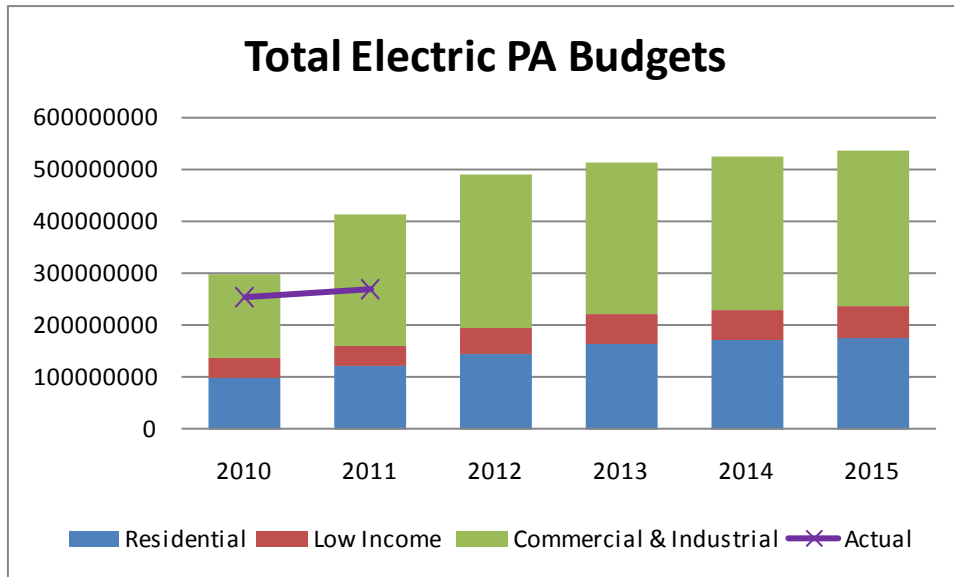


The Program Administrators developed these goals based on their review of the Council’s priorities, including sustainability, cost drivers and bill impacts, as well as the mandates of the Green Communities Act. Following the adoption of the “Sense of the Council,” prepared by the Council on June 12, 2012, the PAs re-assessed their savings goals and the manner in which they were determined, and established the figures set forth herein. In formulating these goals, the PAs reviewed the types of projects and customers already served, those markets that have potential to be served as informed by the PAs’ market assessment, historical performance (taking into account any outliers), EM&V results and preliminary results, and bill impacts. These savings goals are designed to achieve all available cost-effective energy efficiency with due consideration of bill impacts. As set forth in Appendix C, based upon the PAs’ research to date, the level of savings set forth herein exceeds the saving goals of any other state on a proportionate basis. Section III.D of this Plan and Appendix A provide more detail on

savings and benefits of the Plan, including cost-drivers and unique drivers of savings goals in specific territories.

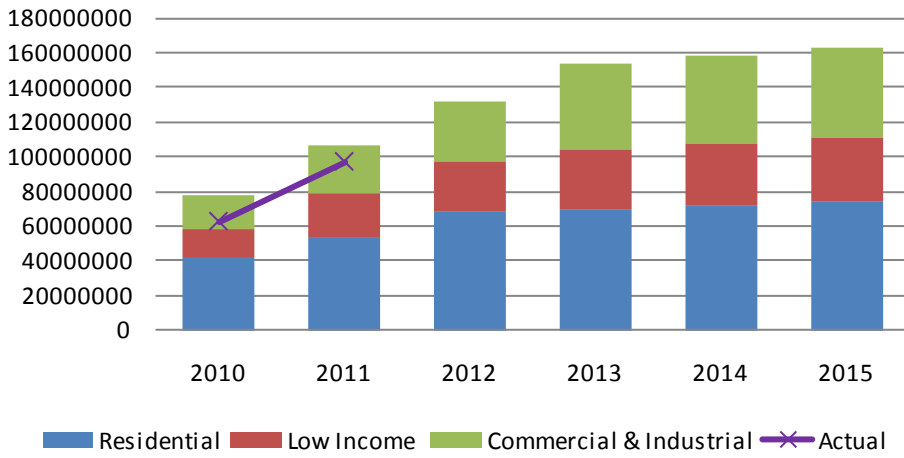
2. Program Budgets

The Program Administrators’ proposed energy efficiency budgets for the period 2013-2015 are provided in this Plan at the program level, and reflect the cost of achieving all available cost-effective energy efficiency and the aggressive stretch savings goals detailed above. These budgets allow for continued progress on identified Council priorities, all while remaining mindful of bill impacts (highlighted in Section III.E of the Plan).⁸ The proposed budgets reflect economies realized through prior efforts in 2010-2012. As graphically illustrated below, based upon “rolled-up” Program Administrator proposals for 2013-2015, the Plan calls for cumulative electric expenditures on an overall statewide basis of \$1,569,406,742 over the three-year period, and cumulative gas expenditures on an overall statewide basis of \$473,242,426 over the three-year period. While the planned expenditures on energy efficiency under the Plan are significant, the net present economic value of the benefits to be achieved under the Plan greatly outweighs expected costs. The magnitude of these expected benefits, with a statewide electric and gas value of \$8,056,355,627, demonstrates the exceptional value of the increased energy efficiency expenditures called for in the Plan. Please see the graphical comparison of the 2010-2015 budgets and benefits below.

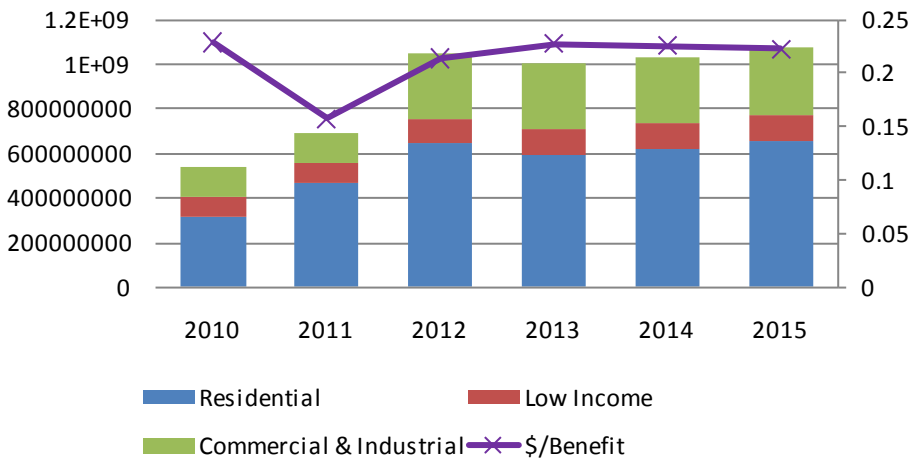


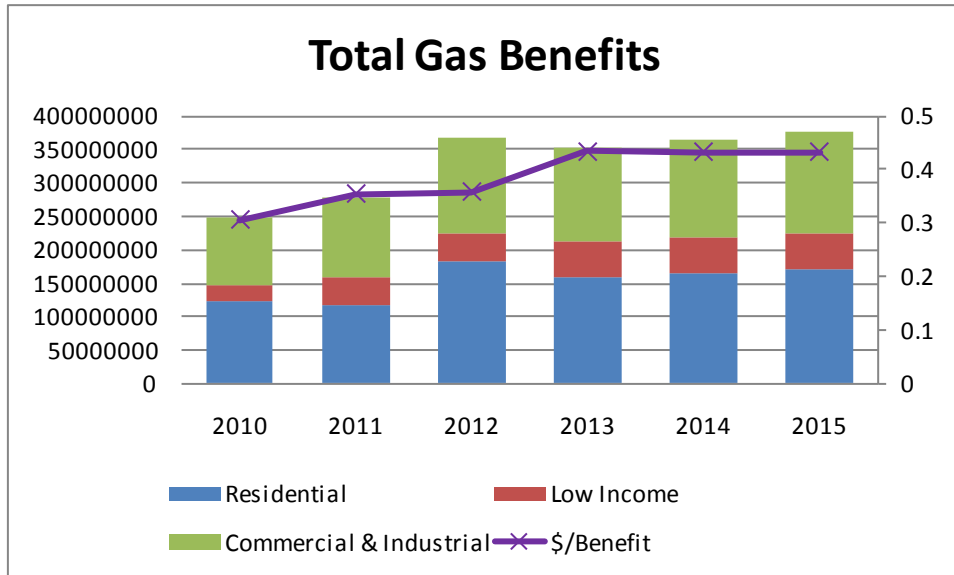
⁸ The PAs have included \$500,000 of funding for a statewide database in each annual budget for the next three years. For additional details, see Section III.N.

Total Gas PA Budgets



Total Electric Benefits





The Program Administrators determined the costs and benefits of the energy efficiency plan for 2013-2015 following an extensive review of Plan objectives, cost drivers, as well as savings goals and the cost to achieve savings (including deeper savings), the costs of new and innovative strategies, methods of cost reduction and cost efficiency, and historical data. Proposed costs also take into account new initiatives and other proposed efforts that have been included in the Plan in response to stakeholder input.

Section III.D of this Plan and Appendix A provide more detail on budgets and benefits of the Plan, including cost drivers.

3. Cost Effectiveness

Consistent with the statutory mandate that the Plans “provide for the acquisition of all available energy efficiency and demand reduction resources that are cost-effective or less expensive than supply” (G.L. c. 25, § 21(b)(1)), the Program Administrators have conducted cost-effectiveness screening associated with the energy efficiency programs and services they plan to administer in 2013-2015 using the Total Resource Cost (“TRC”) test, consistent with Department’s directive in D.P.U. 08-50-A at 14 and as reaffirmed by the Department. Electric Order at 48; Gas Order at 47.

In addition to individual, PA-specific cost-effectiveness screening, the Program Administrators have undertaken a statewide-level screening of the cost-effectiveness of the implementation of the 2013-2015 Plan using the Department’s TRC test at the sector level. The results of this testing indicate that, at a statewide level, the proposed Plan is projected to be cost-effective.

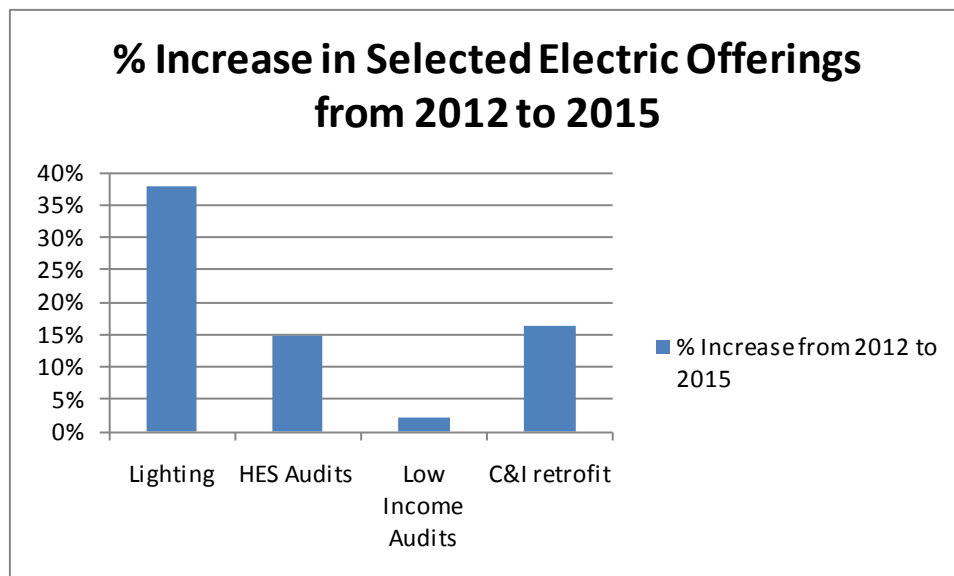
The PAs note that the Department is considering changes to the avoided costs that have been used in the current analysis of cost-effectiveness. If the Department directs the PAs to make changes to these avoided costs, then proposed efforts may need to be re-evaluated for cost-effectiveness.

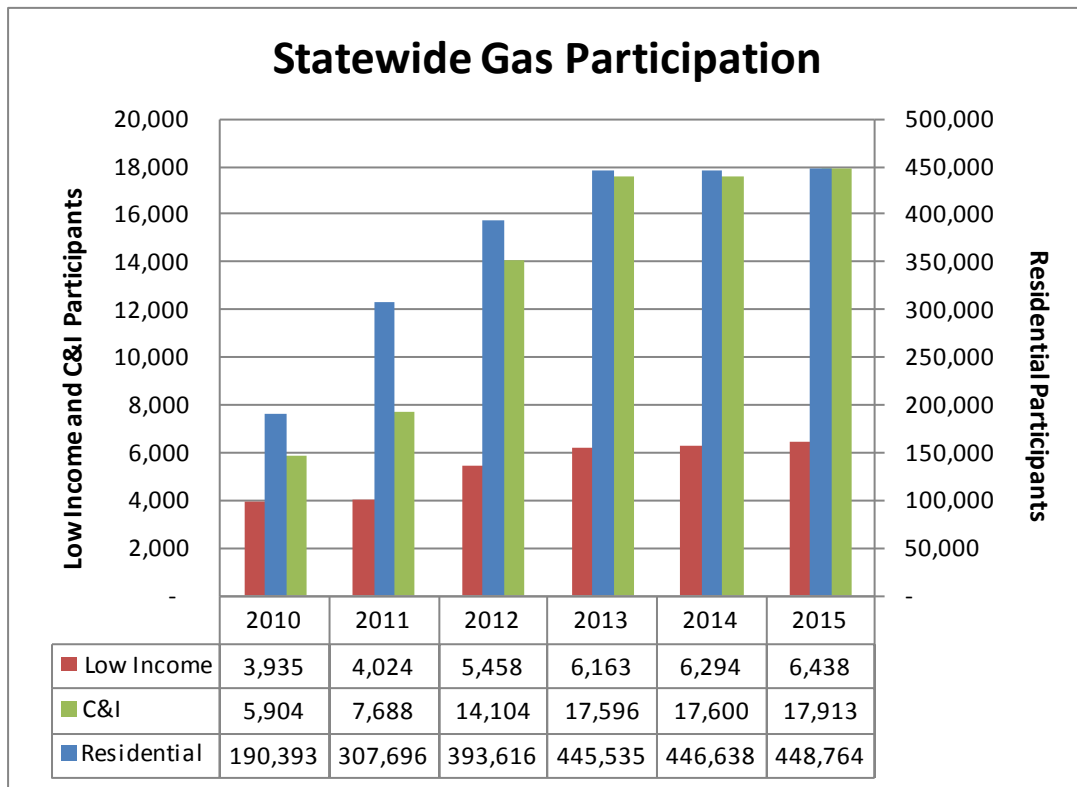
Section III.A.3 of this Plan provides more detail on cost-effectiveness for 2013-2015.

4. Progress Toward Green Communities Act Requirements and Goals

The PAs are committed to meeting in the 2013-2015 Plan all of the requirements and achieving the goals set forth in the Green Communities Act, including the attainment of all available cost-effective energy efficiency, and the mandate that electric and natural gas resource needs shall first be met through all available energy efficiency and demand reduction resources that are cost effective or less expensive than supply. G.L. c. 25, § 21(b)(1). In determining the level of savings to achieve in order to satisfy these mandates and to provide the optimal value for their customers and the Commonwealth, the Program Administrators took into account the considerations set out in Department Orders (including the need to consider bill impacts), various assessments and other evaluation studies. As noted in Section III.B.1.h below, the PAs also reassessed all savings goals originally filed on April 30, 2012, consistent with the Council's request at its June 12, 2012 meeting. In this Plan, the PAs also discuss certain key factors, challenges and market barriers that have factored into their assessment of the achievable level of energy efficiency set forth in the Plan. The PAs also seek to meet requirements and goals related to coordination and integration of efforts, low-income funding, minimization of administrative costs, competitive procurement processes, and demand response.

In order to achieve the nation-leading savings targets proposed in this Plan, in light of more rigorous codes and standards and EM&V results, the PAs are proposing to deliver more products and services to customers over the next three years, as illustrated in the following tables detailing participation.





5. Programs

The Plan sets forth general program descriptions as well as detailed strategies for coordinated program implementation in the residential, low-income, and C&I sectors. The program descriptions represent the results of collaboration and cooperation among the Program Administrators, Council members, Consultants, and other interested parties. The program designs reflect comprehensive proven strategies that provide for: (1) greater consistency in offerings throughout the Commonwealth; (2) an enhanced customer experience, including seamless delivery strategies that integrate gas and electric efforts; (3) an expanded, diverse, and well-trained workforce; and (4) the delivery of new state-of-the-art technologies and services. In addition, the PAs have incorporated numerous strategies into planned efforts in response to stakeholder input.

Section III.F of this Plan provides more detail on statewide electric and gas programs for 2013-2015.

6. Evaluation, Monitoring and Verification

The proposed EM&V framework in this 2013-2015 Plan is designed to build on the extensive EM&V achievements accomplished in 2010-2012, and reflects both the core principles of the Council Resolution on Evaluation, Measurement, and Verification approved on September 8, 2009 (“EM&V Resolution”) and key lessons learned over the last three years. For the 2013-2015 Plan, the Program Administrators, after discussion with the Council’s independent expert EM&V consultant, are proposing several enhancements to the current

EM&V framework, including the reduction of research areas from six to three and the continuation of the Evaluation Management Committee (“EMC”) that was created in 2012. These enhancements are intended to improve the EM&V framework based upon actual experience in order to make evaluation efforts more streamlined and transparent, with the goal of improving the precision and usefulness of the studies. The EMC provides a forum for statewide evaluation issues, and provides guidance, planning and direction to each of the evaluation research areas. As tellingly demonstrated during the EM&V webinar of June 25, 2012, the EM&V framework and EMC are high functioning and marked by excellence and commitment to nation-leading EM&V practices that ensure confidence in energy efficiency efforts.

Section III.I of this Plan provides more detail on the enhancements to the current evaluation framework that are being proposed.

7. Cost Recovery and Performance Incentives

Cost recovery, including the recovery of lost base revenues (“LBR”) for those PAs without a Department-approved decoupling mechanism, or through implementation of a Department-approved decoupled rate structure, including the ability to recover performance incentives, is a critical element of the Plan. The Plan sets forth proposals on cost recovery that seek to utilize existing recovery mechanisms that have worked well in the field for many years and that are well understood by most customers⁹. The Plan seeks to ensure that, prior to the collection of funds from customers, the Program Administrators have fully accessed other potential available sources of funding, such as funds available from the Regional Greenhouse Gas Initiative (“RGGI”), the Forward Capacity Market (“FCM”) (which are available to electric PAs), and other sources as available.

The Plan allows the Program Administrators the opportunity to recover their costs and be made economically whole for aggressively pursuing sales-reducing energy efficiency efforts, as well as to earn a modest return associated with these efforts based upon their actual performance compared to approved goals. In this regard, directly patterned on the approach reviewed and approved by the Department in the Orders for the 2010-2012 Plan, the Program Administrators have set savings targets that provide for an incentive pool of nearly \$86.0 million for electric PAs, and \$16.7 million for gas PAs, for a total three-year electric and gas incentive pool of \$102.7 million statewide. The Program Administrators propose to maintain the performance incentive models applicable to their initial three-year plans as a basis for the 2013-2015 performance incentive model and allocations. The proposed model maintains the Savings Mechanism, the Value Mechanism, and Performance Metrics with uniform payout rates for all electric PAs (excluding Cape Light Compact), and for all gas PAs, in the Savings and Value Mechanisms. Overall, the performance incentive mechanism currently in place has functioned well and has been retained for 2013-2015.

⁹ The PAs will seek approval to recover Plan related costs from the Department of Public Utilities as a part of Plan approval. Specific cost-recovery details will be the subject of separate proceedings. The requirements for those cost-recovery proceedings may be affected by Department decisions anticipated in DPU 11-120.

Sections III.K and III.L of this Plan provide more detail on performance incentives and cost recovery.

8. Mid-Term Modifications

In D.P.U. 08-50-A and the D.P.U. 08-50-B Guidelines, the Department directed the Program Administrators to seek Department approval for certain specified Mid-Term Modifications, including adding or terminating a program, and changes in a program budget, savings goals, or performance incentives of greater than 20 percent. D.P.U. 08-50-A at 64; D.P.U. 08-50-B Guidelines at § 3.8.2.

Subsequent to D.P.U. 08-50-A and B, the Department provided further guidance regarding the need for Department approval of proposed mid-term program modifications. Specifically, in Cape Light Compact, D.P.U. 10-106 (2011), the Department clarified that Program Administrators are required to seek Department approval only for a program budget modification that is 20 percent greater than the program's three-year budget. Subject to potential new developments in D.P.U. 11-120, Phase II, the Program Administrators propose to apply the D.P.U. 08-50-B Guidelines, as clarified by the Department in D.P.U. 10-106, *supra*, to program modifications that lead to savings adjustments during the three years of the Plan. This will allow Program Administrators continued flexibility to make adjustments to programs that are necessary to promote innovation and efficiency without unduly burdening the administrative process for the Department as well as the PAs and other stakeholders.

As discussed in Sections II.G and III.O, the Department issued an order on May 25, 2012, opening an investigation into the mid-term modifications process in order to potentially simplify the process based upon lessons learned over the last three years. The Department has called for comments on or before July 12, 2012, on its straw proposal streamlining the MTM process. It is possible that the results of this ongoing process will lead the Program Administrators to adjust their approach to mid-term modifications for 2013-2015. The Program Administrators appreciate the Department's development of a straw proposal and its concerns discussed in the accompanying order, as well as the Department's efforts for the technical conference convened and facilitated by the Department on June 19, 2012.

Section III.M of this Plan provides more detail on the mid-term modifications process currently anticipated for 2013-2015.

9. Economic Development and Job Growth

An important element of the Plan is the economic impact of energy efficiency on the Commonwealth and its citizens, including job creation and retention stemming from energy efficiency programs. One way that energy efficiency affects consumers and businesses is by reducing energy costs, thereby allowing the money saved to be spent elsewhere, thus stimulating the economy. Additionally, energy efficiency programs create a wide variety of jobs, many of them tied to local communities. To quantify the job creation impacts of its energy efficiency programs, the Program Administrators engaged the New England Clean Energy Foundation ("NECEF") to update NECEF's analysis of workforce requirements and impacts associated with Program Administrator energy efficiency programs.

The Program Administrators are committed to job training for emerging clean energy industries, as well as sustainable funding of energy efficiency programs in order to maintain a consistent workforce.

Section III.A.5.b of this Plan provides preliminary results of NECEF's research.

10. Conclusion

The Plan represents the ongoing results of an unprecedented collaboration among all the Program Administrators in Massachusetts, both gas and electric, as well as diverse interested parties, and fully complies with the bold initiatives required under the Green Communities Act. The Program Administrators thank the Council, its Consultants, and other stakeholders for participating in the Plan development process and for all their efforts, analysis, and suggestions to date. The Program Administrators look forward to working cooperatively with the Council and other interested parties in reviewing this Plan and ensuring that Massachusetts customers are provided with programs that are marked by excellence and innovation, and that produce economic and environmental benefits throughout Massachusetts.

G. Council Priorities, Sense of the Council, Council Action Plans and Individual Councilor Comments

For ease of reference, the PAs provide the following charts detailing various activities and outcomes that were identified as Council priorities along with the location in this document where the Program Administrators discuss strategies to focus explicitly on these activities and outcomes.

1. Council Priorities

In its February 14, 2012 Resolution Concerning Its Priorities for 2012, the Council articulated its priorities for program planning, analysis, implementation, and evaluation. The PAs are committed to these priorities, including building on the initial plan, achieving all available cost-effective energy efficiency, maximizing net economic benefits through a sustained and integrated statewide energy efficiency effort, setting aggressive, achievable goals, while staying focused on bill impacts, cost efficiency and integrated program delivery. The PAs are also committed to seeking outside financing and funding and addressing any barriers to energy efficiency, where possible.

<u>Council Priority</u>	<u>PA Summary Discussion</u> (Details in Section III)
Support the achievement of the savings goals set in the 2010-2012 program plans and the maximization of benefits.	Intense in-the-field efforts are ongoing, as documented in periodic reports to the Council. For details, see Section II.C.
Set Aggressive and Achievable Targets for 2013-2015 plans.	Most aggressive savings goals for any integrated electric and gas effort ever undertaken in the United States. Goal of \$8 billion in benefits is aggressive and layered on top of historic goals and achievements in the 2010-2012 period. Goals reflect experience-based knowledge from the initial Three-Year Plan, as well as available market intelligence. For details, see Sections I.B, I.D, I.F.1, III.A, III.B, III.D, III.E
Continue to Improve the Cost Efficiency of Program Delivery	The Program Administrators meet actively in the Residential Management Committee, the C&I Management Committee, the Evaluation Management Committee and the Low-Income Best Practices Group to review and share best practices, go to market strategies, ¹⁰ and discuss MTAC findings about new technologies in order to enhance cost-effectiveness. The evaluation effort which includes joint procurement practices demonstrates where efficiencies can be gained. Also, upstream initiatives are a good example of efforts to enhance cost-effectiveness. In addition, planning and reporting requirements are shared by the Program Administrators, who coordinate filings and presentations to the Department and Council, thus avoiding some duplication of costs and resources. For details, see Sections I.B., I.F.4, III.A, III.B, and III.D
Provide Support on Key Program Development and Implementation Needs	The sections cited below describe integration successes and plans. Bold new initiatives targeting economically challenged neighborhoods, municipalities, health care sector and public education. Broadly supported pre-weatherization approach is underway and will guide final 2013-2015 approach. Tenant-landlord barriers and hard-to-reach customers are also being targeted in community engagement strategies described in Section II.H.2. In addition, the PAs meet consistently with the Council, its Consultants, and efficiency

¹⁰ “Go to market” strategies include the tactics employed by a PA to bring program services to a customer that frames the opportunities in a way that will resonate with the customer and that helps the PA to leverage both its internal and external resources.

<u>Council Priority</u>	<u>PA Summary Discussion</u> (Details in Section III)
	<p>experts to focus on continuous improvement of energy efficiency efforts.</p> <p>For details, see Sections III.F, III.G and III.H.</p>
Define and Encourage Better Data Analytics and Access	<p>The PAs are currently reporting statewide data in a consistent and timely manner. An enormous amount of data is being successfully and consistently provided in a public and transparent manner by the PAs, including DOER’s PARIS database, which requires substantial PA time and resources to populate. The PAs have been working collaboratively and proactively with DOER for over eight months to discuss the purpose, challenges and strategies for developing a new, enhanced database that would provide value both to the PAs and to the Commonwealth generally. The PAs remain committed to working with DOER and other stakeholders to develop a database solution that is efficient, reliable, and useful. The PAs have identified core issues, concerns and questions and suggested next steps that they believe should be addressed before a potentially costly, new database development initiative is launched. The PAs remain committed to determining if there is a workable database solution that will provide cost-effective benefits to both the PAs and the Commonwealth in general. The PAs have included budget resources for possible new database initiatives in this Plan.</p> <p>For details, see Section III.N. <i>See also</i> Appendix K.</p>
Identify Best Practices	<p>Intense commitment to sharing of ideas and cooperation, professional development and participation in seminars/industry groups/continuing education and innovation, such as the invention of the MTAC, are hallmarks of the PAs’ commitment to drive and embrace best practices. Hosting of Appreciative Inquiry Summit and Energy Expos to drive best thinking and cross pollination of ideas - even when critical of aspects of PA efforts. Active and coordinated engagement in regulatory proceedings, such as D.P.U. 11-120, which are probing best practices in multiple areas, from planning to logistics, such as MTMs. Ongoing work of Residential Management Committee and C&I Management Committee, Evaluation Management Committee, and Low Income Best Practices Working Group. PAs are fully and intensely engaged in diverse public processes seeking out best energy efficiency practices.</p>

<u>Council Priority</u>	<u>PA Summary Discussion</u> (Details in Section III)
	For details, see Sections I.E, III.A.4, III.F, III.G., III.H., III.I, III.J, III.N

2. Sense of the Council Regarding the Three-Year Plans (2013-2015)

In its June 12, 2012 Summary of EEAC Discussion – Sense of the Council Regarding the Three-Year Plans (2013-2015), the Council discussed its expectations on what the PAs should include and specifically address in the July 2, 2012 draft Gas and Electric Energy Efficiency Plan. The PAs have addressed these expectations, including reassessment of savings goals, costs and cost drivers, innovation in pursuing aggressive and sustainable savings goals and best practices. The PAs are also including action plan summaries for the Council’s convenience in Section I.G.3 below

<u>Sense of the Council</u>	<u>PA Summary Discussion</u>
<p><i>Reassessment of Savings Goals</i> Reassessment of Savings Goals—where appropriate, considering all-cost-effective mandate, the Council’s priorities, including sustainability, cost drivers and bill impacts, determine whether the PAs can increase savings goals for both gas and electric program portfolios, supported with scenario analysis where helpful. This should include a detailed explanation as to how the ultimate determination was made.</p>	<p>The PAs have adjusted proposed savings goals to take into account comments received from the Council, Council consultants, and other stakeholders. Findings from recently completed evaluation studies and other market intelligence has also been factored into proposed savings goals. National Grid, NSTAR, and Western Massachusetts Electric Company (“WMECO”) have increased electric savings goals over the nation-leading 2.5 percent level. On the gas side, notwithstanding serious challenges from EM&V results, Berkshire, Columbia Gas, New England Gas, and Unitil have all increased savings goals above April 30th levels. Where PAs did not increase goals, such action was taken only after review of EM&V results and/or unique service area challenges.</p> <p>For details, see Section III.B.1.h.</p>
<p><i>Costs and Cost Drivers</i> Include the complete analysis, methodologies used, assumptions, background, data sources, market uncertainties, etc. used to analyze the cost drivers and build the budgets. Connect the cost drivers to initiatives contained within the programs and indicate their effect—both</p>	<p>The PAs have carefully examined cost drivers, including sector cost trends, the impact of CHP in 2011 and 2010, C&I cost drivers, upcoming changes in federal codes and standards and resulting changes to program impacts, residential sector cost and increasing reliance on savings to be obtained in that sector in the next three-year plan, production and savings, and gas costs and evaluation impacts. Detailed discussion is provided in this Plan. As a key milestone the PAs plan to present on these issues to the Council in July 2012.</p>

<u>Sense of the Council</u>	<u>PA Summary Discussion</u>
positive and negative. Factor past actual costs into estimates for the 2013-2015 gas and electric plans.	For a detailed discussion, including multiple tables, see Section III.D.
<p><i>Innovation</i> Innovation in pursuing aggressive and sustainable savings goals—provide specific and detailed information as to how Point 380, the January 10, 2012 Public Comments, the Appreciative Inquiry and the Synapse economic study were reviewed and used to inform, enhance and deliver the gas and electric plans.</p>	<p>New initiatives targeting economically challenged neighborhoods, the healthcare sector, municipalities and public education have been directly informed by January 10, 2012 public comments, Appreciative Inquiry and Council comments. The Point 380 Study has informed the market segments that should be targeted in this Plan and continues to be used as a tool to inform “go to market” strategies. The Synapse study confirmed the PAs’ expectations with respect to the economy for 2013 -2015, and provided customer interviews reviewed by the C&I Management Committee to help develop enhanced integration strategies for 2013-2015. Synapse did not project a major economic boom or major recession in 2013 -2015, and PA goals similarly are not predicated on extreme economic swings as compared with current conditions.</p> <p>For additional, more detailed discussion, see Sections I.E, III.A.4, III.B, III.F, III.G, III.H., III.I, III.J</p>
<p><i>Action Plans</i> For each sector and key related programs or initiatives (i.e., those that have a major impact on savings/benefits or that are associated with a major driver of costs), provide an action plan with defined goals, deliverables, timelines and methods of evaluation (working within the EM&V framework).</p>	<p>The PAs strongly emphasize that this Plan is an integrated document with multiple parts interrelating. In order to fully appreciate and understand the PAs’ approach to addressing key sectors, the provisions of the entire Plan need to be considered. In particular, the most detailed descriptions of program plans and action strategies, including key goals and dates, are within the program descriptions or other applicable sections within this Plan.</p> <p>For additional, more detailed discussion, see Sections I.G.3, III.F, III.G., III.H, III.I.</p>
<p><i>Best Practices</i> For each sector and related programs, explain how best practices were reviewed and modeled across PAs, and then used to develop and implement best practices across all PAs’ gas and electric plans.</p>	<p>The sharing of best practices is an activity that occurs consistently within the C&I Management Committee, Residential Management Committee, Low Income Best Practices Working Group, and the Evaluation Management Committee. The sharing of these best practices results in dynamic program efforts that evolve over time. The program designs in each sector are the cumulative result of distilling best practices in the field and from the industry. These designs were developed through</p>

<u>Sense of the Council</u>	<u>PA Summary Discussion</u>
	<p>the C&I Management Committee, Residential Management Committee, and Low Income Best Practices Working Group and were developed only after sharing early drafts with the Council’s Consultants and considering the Consultants’ comments. Early draft designs were also shared with individual councilors in order to allow them to weigh in with suggestions and recommended best practices. The PAs also developed checklists of all councilor comments on the April 30 short form draft plan as well as a report on suggestions coming out of the Appreciative Inquiry Summit in order to help systematically review recommended best practices. The PAs have proactively and aggressively sought out the best thinking on energy efficiency, both critical and supportive, to better inform this Plan – no other state has embraced the open Appreciative Inquiry Summit process with respect to energy efficiency, nor the level of PA cooperation and collaboration.</p> <p>For additional and more detailed discussion, see Sections I.E, III.A.4, III.F, III.G., III.H., III.I, III.J, III.N.</p>

3. Action Plans for the Three-Year Plans

On June 18, 2012, the Council voting members circulated an Action Plans document for the next three year plan. The Council explained that it is an extension of the Sense of the Council prepared on June 12, 2012, and represents the specific requests of voting Council members. The Council further explained that it does not supersede the Council priorities, but requests more planning on the most significant programmatic and market sector issues to the voting Council.

In the following stand-alone section, the PAs provide Action Plans with respect to each of the 12 topics requested by the Council. The PAs strongly emphasize that this Plan is an integrated document with multiple parts interrelating. In order to fully appreciate and understand the PAs’ approach to addressing each of these 12 items highlighted by the Council, the provisions of the entire Plan need to be considered. In particular, the most detailed descriptions of program plans and action strategies are within the program descriptions or other applicable sections within this Plan. The PAs recognize, however, that having a separate section highlighting action items and key milestones is useful and directly responsive to Council requests. Accordingly, the PAs have summarized their action plans with respect to the 12 items noted by the Council below.

<u>Council Request</u>	<u>PA Action Plan</u>	<u>Applicable EM&V Studies</u>
<p>1. Enhanced fuel integration through program delivery in the C&I sector</p>	<p>The PAs have made significant progress integrating electric and gas service delivery in the C&I sector. There has been significant progress in providing customers with a uniform message about energy efficiency. Examples of current efforts that have contributed to integration include but are not limited to cross training for both PAs and vendors, consistent requirements and post inspection verification for contracted vendors, continued support of the MTAC process, and the combined screening tool. Additional efforts focused on fuel integration will continue in 2013.</p> <ol style="list-style-type: none"> 1. For 2013, additional gas measures will be evaluated for inclusion in the C&I Direct Install initiative. 2. Although PAs encourage comprehensive Technical Assistance studies, these efforts are supported and therefore directed by both the PA and the customer. To encourage customers to consider comprehensive gas and electric opportunities, the PAs will require the consideration of both gas and electric opportunities in order to be eligible for TA funds. 3. In those service areas which have separate gas and electric PAs, opportunities may exist for more formal strategies including cross-sales support and combined MOUs. NSTAR and National Grid will develop and test these concepts in the cities of Boston and Worcester. Although initial efforts are with two large PAs, lessons learned and best practices will be shared with the other PAs. Results will be reviewed at the end of 2nd quarter of 2013 and best practices expanded to all PAs/communities. 4. The PAs will also provide continued formal statewide gas and electric integration training to staff with the purpose of (1) Increasing networking among the PAs so the electric and 	<p><i>Large C&I - Process Evaluation of the Large Commercial and Industrial Energy Efficiency Programs</i> will be included in the 2011 Annual Report.</p>

<u>Council Request</u>	<u>PA Action Plan</u>	<u>Applicable EM&V Studies</u>
	<p>gas PAs can meet with their counterparts increasing the ability to share knowledge; (2) Training electric staff on how they may identify gas measures and training gas staff on how they may identify electric measures (and potential leads) for the partner PA when at customer site visits; (3) Developing a closer partnership between the Cool Smart/GasNetworks' rebate initiatives; and (4) Development of an Integrated Gas & Electric Working Group.</p> <p>For details, see Sections I.E.4, III.F.3, III.F.6.d.</p>	
<p>2. Community mobilization models</p>	<p>Community-based pilots developed during the last three-year plan provided valuable lessons and were instrumental in identifying outreach challenges and barriers to participation that exist in certain communities. Over the course of the next three years, the PAs plan to continue working closely with community organizations and advocates to enhance the engagement process as a means to increase program participation levels.</p> <p>While the PAs acknowledge there are varying scopes for community-based engagement efforts, there is also acknowledgement that having an established framework to serve as a common delivery model across PAs may be beneficial for achieving and measuring success. The PAs also recognize the frame work needs to be flexible enough to adjust for size and scope, yet common core elements will be designed to yield measurable energy savings and benefits to the community participants. Examples of core components include, but are not limited to: creating a formalized application process, establishing engagement specific saving goals and reporting process, and developing a performance-based incentive mechanism.</p> <p>Projected Milestones:</p>	<p><i>Community-Based Partnerships 2011 Evaluation Final Report</i> expected to be included in the 2011 Annual Report.</p> <p>A study to review the Northampton and Pittsfield commercial outreach efforts is planned for 2012.</p>

<u>Council Request</u>	<u>PA Action Plan</u>	<u>Applicable EM&V Studies</u>
	<ul style="list-style-type: none"> • PAs will develop a statewide framework which incorporates an application process, establishing a community specific saving goals and reporting process, and developing a performance-based incentive mechanism by the end of Q3 2013. <p>Each PA will work with their internal staff, implementation vendors, and community organizations (where applicable) to introduce and incorporate the formalized process to planned engagement activities by Q4 2013.</p> <p>For details, see Sections III.H.2.</p> <p>See also the details and dates with respect to the new Neighborhood Fitness+ initiative in Section III.F.6.b.i.</p>	
<p>3. Hard to reach and lower income strategies, including understanding and addressing the 60-120% of state median income customer segment</p>	<p>Building on the successful community engagement efforts and low-income programs, the PAs plan to develop a new initiative called Efficient Neighborhoods+. This initiative will target lower to moderate-income consumers in designated communities and neighborhoods. As an extension of the Home Energy Services (“HES”) core initiative, Efficient Neighborhoods+ is intended to provide significant energy saving benefits to customers who live in urban neighborhoods with older housing stock and are often financially constrained from making energy efficiency investments. In addition to the benefits provided by the HES core initiative, Efficient Neighborhoods+ will include an enhanced incentive structure designed to make energy efficient improvements more affordable for consumers living in these sometimes harder to reach neighborhoods.</p> <p>Projected Milestones:</p> <ol style="list-style-type: none"> 1. PAs intend to define target neighborhoods and finalize 	<p>Potential study to review the 2013 enhanced strategies to increase penetration into hard to reach markets to be launched in late 2013.</p>

<u>Council Request</u>	<u>PA Action Plan</u>	<u>Applicable EM&V Studies</u>
	<p>initiative design (including incentive structure) by the end of Q1 2013.</p> <ol style="list-style-type: none"> 2. PAs plan to test this initiative in May-August, 2013. This timeline will serve the secondary goal of maintaining a steady work flow for IICs and HPCs. 3. Monthly reporting of the uptake will be submitted by the lead vendors to the PAs. 4. PAs will assess results and report to EEAC in Q1 2014. <p>For details, see Section III.F.6.b.i. <i>See also</i> III.H.2.</p>	
<p>4. Enhancements to the multi-family program, including integration of commercial and residential services that result in increased penetration with renters</p>	<p>The PAs will continue integration efforts in multi-family facilities to provide consistent messaging and seamless delivery to customers within this unique sector. The PAs have developed effective strategies and made great strides toward integration of program delivery services during the 2010-2012 three-year plan. For example, the PAs discovered that condominium owners within this initiative view themselves and act similar to the single family homeowner. In an effort to meet the condo customers' expectations, the PAs expanded the HEAT Loan eligibility and allowed for single unit assessments where warranted. In 2013, all PAs plan to offer a single facility assessment, regardless of meter type, and a packaged offer to a facility, based on the positive experiences seen by some PAs that previously implemented this approach. To further increase penetration with renters, PAs will enhance efforts to target landlords, property management firms, building management, building operator trade associations, and design professionals. See Section III.H. PAs will also consider stakeholder comments and ideas generated at the Appreciative Inquiry Summit in May 2012.</p> <p>Milestones</p> <ul style="list-style-type: none"> • PAs will develop a statewide template which incorporates 	<p>Potential study to review the initiative to streamline delivery of packaged, comprehensive energy efficiency services to the multi-family sector to be launched in late 2013.</p>

<u>Council Request</u>	<u>PA Action Plan</u>	<u>Applicable EM&V Studies</u>
	<p>measures and incentives into a packaged portfolio for presentation to the facility owner by the end of Q2 2013.</p> <ul style="list-style-type: none"> • Each PA will work with their internal staff, implementation vendors, the Multi-Family Market Integrator and PA data support teams to implement a seamless process by Q4 2013 • PAs plan to engage multi-family stakeholders in a focus group setting to assess the effectiveness of new enhancements and future program planning by Q1 2014. Dates of implementing marketing tactics will be dependent on PA goal attainment. <p>For details, see Sections III.F.6.a, III.H.2</p>	
<p>5. Implementation of pre weatherization measures in residential services as determined through the value to greater savings</p>	<p>As discussed previously at Council meetings, the PAs are offering limited time incentives from May to July 2012 for combustion safety repairs, knob and tube wiring inspections, or repair of improper dryer venting. Up to \$1,000 has been included for knob and tube upgrades and remediation of moisture in the HEAT Loan.</p> <p>In Q3 2012, the evaluation contractor is expected to provide preliminary results, and full results are expected in Q4 2012.</p> <p>Evaluation results will inform initiative design in Q1 2013 with expected implementation in Q2 2013.</p> <p>For details, see Section III.F.6.a.</p>	<p>Ongoing study to review the 2012 pre-weatherization barrier initiative expected to be completed late summer 2012.</p>
<p>6. A consistent and more comprehensive approach with municipalities</p>	<p>The PAs recognize that municipal customers have unique barriers and challenges to adopting energy efficiency. Effective in 2013 the PAs will consider broader adoption of a dedicated turn-key track within the C&I Retrofit Program to assist in overcoming these barriers and providing closer alignment with the Green Communities division of the Office of Energy and Environmental Affairs. National Grid and NSTAR will implement a dedicated key track for</p>	<p>None currently planned; a customized approach could be developed based upon future plans.</p>

<u>Council Request</u>	<u>PA Action Plan</u>	<u>Applicable EM&V Studies</u>
	<p>municipal customer within the C&I Retrofit program in 2012 and will share experiences with other PAs. This new approach is a core benefit of this Plan. Key review by all PAs of this new approach being implemented by NSTAR and National Grid will occur in the second quarter of 2013.</p> <p>For details, see Sections III.F.6.b.i., III.F.6.d, III.H.</p>	
<p>7. Targeted strategies for the midsized commercial market (greater than 300kW, not account managed)</p>	<p>National Grid historically served these customers as managed accounts with implementation support through contracted program expediter (“PEX”) vendors. In 2012 NSTAR created a tiered sales force whereby all accounts above 300 kW are now assigned and managed. NSTAR also adopted the National Grid model with a stable of contracted PEX vendors. By 2013, WMECo will also follow this model. Effectiveness will be shared and reviewed within C&IMC.</p> <p>For details, see Section III.F.6.d.</p>	<p><i>Large C&I - Process Evaluation of the Large Commercial and Industrial Energy Efficiency Programs</i> will be included in the 2011 Annual Report. <i>2012 Massachusetts Umbrella Marketing Evaluation Report</i> will be included in the 2011 Annual Report.</p> <p>A study to assess mid-sized C&I customer needs is planned for 2012.</p>
<p>8. Targeted strategies for commercial real estate, including resources for building performance management tools, as well as potential behavior programs and increased penetration with lessees</p>	<p>These three efforts are being targeted comprehensively through an MOU strategy. In order to achieve persistence, multi-year corporate engagement is critical. The barriers here include lease structures, owner/management structures and buy-hold versus flip business models. NSTAR and National Grid have been working with several large commercial property owners/operators and are currently testing some concepts to begin addressing these barriers. By second quarter of 2013, progress will be reviewed and actions adjusted in response to lessons learned.</p>	<p>A study to assess mid-sized C&I customer needs is planned for 2012.</p> <p>A study to develop customer profiles for C&I customers is planned for 2012.</p>

<u>Council Request</u>	<u>PA Action Plan</u>	<u>Applicable EM&V Studies</u>
	<p>In parallel, the PAs are also progressing on the Office of the Future effort. This is focused on the technical opportunities for deeper savings along with the associated cost challenges. National collaboration has provided several initial technical projects focused on system integration techniques to provide deeper savings. Although cost effective, these projects were several orders of magnitude more costly than traditional approaches. Opportunities to fine tune the balance between budgets and savings exist. NSTAR and National Grid are in talks with several commercial property owners to implement up to 12 projects which will guide efforts forward. An external project manager and consultant team has been retained. With buy-in from property owners, implementation will be targeted for 2013 and results available for review in 2014.</p> <p>For details, see Section III.F.6.d.</p>	
<p>9. Targeted strategies for healthcare that meet the needs of both large academic medical centers as well as smaller healthcare facilities</p>	<p>The PAs commit to a continued focus on this customer sector. MOUs are already in place with several health care sector customers leading to significant savings in this important sector. The PAs continue to work closely with customers in this sector to refine energy efficiency services in a meaningful way. These efforts will continue in this and other sectors in 2013 – 2015.</p> <p>MTAC has also begun work with the Fraunhofer Center for Sustainable Energy Systems CSE, located in Cambridge, Massachusetts. Fraunhofer CSE, part of the international Fraunhofer applied research organization, specifically focuses on building energy technologies. Along with supporting MTAC's overall proactive charter, they will be supporting the effort of identifying and addressing opportunities for equipment specific to the healthcare industry. Key milestone: initial findings are expected to be reviewed in 1st quarter of 2013 and will guide the direction of the effort going forward.</p>	<p>A study to assess mid-sized customer needs is planned for 2012.</p>

<u>Council Request</u>	<u>PA Action Plan</u>	<u>Applicable EM&V Studies</u>
	For details, see Sections I.E.2, III.F.1, III.F.6.d, III.H.1.	
10. Enablement for statewide data management and statewide data reporting in a consistent and timely manner	<p>As discussed in more detail in the Council Priorities above, the PAs are currently reporting statewide data in a consistent and timely manner on a monthly, quarterly and annual basis. There is an enormous amount of data that is being successfully and consistently provided in a public and transparent manner by the Massachusetts PAs, including DOER's PARIS database, which the PAs have populated throughout the Plan term. The PAs remain committed to developing database solutions that will provide cost-effective benefits to both the PAs and the Commonwealth in general. Key milestone: PAs will actively participate in database webinar to be hosted by DOER on July 25 or July 26, 2012.</p> <p>For details, see Section III.N. <i>See also</i> Appendix K.</p>	None currently planned; a customized approach could be developed based upon future plans.
11. Roadmap to organizational structure and staffing resources, including systems for best practices review, customer experience and satisfaction in each sector	<p>Organizational structures adopted by individual PAs have evolved over time to address evolving organizational objectives and cost-efficiencies in operations. As concretely demonstrated by the budgets provided in this Plan, each PA is committed to maintaining sufficient staffing levels, supplemented where necessary and appropriate with external vendors, to continue to deliver successful energy efficiency services to all customers. Each PA is acutely focused on identifying and implementing strategies and tactics that lead to an enhanced customer experience and high levels of customer satisfaction. In addition, each PA is committed to providing staff with ongoing education and training in support of keeping efforts successful. Each PA also has a dedicated senior expert who sits as a Council member and who stands ready to meet with and talk to other Councilors.</p> <p>The PAs also anticipate continuing to leverage resources by sharing common resources. Examples of where this has been successful</p>	<i>Large C&I - Process Evaluation of the Large Commercial and Industrial Energy Efficiency Programs</i> will be included in the 2011 Annual Report.

<u>Council Request</u>	<u>PA Action Plan</u>	<u>Applicable EM&V Studies</u>
	<p>include but are not limited to the technical review of potential new technologies through the MTAC, sharing evaluation resources, joint program design efforts, joint marketing efforts, having one or two PAs staff meetings and reporting back to the group. The PAs commit to continue to leverage resources between each organization as a way to manage costs and overall efficiency.</p> <p>Customer experience and satisfaction are also objectively reviewed and measured through the comprehensive EM&V framework adopted in Massachusetts and proposed for continuation in 2013-2015. Approximately 4 percent of the overall budgets for the PAs’ energy efficiency efforts are dedicated to EM&V work.</p> <p>For details, see Sections I.E, III.A.4, III.B.4, III.B.5, III.F, III.G, III.H., III.I, III.J, III.N.</p>	
<p>12. Increased statewide marketing and statewide consistency in branding and messaging efforts including the use of the Mass Save[®] mark to reinforce seamless program offerings across the state</p>	<p>The key themes for the Statewide Marketing efforts for the 2013-2015 planning cycle are as follows:</p> <ul style="list-style-type: none"> • Statewide Marketing’s role is to define who and what Mass Save is and what it means to the customer • Statewide Marketing will take a strategic approach to message and graphically tie in the PA Brand Logos with the Mass Save mark to create a strong association and clarity of message • Statewide Marketing will utilize the segmentation work identified by the RMC and C&IMC so we can better and more consistently target customers from a program and statewide awareness level. <p>A request for proposal (“RFP”) will be issued in July 2012 for a new advertising agency to create and execute communications for the Statewide Marketing Working Group. The PAs expect to review the proposals in August/September 2012 and make a decision on a new</p>	<p><i>Phase II (2012): Umbrella Marketing</i> will be included in the 2011 Annual Report. A follow up study which will include post-campaign analysis is planned for 2012.</p>

<u>Council Request</u>	<u>PA Action Plan</u>	<u>Applicable EM&V Studies</u>
	<p>agency in October 2012. The PAs will implement an agency review process semi-annually to keep themselves and the agency on track with a formal review mid-2014 prior to considering a contract renewal for the final year. As part of that RFP process, the winning agency will provide the PAs with recommendations and suggestions for a 2013 communications plan, which can be leveraged and built upon for development of the PAs' 2013 campaign to be in market Q1 2013. The 2013 plan will address the following:</p> <ul style="list-style-type: none"> • PAs' communications strategy by sector will be more diverse and targeted and yield an improvement in awareness. • A need for increased spending has been identified so that the PAs can adequately cover at least nine months versus six months of activity in the market to support specific program efforts. This will also be accomplished by a selective and targeted use of the appropriate channels and media weights. • Mass Save Style Guidelines will be re-evaluated by the PAs with the agency to determine their effectiveness and usability and will be re-issued following this refinement within the first half of 2013. • The 2014 and 2015 campaigns will be in market within the first quarter of each year to complement the marketing activities of the individual program communications. <p>From a market research perspective, the PAs will work with the EM&V team to conduct a pre/post campaign study. Through the PAs' ad agency, the PAs will implement copy testing. The pre test will commence in Q1 2013 prior to the campaign being in market and will be conducted by sector and will be compared to the same time in the prior year. The post test will commence immediately following the conclusion of the campaign in Q4 2013. The copy test</p>	

<u>Council Request</u>	<u>PA Action Plan</u>	<u>Applicable EM&V Studies</u>
	<p>will be conducted prior to creative execution in Q1 2013 so that the PAs can be sure they have the right communication in the market in that it is meaningful to the target and the channels the PAs elect to use are appropriate. MassSave.com will be evaluated for content, usability and improvements and a team established to maintain its integrity.</p> <p>As mentioned above, MassSave.com will be evaluated within Q1 2013 with a re-launch in Q2 2013. Subsequent reviews and evaluations will take place quarterly to maintain its integrity and technical prowess. The PAs will continue to feature all the PAs' brands in conjunction with the Mass Save mark per the findings from the Umbrella Studies, which is also consistent with the PAs' goal to convey who and what Mass Save is.</p> <p>Campaign tracking was introduced as a new process in 2012 and will continue for each campaign. This activity will be set up at the beginning of each campaign prior to launch and reviewed monthly and then at the conclusion of each campaign year. The tracking results will be utilized to plan going forward into the next year. Tracking will include the number of customers visiting MassSave.com, what they review and how much time they spend. Surveys among visitors will be conducted on a half-year basis for further learning.</p> <p>For details, see Sections III.F.2 and III.H.</p>	

4. Individual Councilor Comments on 4/30/12 Short Form Plan

Under the process developed by the PAs and the Council, the PAs submitted their short form draft of the Plan on April 30, 2012. Following that submission, the PAs solicited and received feedback from individual councilors both in writing and in individual meetings. The PAs collated and categorized the written comments from councilors as reflected in the chart attached as Appendix D and considered both written and oral comments from councilors in building the July 2 draft of the Plan to the Council. The PAs appreciate the time and effort that the councilors' have devoted to providing comments on the short form filing. The PAs have endeavored to address these comments wherever possible (see tables above which capture many of these comments), but given their sheer number, complexity and interconnectedness with other issues, the PAs do not provide specific references in the Plan to each and every comment. There are some instances in which the PAs have not addressed comments directly because the PAs respectfully disagree with such comments after consideration. Accordingly, the PAs look forward to continuing discussions on these issues with councilors.

II. PROCEDURAL BACKGROUND

A. The Green Communities Act

The Green Communities Act was signed into law on July 2, 2008. The legislation promotes enhanced energy efficiency throughout the Commonwealth and requires the Program Administrators to develop energy efficiency plans that will “provide for the acquisition of all available energy efficiency and demand reduction resources that are cost effective or less expensive than supply.” G.L. c. 25, § 21(b)(1). Electric and gas Program Administrators, respectively, are required to submit a statewide electric efficiency investment plan and a statewide natural gas efficiency investment plan on or before April 30, 2012 to the Council.¹¹ The contents of those plans, which are specified in the statute, are to be prepared by the Program Administrators in coordination with the Council. *Id.*, at § 21(b)(1)-(2). In meeting that statutory deadline, the Massachusetts gas and electric Program Administrators worked collaboratively to prepare a Plan that represents the collective efforts and objectives of the Program Administrators, and is intended to meet statutory requirements. In accordance with the schedule and processes developed with the Council for the 2013-2015 Plan, on April 30, 2012, the electric and gas Program Administrators submitted their short form initial draft 2013-2015 three-year energy efficiency plan for the Council’s review and approval.

Since their initial, short-form submittal, the Program Administrators have remained engaged in a collaborative process with the Council and its Consultants, as well as other interested stakeholders, to further develop and refine the statewide Plan. Today’s filing marks the next iteration of the 2013-2015 Plan and, in accordance with the processes and schedule developed for the 2013-2015 Plan, contains full detail on program designs, budgets and savings goals. In accordance with the GCA, the Program Administrators are required to file their respective PA-specific three-year plans, “together with the Council’s approval or comments and a statement of any unresolved issues, to the Department . . . on or before October 31.” G.L. c. 25, § 21(d).

Although this Plan meets statutory objectives for three-year plans, the Program Administrators are also cognizant of the role that the statewide electric and gas efficiency investment plans occupy in the Commonwealth’s broader policy objectives. With a series of additional legislative enactments in 2008, the Commonwealth has signaled its commitment to ensuring that the Commonwealth is a worldwide leader in developing the green economy through the Global Warming Solutions Act, St. 2008, c. 298 (“GWSA”), and the Green Jobs Act, St. 2008, c. 307. The GWSA mandates the gradual reduction of greenhouse gas emissions (“GHG”) in the Commonwealth, thus spurring innovation and promoting research and development in the area of clean energy. Enacted concurrently, the Green Jobs Act provides a robust funding source for the green technology industry, facilitating economic development and job growth in the clean energy sector. Taken together, these legislative enactments reflect the

¹¹ The Energy Efficiency Advisory Council is an advisory body consisting of eleven voting members of diverse backgrounds and expertise, a non-voting member from the heating oil industry, a non-voting member from the energy efficiency business, and a non-voting member from each Program Administrator. G.L. c. 25, § 22. The PAs have been active and engaged participants in the Council process, participating in at least 56 full Council meetings and 11 Council executive committee meetings since 2009.

Commonwealth's commitment to climate protection and its leadership in promoting clean and renewable energy. The Program Administrators welcome the opportunity provided by this new three-year Plan to further design and implement innovative energy efficiency programs that not only advance the objectives of the Green Communities Act, but also promote the parallel goals of decreasing GHGs and promoting job creation in the clean energy sector.

B. D.P.U. 08-50-A

After the passage of the Green Communities Act, and in conjunction with the Program Administrators' well-established energy efficiency programs, the Department opened an investigation to update the Department's energy efficiency guidelines, as previously established in Investigation to Establish Methods and Procedures to Evaluate and Approve Energy Efficiency Programs, D.T.E. 98-100 (2000) (the "D.T.E. 98-100 Guidelines"), to ensure that they were consistent with the Green Communities Act. In that proceeding, Investigation by the Department of Public Utilities on its own Motion into Updating its Energy Efficiency Guidelines Consistent with An Act Relative to Green Communities, D.P.U. 08-50 (2008) ("D.P.U. 08-50"), the Department issued revised energy efficiency guidelines, to address issues such as: (1) funding sources; (2) budgets; (3) cost-effectiveness test; (4) evaluation plans; (5) performance incentives; (6) review of three-year plans; and (7) mid-term modifications ("MTM").

During the Department's proceedings in D.P.U. 08-50, it solicited comments from the Program Administrators, governmental bodies, and other interested stakeholders. The resulting first Order, D.P.U. 08-50-A (March 16, 2009), provided a clarification of the criteria to be applied in demonstrating cost-effectiveness and the process by which three-year energy efficiency plans should be prepared and reviewed. In D.P.U. 08-50-A, the Department mandated that the Program Administrators seek Department approval for certain specified mid-term modifications. As a result, the PAs have filed mid-term modifications for 2011 and 2012 in accordance with D.P.U. 08-50-A and D.P.U. 08-50-B, discussed below.

The Program Administrators have participated with the Department, the Department of Energy Resources (the "DOER"), and other interested stakeholders in various D.P.U. 08-50 Working Group sessions convened and moderated by the Department. The format of today's filing, including the organization of the Plan, statistical tables, and the bill impact review model, reflect the collaborative process that occurred in the context of the D.P.U. 08-50 Working Groups.

C. D.P.U. 08-50-B

The Department supplemented its 08-50-A Order with the issuance of D.P.U. 08-50-B (October 26, 2009), which includes further directives clarifying how the Program Administrators are to conduct and present their bill impact analysis and evaluation, monitoring and verification processes, and established the energy efficiency guidelines which the PAs now rely upon for such matters as annual report filings and mid-term modification filings or notifications (the "D.P.U. 08-50-B Guidelines"). Through Orders D.P.U. 08-50-A and D.P.U. 08-50-B, the Department established standards that sought to balance the need for Program Administrators to make improvements to energy efficiency programs during the course of a three-year plan, with

the need for adequate regulatory review and stakeholder input of significant changes to the Program Administrators' planning assumptions and parameters.

D. D.P.U. 08-50-C

Following its Order in D.P.U. 08-50-B, the Department established a working group to review existing practices and develop an annual report template for review and comment, resulting in an Order in D.P.U. 08-50-C (2011), which established a template for Energy Efficiency Annual Reports.

The Department noted that the purpose of the Annual Report template is: (1) to clearly identify the information that a Program Administrator is required to provide to fully review the PA's energy efficiency program performance for a particular year; and (2) to specify the format for providing the required information. D.P.U. 08-50-C at 13-14. The PAs have used the Annual Report template, in preparing their respective annual reports filed with the Department each year on or about August 1st, and in compliance with G.L. c. 25, § 21(b)(3).

E. D.P.U. 09-116 to D.P.U. 09-128

On October 31, 2009, the Program Administrators filed their respective PA-specific three-year plans, together with the Council's Resolution of October 27, 2009 (which Resolution constituted the Council's approval, comments and statement of any unresolved issues) with the Department pursuant to G.L. c. 25, § 21(d). The plans sought to capture all available cost-effective energy efficiency for the three-year period beginning January 1, 2010, with the consideration of factors and concerns noted at the Council, including, but not limited to, bill impacts, environmental benefits, and the need for a reasonable ramp-up schedule.

On January 28, 2010, the Department issued Orders on the initial three-year plans in dockets D.P.U. 09-116 through D.P.U. 09-120 ("Electric Order") and D.P.U. 09-121 through D.P.U. 09-128 ("Gas Order") (together, the "Orders"), approving the Plans subject to limited specified exceptions and directives. The Program Administrators have provided quarterly reports to the Council, and the Council in turn has provided an annual report to the Department. G.L. c. 25, § 22(d). The Department is required to determine the cost-effectiveness of each Program Administrator's plan on an annual basis. Id., § 21(d)(2).

In addition to quarterly reports to the Council, the PAs voluntarily provide monthly data dashboards to enhance transparency on implementation efforts under the initial three-year term. These reports are provided in a timely fashion, in formats that were developed collaboratively by the Program Administrators and the Council's Consultants. The Program Administrators also filed detailed annual reports in August of 2011 for program year 2010 and will file annual reports in August 2012 for the program year 2011. In preparing these reports (monthly, quarterly and annual), the Program Administrators collaborate, share assumptions, best practices and ideas; and, provide informal review and quality control functions for each other.

As approved by the Department and as implemented by the PAs, these three-year plans have supported the development of an enhanced energy services delivery infrastructure in Massachusetts, promoted job creation throughout the Commonwealth in the energy efficiency services sector, and enhanced program designs in order to provide a more seamless experience

for customers seeking energy efficiency services from both gas and electric Program Administrators. Further, these joint efforts of the PAs, the Council, state regulators, and other interested stakeholders, have taken Massachusetts to the forefront of energy efficiency efforts in the nation, leading the American Council on an Energy Efficient Economy (“ACEEE”) to name Massachusetts “the number one state in Energy Efficiency.” Similar coordination by the Program Administrators and the Council through this next three-year plan should allow for the continued aggressive pursuit of all available cost-effective energy efficiency in a sustainable manner to achieve deeper and broader levels of savings at customer homes and facilities. In turn, increased savings over time will continue to provide economic and environmental benefits to all customers.

F. D.P.U. 10-106

While § 3.8.2 of the D.P.U. 08-50-B Guidelines describes the conditions that require a filing of a mid-term modification, that section did not state whether the 20 percent thresholds should be applied on a three-year or an annual basis. On August 13, 2010, Cape Light Compact (the “Compact”) filed a request with the Department for a mid-year modification of its 2010-2012 Three-Year Plan, consisting of an adjustment of its 2010 program budgets. The Compact sought Department approval for a program budget change that was 20 percent greater than the program’s annual budget. On January 10, 2011, the Department issued an Order in Cape Light Compact, D.P.U. 10-106 stating that the three-year plan review process should move away from routine mid-term modifications, and clarifying that D.P.U. 08-50-B “Guidelines § 3.8.2 should be interpreted such that Department approval is required for a program budget change that is 20 percent greater than the program’s three-year budget.” D.P.U. 10-106, at 7-8. Additionally, the Department noted that the D.P.U. 08-50-B Guidelines are not fixed and are intended to be updated over time. Id. at 8-9.

G. D.P.U. 11-120

On November 29, 2011, the Department opened an investigation to examine issues associated with the Program Administrators’ three-year energy efficiency plans. Investigation by the Department of Public Utilities on its own Motion into Updating its Energy Efficiency Guidelines, D.P.U. 11-120. In the first phase of the investigation, the Department announced that it will examine the following issues associated with energy efficiency program benefits that are included in the cost-effectiveness determination: (1) the method used to calculate program net savings; and (2) the method used to calculate reasonably anticipated environmental compliance costs, in particular those associated with the emission of carbon dioxide (“CO₂”). D.P.U. 11-120, at 3. The Department stated that its investigation did not mean that a change to the long-standing treatment of these benefits is either necessary or appropriate at this time. D.P.U. 11-120, at 3. Instead, the Department solicited comments in order to determine whether such changes are necessary and, if so, when and how such changes should be incorporated into the measure of cost-effectiveness. D.P.U. 11-120, at 3-4.

Interested parties filed initial comments on these two issues by January 31, 2012. Reply comments on CO₂ compliance costs were filed by February 27, 2012. The Department held a technical session on March 28, 2012, to discuss: (1) the extent to which the existing approaches used to estimate net savings produce accurate and reliable results; and (2) alternate ways to

determine net savings estimates that may improve upon the existing approaches. Interested parties filed reply comments on these savings issues by May 7, 2012.

In an excellent example of the collaborative spirit and search for best practices brought to bear by the Program Administrators and other stakeholders such as the DOER, Department of Environmental Protection (“DEP”) and Environment Northeast (“ENE”), on May 7, 2012, the Program Administrators joined a diverse group of stakeholders in a set of common comments with respect to the issue of calculating net savings. The ability to file comments with such a diverse group of stakeholders underscores the remarkable commitment to sharing ideas and best practices of the multiple parties interested in energy efficiency in Massachusetts. The Program Administrators were proud to take a leadership role in the development, drafting and submission of these joint comments.

On May 25, 2012, the Department opened a second phase of this investigation to examine issues associated with the Program Administrators’ three-year energy efficiency plans. Investigation by the Department of Public Utilities on its own Motion into Updating its Energy Efficiency Guidelines, D.P.U. 11-120, Phase II. In the second phase of this proceeding, the Department expanded the scope of its investigation to include recurring filings that the Department has reviewed during the term of the first three-year plans, including: (1) mid-term modifications (“MTMs”); (2) the performance reports submitted by each Program Administrator annually, which include the calculation of a performance incentive payment; and (3) the calculation and reconciliation of each Program Administrator’s energy efficiency surcharges (“EESs”). The Department held a technical session on June 18, 2012, to discuss these three issues. Initial comments must be filed by July 12, 2012.

As this proceeding continues and as any decision shapes the development of the PAs’ 2013-2015 three-year planning process, the Program Administrators will remain engaged in the D.P.U. 11-120 process and will inform the development of their three-year plans accordingly. The PAs discuss the possible implications of this investigation for the future in Section III.O.

H. 2010 Annual Reports, D.P.U. 11-63 through D.P.U. 11-73, D.P.U. 11-126;

On August 15, 2011, the PAs each filed for Department approval a 2010 Energy Efficiency Annual Report. Consistent with D.P.U. 08-50-C, each Annual Report summarizes the activities related to the delivery of each PA’s energy efficiency programs from January 1, 2010 to December 31, 2010 (“2010 Annual Report”), the first year of each PA’s initial Three-Year Energy Efficiency Plan. On March 23, 2012, the Attorney General and the DOER filed comments in the 2010 Annual Report proceedings, making a number of recommendations to be applied in the future, but neither opposed approval of the 2010 Annual Reports by the Department. On April 6, 2012, the PAs filed reply comments.

Pursuant to the Annual Report Template in D.P.U. 08-50-C, each 2010 Annual Report submitted to the Department: (1) provides a comparison of its planned, preliminary year-end, and evaluated (where applicable) expenses, savings, and benefits at the portfolio, sector, and

program levels for the program year;¹² (2) identifies significant variances between its planned and evaluated costs, savings, and benefits for the program year, and discusses reasons for such variances; (3) discusses how program performance during the program year informs the Program Administrator's consideration of modifications to program implementation during upcoming years; (4) describes the evaluation, monitoring, and verification activities ("EM&V") undertaken by the Program Administrator (both individually and jointly with other Program Administrators) and explains how the results of the activities influence program cost-effectiveness; and (5) describes the performance incentive that the Program Administrator seeks to collect.¹³

Discovery in this proceeding has been issued by the Department, the Attorney General and the DOER and the PAs have responded to these statewide and individual information requests. Finally, the PAs, the Attorney General and DOER have filed initial and reply comments.

I. 2011 Energy Efficiency Mid-Term Modification Proceedings, D.P.U. 10-140 through 10-150

Each Program Administrator individually filed MTMs to its initial three-year energy efficiency plan for effect in calendar year 2011 ("2011 MTMs") on or about October 29, 2010, pursuant to § 3.8 of the Department's D.P.U. 08-50-B Guidelines and the Department's Orders on Gas Three-Year Energy Efficiency Plans 2010-2012, D.P.U. 09-121 through D.P.U. 09-128 (2010) and Electric Three-Year Energy Efficiency Plans 2010-2012, D.P.U. 09-116 through D.P.U. 09-120 (2010). The PAs developed their 2011 MTMs based on a set of four "operating assumptions" which were based on their interpretation of the Guidelines as set out in D.P.U. 08-50-B, particularly Guideline §3.8.2 which relates to the timing and substantive requirements for MTMs.

The 2011 MTMs submitted to the Department included: (1) a Petition; (2) an Executive Summary; (3) Savings, Budget, and Performance Incentive Modifications pursuant to § 3.8 of the Guidelines; (4) the 2011 EM&V Plan; (5) a 2011 Performance Incentives Proposal; (6) Pilots; (7) a Cost-Effectiveness Analysis; (8) Updated 08-50 Tables; (9) the Technical Reference Manual- 2011 Plan Version; and (10) Appendices. In addition, the PAs responded to numerous statewide and individual information responses from the Department and intervenors. Finally and significantly, on December 14, 2010, the Council adopted a resolution in support of the 2011 MTMs.

¹² Before a program year, each Program Administrator projects its planned values for expenses, savings, and benefits based on anticipated performance during the year. At the end of the program year, each Program Administrator estimates its preliminary year-end values based on actual performance during the year. Finally, evaluated values revise the preliminary year-end values to take into account the evaluation studies in which a Program Administrator participated during a program year. See Investigation by the Department of Public Utilities on its own Motion into Updating its Energy Efficiency Guidelines Consistent with An Act Relative to Green Communities, D.P.U. 08-50-C at 17 n.10 (2011).

¹³ In D.P.U. 08-50-C, the Department adopted a template, developed by a Department-convened working group, to be used by the Program Administrators in preparing their performance reports. D.P.U. 08-50-C at 3-4.

On April 15, 2011, following comprehensive negotiations, the PAs, DOER, the Low-Income Weatherization and Fuel Assistance Network, Massachusetts Energy Directors Association, the Low-Income Energy Affordability Network and Environment Northeast jointly filed for approval with the Department a Memorandum of Agreement (“MOA”) intended to resolve all issues related to the respective requests for the 2011 MTMs. The MOA resolves eleven docketed matters of first impression and has the support of a broad array of stakeholders, including the approval of the Council. On July 1, 2011, the Attorney General filed comments in the 2011 MTM proceedings, making a number of recommendations but not opposing approval of the MOA by the Department.

J. 2012 Energy Efficiency Mid-Term Modification Proceedings, D.P.U. 11-106 through D.P.U. 11-116

Each Program Administrator individually filed MTMs to its Three-Year Energy Efficiency Plan (“Plan”) for effect in calendar year 2012 (“2012 MTMs”) on October 31, 2011, pursuant to § 3.8 of the Department’s D.P.U. 08-50-B Guidelines and the Department’s Orders on Gas Three-Year Energy Efficiency Plans 2010-2012, D.P.U. 09-121 through D.P.U. 09-128 (2010) and Electric Three-Year Energy Efficiency Plans 2010-2012, D.P.U. 09-116 through D.P.U. 09-120 (2010).

Like the 2011 MTMs, the 2012 MTMs submitted to the Department included: (1) a Petition; (2) an Executive Summary; (3) Savings, Budget, and Performance Incentive Modifications pursuant to § 3.8 of the Guidelines; (4) the 2011 EM&V Plan; (5) a 2011 Performance Incentives Proposal; (6) Pilots; (7) a Cost-Effectiveness Analysis; (8) Updated 08-50 Tables; (9) the Technical Reference Manual- 2012 Plan Version; and (10) Appendices. In addition, the PAs have responded to numerous statewide and individual information requests from the Department and other intervenors. Finally and significantly, on December 12, 2011, DOER filed with the Department the Council’s resolution in support of the 2012 MTMS, which was adopted on November 8, 2011.

On May 2, 2012, the Department approved a Partial Settlement on Scope of the Proceedings, submitted jointly by the PAs and the Commonwealth of Massachusetts Office of the Attorney General (“Attorney General”), the Department of Energy Resources (“DOER”), and the Low-Income Weatherization and Fuel Assistance Program Network, the Massachusetts Energy Directors Association, the Low-Income Energy Affordability Network (collectively, “Network”), and Environment Northeast. Accordingly, any issue with respect to the use of estimated avoided costs based on the 2011 Avoided Energy Supply Costs in New England: 2011 Report (July 21, 2011, amended August 11, 2011) (“2011 AESC Study”) and estimated non-energy benefits (also known as non-energy impacts) based on the Massachusetts Special and Cross-Sector Studies Area, Residential and Low-Income Non-Energy Impacts (“NEI”) Evaluation (August 15, 2011) (the “NEI Evaluation”) will not be addressed in the 2012 MTM proceedings.

III. THE THREE-YEAR PLAN

A. Core Benefits and Cost-Effectiveness

1. Energy and Demand Savings

The savings goals and program budgets set forth in the body of this Plan are presented on an aggregate, statewide basis by program. In the D.P.U. 08-50 table format, each Program Administrator has set forth its own recommended savings and budget levels for the three-year period commencing January 1, 2013, consistent with the overall goals and budgets developed in the statewide Plan review process, which are included as supplemental enclosures with this Plan. The statewide Plan review process is a phased process that first requires the filing of a joint statewide plan by all Program Administrators in April 2012, followed in October 2012 by individual PA-specific plans, after the conclusion of the review process of the statewide plans at the Council. G.L. c. 25, §§ 21(b)-21(d). (For the Council's convenience, and in a spirit of transparency, the Program Administrators provide with this Plan the current PA-specific proposals for 2013-2015 in electronic tables.)

In developing the proposed statewide goals and budgets in this Plan, the Program Administrators first submitted sector level goals and budgets on April 30, 2012. The Program Administrators discussed these sector level goals and budgets among themselves and with the Council and the Council Consultants and have considered feedback on the April 30, 2012 sector level information, as well as important new EM&V results and information described further below. For this July 2 filing, each Program Administrator was tasked with submitting to the full group of Program Administrators its own PA-specific proposed savings goals and budgets for the three-year period. These proposals were subject to an internal review and discussion process, as described in Section III.D.2 that allowed for adjustments to be made by all Program Administrators based not only on peer review, but also upon the presentations made at the Council meetings by the Consultants.

The savings goals and budgets presented on a statewide basis by the Program Administrators in this Plan represent the results of that collaborative process. It is possible that the Program Administrators' proposals will be adjusted (either upwards or downwards) based on the statutorily mandated review and approval/comment process of the Council and evaluation findings. G.L. c. 25 § 21(3)(c). It is anticipated that this Council review process will feed into an approved final statewide Plan that the Program Administrators can use as the benchmark for their PA-specific October 2012 filings.

While each Program Administrator is increasing its aggregate three-year saving goals and budgets relative to historic aggregate three-year levels, the levels of these increases will not be directly proportionate across all Program Administrators. The increases that will be set forth in the Program Administrators' October filings will reflect the unique characteristics of each Program Administrator's service area and the specific needs of its customers. The Program Administrators' goal and plan is that the aggregate savings goals and budgets presented individually by the Program Administrators in their October 2012 PA-specific filings will be consistent with, and flowing out of, the overall goals developed in the statewide Plan review

process.¹⁴ Please see Section III.D for the annual savings goals proposed by the Program Administrators in this Plan, on a per sector basis, by year and in total. Please also see Appendix A for statewide D.P.U. 08-50 tables for budgets, savings, benefits, and cost-effectiveness.

2. Environmental Benefits

In addition to economic benefits, energy efficiency resources bring significant environmental benefits including reduced air pollution and improved air quality in Massachusetts and in the region from the reduction in the amount of electricity and natural gas required to run the Commonwealth's economy, as well as other resource benefits such as oil savings and water savings. The more efficient homes, businesses and schools are, the less energy and other resources they consume. Decreasing energy consumption results in less demand for energy from fossil fuel power plants and natural gas pipelines. By reducing plant operation time, emissions of air pollutants and greenhouse gases can be reduced. In addition, Massachusetts can become a more cost-efficient place in which to live and work.

Generating electricity from non-renewable fossil fuels (*e.g.*, coal, oil, natural gas) produces nitrogen and sulfur oxides - two of the six "criteria pollutants" defined by the Clean Air Act and identified as air quality indicators by the U.S. Environmental Protection Agency. Nitrogen oxides are precursors to ozone, a primary component of summer smog. In addition, nitrogen and sulfur oxides in particulate form reduce visibility and are associated with public health problems such as asthma; both air pollutants are linked to acid rain. Reducing the amount of fossil fuel needed to run power plants through the adoption of energy efficiency reduces the amount of nitrogen and sulfur oxide pollution emitted into the atmosphere. In addition to providing cleaner air and water for Massachusetts, the Plan's programs will provide climate benefits in the form of reduced greenhouse gas ("GHG") emissions.

Collectively, the programs contained in this Plan are expected to provide three-year electric annual savings of 3,603,259 MWh and electric lifetime savings of 39,958,324 MWh, and three-year gas annual savings of 66,707,515 therms and gas lifetime savings of 866,179,423 therms. Based on the region's average power plant emissions rate, these lifetime savings are the equivalent to reductions in air emissions of 25,632,813 short tons of GHG, 29,217 short tons of SO₂, and 10,312 short tons of NO_x. In addition, these programs will provide non-electric and non-gas benefits such as reductions in fuel oil and water use.

Under climate cap and trade programs such as RGGI and a potential federal program, and the Commonwealth's climate change initiatives under the GWSA, investment in energy efficiency is recognized as the most effective cost-containment and climate protection tool of the

¹⁴ Program Administrators are not required to make all changes or revisions recommended by the Council in filing their October PA-specific plans. G.L. c. 25, § 21(c)-(d)(1). It is the plan and goal, however, of each Program Administrator to be able to support in full the statewide Plan that ultimately results from the Council review process. The Program Administrators seek full PA consensus on the statewide Plan, as well as unanimous Council approval. Each Program Administrator must necessarily reserve its statutory rights in the event of unexpected developments in the Council review process that it does not believe are consistent with the best interests of its customers, but it is the goal of Program Administrators that their October PA-specific filings be built upon and consistent with the statewide Plan.

Commonwealth. Indeed, the Program Administrators expect that some portion of the three-year Plan's funding will come from the proceeds of the sale of RGGI allowances. Investing cap and trade proceeds in energy efficiency lowers energy consumption, which reduces GHGs and the demand for allowances. The result is a lower price for carbon allowances and lower overall cost of the cap and trade program.

3. Net Benefits and Cost-Effectiveness

The Program Administrators have projected the expected benefits and costs associated with this statewide Plan consistent with the requirements of the Department's Order in D.P.U. 08-50-A, in which the Department reaffirmed that "the Total Resource Cost test is the appropriate test for evaluation of the cost-effectiveness of ratepayer-funded energy efficiency programs." D.P.U. 08-50-A at 14. To conduct the TRC test, Program Administrators routinely update their benefit/cost screening models to reflect new assumptions relating to program costs and benefits, the discount rate, the general rate of inflation, and avoided costs. In general, the benefit categories in the TRC test include the value of energy savings, gas and electric system benefits, and other measurable benefits (for example, participant resource benefits, participant non-resource benefits and benefits due to measurable market effects).

Costs included in the TRC test include all Program Administrator costs and program participant costs. Program Administrator costs include program implementation expenses, evaluation costs, proposed performance incentives, and the tax liability for performance incentives. Program-participant costs include initial costs incurred by the customers as a result of their participation in the program.

The benefit/cost screening model uses all of this data to calculate the present value of the program benefits and costs, and then calculates ratios of these values to produce benefit/cost ratios ("BCRs") for the TRC test. The present value of costs and benefits is calculated over the expected duration of the useful life of the measures installed in the program.

The tables below summarize the expected benefits, costs, and BCRs at the sector level for the portfolio of programs the Program Administrators propose to implement over the three-year period. For more detailed information on savings, budgets, and benefits, please see tables in Section III.D below and Appendix A.

Electric Program Administrators

BENEFIT-COST RATIOS

Sector	2013	2014	2015	2013-2015
Residential	2.93	2.92	3.05	2.97
Low-Income	2.02	1.94	2.00	1.99
C&I	3.36	3.44	3.55	3.45
TOTAL	3.13	3.17	3.28	3.19

Gas Program Administrators

BENEFIT-COST RATIOS

Sector	2013	2014	2015	2013-2015
Residential	1.55	1.57	1.60	1.58
Low-Income	1.47	1.48	1.50	1.48
C&I	2.04	2.10	2.14	2.09
TOTAL	1.70	1.73	1.76	1.73

The Program Administrators note that for cost-effectiveness screening purposes they are utilizing the 2011 Avoided Energy Supply Cost Study (“AESC Study”) and current Non-Energy Impact (“NEI”) study. Certain NEIs have undergone a collaborative process of review by the Program Administrators, the Council’s Consultants and the Low-income Energy Affordability Network (“LEAN”). The cost effectiveness screening utilized in today’s filing reflects the best current NEI information resulting from this collaborative process and is supported by LEAN, the Council’s expert EM&V consultant and the Program Administrators. With respect to carbon compliance cost items, the current AESC Study is being utilized, and any additional carbon compliance issues would be decided on a separate track as determined through the ongoing Department review in docket D.P.U. 11-120 with any resulting new values ultimately being applied prospectively. Also, the Program Administrators will continue to review possible approaches to coordinate updates or new avoided cost studies in an optimal manner. One idea under consideration is examining the possibility of keeping avoided cost values in place for a full three years that is synchronized with the three years of the applicable plan, as opposed to having mid-term updates for avoided cost values. Given the regional nature of avoided cost study work, the consideration of such an approach is necessarily complex and multifaceted.

4. Gas and Electric Program Integration and Coordination

a. Focus on Seamless Delivery

Over the next three years, the Program Administrators will continue their commitment to working collaboratively for even more seamless delivery of gas and electric energy efficiency programs. The electric and gas PAs will ensure communication while continuously seeking consistency in the process of interacting with customers. Participation in management

committee meetings by each Program Administrator allows for regular communication and real time refinement of programs and the streamlining of work with regard to conducting such refinements. In addition, the Program Administrators continue to improve the working group structures dedicated to each program delivery area to more accurately match new “go-to-market” strategies (*i.e.*, the mechanism by which the Program Administrators propose to deliver energy efficiency to customers) and program needs. Most recently, the Program Administrators have introduced a combined gas and electric working group for the C&I sector to handle and improve upon any program discrepancies or communication issues between gas and electric program delivery.

The Program Administrators will focus on enhanced integration of gas on program applications, which are very electric-measure oriented. The PAs will also provide continued formal statewide gas and electric integration training to staff with the purpose of (1) Increasing networking among the PAs so the electric and gas PAs can meet with their counterparts increasing the ability to share knowledge; (2) Training electric staff on how they may identify gas measures and training gas staff on how they may identify electric measures (and potential leads) for the partner PA when at customer site visits; (3) Developing a closer partnership between the Cool Smart/GasNetworks’ rebate initiatives; and (4) Development of an Integrated Gas & Electric Working Group.

An additional key element of greater gas and electric integration will be expanding the network of capable trade allies through more active vendor training and outreach. The program descriptions set forth in Section III.F illustrate many of the ways in which the Program Administrators have implemented a coordinated gas and electric delivery system. The PAs will continue to work toward a seamless delivery process throughout the next three-year plan.

b. Ongoing Work of Management Committees

The Program Administrators have developed a management committee structure to facilitate the process

Interplex Metal Logic: Comprehensive Gas and Electric Project



Interplex Metal Logic in Attleboro, MA partnered with National Grid to perform energy efficient equipment upgrades to help reduce energy costs at the facility. A combination of high efficient lighting, a variable displacement air compressor, variable frequency drive motors, an energy management system and an efficient HVAC were installed resulting in gas and electric savings, a reduced impact on the environment and improved efficiency of their facility.

of enhanced integration and coordination between gas and electric programs. Through development of the Residential Management Committee (“RMC”) structure and C&I Management Committee (“C&IMC”) structure, the Program Administrators are effectively able to work toward implementation of more seamless program designs and delivery strategies to achieve savings goals. In addition, the Evaluation Management Committee (“EMC”) provides a forum for EM&V discussions and decision making, and the Low-Income Best Practices Committee continues to offer opportunities for various stakeholders to discuss program implementation, new measures and other matters related to the PAs’ low-income programs.

The RMC and C&IMC each meet bi-weekly (or as needed). From these meetings, the Program Administrators are able to: (a) stay up to date on the key energy efficiency activities of other Program Administrators; (b) integrate and coordinate energy efficiency implementation activities and efforts by all Program Administrators; (c) develop statewide marketing and media campaigns with easy-to-understand communications for all customers; and (d) review and discuss best practices and integration/coordination efforts in other jurisdictions to maximize collaboration efforts and build on the experiences in other regions. The agenda for management committee meetings may be set based on any of the following:

- Special scheduled attendees
- Pertinent issues that arise
- Request of committee members
- Council reporting/presentations that need to be developed
- Unsolicited proposals that are submitted for review
- Updates that are required from specific statewide working groups, evaluation, or marketing teams

The EMC serves as a steering committee for statewide evaluation issues, providing guidance and direction to each of the evaluation research areas. The EMC will also help plan, prioritize and delineate the research studies to be undertaken over the three-year plan period. First organized in spring 2012, the EMC has already held four meetings and successfully developed a mechanism to track the progress of evaluation studies and a straw proposal of best practices in research area management, to build on lessons learned during the first three-year plan. The Program Administrators believe that the EMC will be an effective tool in 2013-2015 to facilitate evaluation efforts, enhance communication and improve EM&V efforts for the benefit of customers.

The statewide management committees established by the Program Administrators over the past three years play an integral part in the continued improvement and offering of gas and electric program integration and coordination. These management structure and decision making processes will allow the Program Administrators to focus efforts more proactively over the course of the next three-year plan, specifically with regard to exploration of new program delivery models and expanded service offerings for customers. The invention, organization and ongoing successful work of these committees across multiple sectors is a uniquely Massachusetts-based success story and demonstrates the Program Administrators’ conviction and commitment to not only adopting and sharing best practices, but to driving new program enhancements and new best practices.

5. Additional Benefits

a. Reduction in Peak Load

Energy efficiency efforts often provide capacity savings in addition to energy savings. These capacity savings and benefits are reflected under the cost-effectiveness screening efforts described in Section III.A.3 above.

b. Economic Development and Job Growth/Retention

The Program Administrators have engaged the New England Clean Energy Foundation (“NECEF”) to quantify the size of the work force implementing the approved programs for residential, low income and C&I energy efficiency. This study is augmenting and updating NECEF’s 2009 analysis of the number of full-time equivalent workers that have been employed in the delivery of Massachusetts retrofit energy efficiency programs. The PAs have provided significant data to NECEF on residential and C&I participation and expenditures in 2011.

Residential

Surveys of the Mass Save Home Energy Services® Independent Installation Contractors (“IICs”), Home Performance Contractors (“HPCs”) and residential lead vendors have been initiated. Low income employment and program data have been provided by the agencies responsible for the largest low-income Weatherization Assistance Programs (“WAP”), and Davis Bacon data has been assembled on 2011 expenditures and total employment generated for the low income weatherization program. Telephone and on-line surveys are currently underway to collect employment and additional information from other vendors and contractors.

Information gathered to date is providing preliminary indications of the following patterns and trends, which are subject to revision based on further data and analysis:

- NECEF analysis indicates that approximately 600 Full-Time Equivalents (“FTE”) were employed in 2011 by IICs and HPCs to implement the Home Energy Services Program for 1-4 family homes (not including employees of lead vendors). Of these, NECEF estimates that 460 FTEs were employed in the field as insulation installers and air sealing technicians, and 140 FTEs employed in office or management roles. This is based on a level of production of approximately 16,000 homes insulated in 2011 on a statewide basis. This is also based on contractor surveys indicating a productivity rate of 35 completed installations per year per FTE insulation field worker.
- The number of insulation installers and air sealing technicians is up to 460 from 180 in 2008, the first year for which survey data was collected. In 2011, most of the air sealing activity was performed with attic insulation activity; by contrast the activities were combined in 2008, so air sealing technicians are not counted separately.
- In 2011, each million dollars of incentives (*e.g.*, rebates) to participants in the Mass Save and Gas Weatherization programs supported 12 direct field FTEs doing insulation and air

sealing. It should be noted that these are not the only expenditures on these programs, and other residential programs exist for which expenditures are not included.

- The average number of homes insulated by IICs through the Home Energy Services Program in 2011 was approximately 240. About 60% of the IICs do not limit their work to the Home Energy Services Program; these IICs performed an average of 125 low-income WAP weatherization jobs, and an average of 90 additional insulation jobs outside of the PAs' efficiency programs (*i.e.*, with no rebates, including construction and renovation jobs).
- The number of IIC insulation contractors who perform a relatively large number of installations has increased in the period from 2008 through 2011, with at least four IICs doing 500 or more homes through Home Energy Services in 2011.
- The average IIC employed 8 FTEs in 2011, including field and office personnel, and one IIC employed 18 FTEs.
- Due to the decline in funds beginning in mid-2012 from the American Recovery and Reinvestment Act of 2009 ("ARRA"), there will be a significant reduction in 1-4 shell workforce needs in the low-income WAP. Many of the smaller contractors who perform 1-4 unit shell work do not provide services for multi-family buildings (5 units and above) such as HVAC and lighting, so they may not be able to shift into the expanding low income multi-family buildings market.
- Initial surveys of 1-4 unit low income contractors indicate that they have an adequate supply of workers for their crews.

Commercial and Industrial

Initial discussions with the C&IMC resulted in a decision to focus analyses on the C&I Direct Install ("DI") Program, which serves electric customers up to 300 kW, and the C&I Retrofit Program. The DI and C&I Retrofit program incentives drive the decision to make improvements and thus are responsible for job creation. Conversely, the C&I New Construction program job creation is more indirect and not the focus of job growth analysis at this time. PA efforts to work with trade allies, architects and engineers to influence the efficient design of new commercial facilities through training, technical assistance and incentives is also an important part of workforce development.

Some initial findings for C&I programs are as follows:

- For electrical measures in the DI Program, work is being driven by a small group of contractors and other PA-designated service vendors who have both a program sales and management function: identifying and reaching out to potential participants, performing audits to quantify opportunities, securing agreements from PA customers to proceed with installations, and managing the installation process, either using internal staff or through sub-contractors. The labor impacts associated with the DI electric measures are a combination of program management (sales, IT, construction oversight, paperwork management, and

accounting) and field services. These contractors of record build almost their entire business around the DI Program and might not exist without it.

- Gas measures in the DI Program are for the most part incidental to the field installation effort as the limited subset of natural gas measures in the program represent a small portion of the total measures installed. These natural gas measures primarily include hot water conservation measures and thermostats.
- There are almost as many contractors of record participating in the Large C&I Program as there are participating customers. While some of the companies that deliver DI services are also active in this market, the customer can include, but not be limited to, any installation contractor that completes the work and fills out the paperwork, the owner of a property, a general contractor making building improvements, or a management company. The result is that this program does not require the same level of non-field labor impacts that DI does, though there is a significant level of direct field labor.
- Much of the Large C&I Retrofit activity is custom, rather than prescriptive, resulting in variable work scopes for installations (compared to the generally prescriptive DI Program) and creating issues for counting field labor hours.
- Direct field labor employed in C&I programs is predominantly licensed tradesmen.

These preliminary results for residential and C&I programs will be refined with additional data and analysis to develop a final report which will be ready in September 2012.

B. Progress towards Green Communities Act Requirements and Goals

1. Acquisition and Assessment of All Available Cost-Effective Energy Efficiency and Demand Reduction Resources

This Plan seeks to capture all available cost-effective energy efficiency for the three-year period beginning January 1, 2013 pursuant to G.L. c. 25, § 21 (b)(1), with the consideration of factors and concerns noted at the Council and in Department Orders, including, but not limited to, bill impacts, environmental benefits, and the need for sustainability. The GCA does not define “all available” cost effective energy efficiency, and thus developing related values requires a reasonable level of judgment. There is no single study or planning tool that can reliably set forth such a value. Rather, a multifaceted approach is necessarily employed and multiple reference points are considered. In determining the level of savings to achieve in order to satisfy this mandate, the Program Administrators considered and weighed multiple factors, including: (1) the plain language of the GCA; (2) the directives of the Council, including the Council’s Priorities of February 14, 2012, the Sense of the Council of June 12, 2012 and the Action Plans of June 18, 2012; (3) the Department’s Orders approving the Program Administrators 2010-2012 plans and the assessment contained therein, (4) the Department’s Order in D.P.U. 08-50-A (including bill impact considerations); (5) the Department’s Order in D.P.U. 08-50-B; (6) assessments of all available cost effective energy efficiency noted below; (7) multiple studies and reports; and (8) the PA’ experience in implementing nationally-recognized energy efficiency programs for over two decades. The Program Administrators met

collaboratively on a frequent basis to determine the appropriate savings goals and budgets to propose in this Plan. The Program Administrators also engaged in numerous discussions with the Councilors and Consultants, which have helped establish statewide savings targets, performance incentives, and projected program costs.

a. Experience in Field

First and foremost, the Plan has been designed based on the in-depth experience of the Program Administrators in designing and implementing energy efficiency programs over more than 20 years, and, more specifically, in the course of implementing the first three-year plans for the period 2010-2012. This experience includes (1) understanding of the customers' circumstances and the cost of implementing aggressive programs over a sustained period and (2) knowledge that the PAs can very successfully deliver impressive savings levels in the field. This experience also informs the PAs that as energy efficiency efforts yielding high savings become more difficult to identify and achieve and as market penetration increases, there will be challenges in achieving additional savings. Importantly, the Program Administrators are factoring in upward pressures on the cost to achieve energy efficiency savings in 2013-2015, especially as the result of increased efficiency codes and standards that make the achievement of incremental efficiencies through PA-sponsored programs more difficult. (Also, please refer to Section III.D.1 below for more detailed discussion of cost drivers that have been identified by the Program Administrators.) In short, the PAs' experience in the field provides valuable lessons that inform this planning process in a uniquely important way.

b. Point 380 Market Characterization

NSTAR and National Grid have led an effort to characterize the market for energy efficiency during the term of the 2013-2015 Plan through a study performed by the consulting firm Point 380. WMECO has similarly engaged Point 380. The Point 380 study results have been, and will continue to be, used to inform the PAs "go-to-market" strategies by identifying the industries, building types and end uses representing greater efficiency opportunities and thus warranting relatively greater attention. The results also greatly support sales force planning and resource allocation while enabling more relevant and effective value propositions to better meet specific customers' needs. The Point 380 materials were shared with all Program Administrators, who have each benefitted from this effort. NSTAR and National Grid made a joint presentation to the Council summarizing the Point 380 study, which is available at <http://www.ma-eeac.org>.

c. Synapse Assessment

The Plan has also been informed by a study performed for the Council by Synapse Energy Economics of C&I customer perspectives on energy efficiency opportunities in Massachusetts. The primary purposes of the study were to help the Council in understanding the economic environment likely in New England over 2013-2015 and to assess the extent to which C&I customers are likely to participate in Massachusetts energy efficiency programs over the next few years. The Synapse study for the Council informed Program Administrators' Plans in that it forecasted an improving economy but not at dramatic levels; Synapse also forecasted that economic recession conditions would not return. In developing the 2013-2015 Plan, this

information was a useful calibration point for the PAs with respect to their own views of current and future economic conditions. In addition, the Synapse study provided qualitative information that the PAs have used in program design to help foster more seamless delivery for gas and electric customers. The study indicated that the payback period is the main criteria for evaluating energy efficiency investments and often must be two years or less. In addition, it found that a better understanding of customer participation types would provide the PAs with useful information about where the untapped efficiency opportunities lie and how to pursue them. The study also provided that encouraging customers to adopt a deeper level of efficiency measures will require increased engagement from the PAs' staff.

d. Review of EM&V Results

Working together and with the Council, the Program Administrators have undertaken extensive EM&V efforts designed to ensure accuracy and accountability in program planning and implementation and to guide the PAs as they focus on improving energy efficiency program efforts. Section III.I of the Plan includes information regarding the comprehensive EM&V efforts that have been undertaken to date, which has informed the Program Administrators' program designs and savings goals for 2013-2015. EM&V efforts will continue throughout the term of the Plan. As discussed below, EM&V results have been used by the Program Administrators to more accurately forecast the actual savings resulting from their energy efficiency activities, in particular, net savings resulting from these activities. EM&V results indicate that strong savings are occurring as a result of the Program Administrators' efforts, but that savings, in particular for several gas programs, are not as high as originally forecasted. This is an important factor in looking to establish goals for 2013 -2015.

e. Appreciative Inquiry Summit

The Plan takes into account the results of the Appreciative Inquiry Summit hosted by the Program Administrators in May 2012. This PA-hosted summit, independent from the efforts of the Council, provided a venue for a diverse array of nearly 300 key stakeholders, including customers, civic leaders, contractors, key trade allies, energy efficiency experts, and others to provide the PAs with insights to guide efforts designed to continue to create a culture of sustainability in the Commonwealth.

The event provided an opportunity for customers and other stakeholders to contribute their expertise, their opinions, and their experiences to help the PAs better understand their needs and interests. Additionally, the attendees were offered an opportunity to better understand the full breadth of activities being undertaken and planned by the PAs and to contribute to making this Plan and its implementation more responsive and effective to make homes, businesses, and organizations more energy efficient.

Participants articulated their needs and wishes with respect to energy efficiency and developed specific recommendations for the future. The ideas and wishes woven into those statements have been considered and addressed in this Plan. Dominant themes emerging from participants include: the need for more education and training of students and practicing energy efficiency professionals to build a broader base of educated and capable consumers and

providers; the need to develop more targeted and customer-centric offerings and initiatives to specific subsets of customers; and simplifying and improving the customer experience.

f. Council Meetings

The Program Administrators have also considered presentations made and materials presented at Council meetings both by the Councilors, their Consultants, industry stakeholders and the general public. The level of interest and commitment evidenced by these presentations confirms that opportunities for savings remain in Massachusetts because its citizens embrace a culture of energy efficiency and sustainability. At a more specific level, these comments have suggested, among other things, program design enhancements that the Program Administrators believe will help them target and achieve new savings in 2013-2015. For example, public comments have helped shape the Program Administrators' new initiative targeting economically challenged areas and their new approaches to targeting the healthcare sector and municipalities. Comments from the DEP have been particularly helpful in identifying opportunities in the wastewater facility sector.

g. Consultant Assessment

The Program Administrators have reviewed the energy efficiency potential assessment developed and prepared by the Council's Consultants and presented at the March 13, 2012 Council meeting. After a careful review of this assessment, the PAs note that differences are driven by the following core issues:

- The assessment was conducted before the most recent set of EM&V results were available. Therefore, the consulting team was not able to take into account evolving baselines or evaluation findings when completing their review of available secondary data. In the Program Administrators' view, this understandable impediment has resulted in an overstatement of available cost-effective opportunities, especially in the gas sector.
- The Program Administrators project that the cost of savings to achieve the stretch goals in this Plan are higher than proposed by the Consultants in their assessment. The Program Administrators have carefully reviewed proposed cost drivers and have summarized those drivers in section III.D.1 below. The Program Administrators have shared their analysis with the Consultants and anticipate continuing to work together.
- The PAs believe that they will be able to have more effective and informed discussions with the consulting team on their initial assessment given the existence of new EM&V results and the extensive planning efforts reflected in this Plan.

Based on the PAs' review of the Consultant Assessment, the PAs have determined that the assessment relies heavily on assumptions that have serious technical issues. The key analyses utilized by the consultant assessment and the areas of concern that were identified are as follows:

- The Marketing Opportunity Analysis (Point 380 Study) results are misapplied. This analysis was framed to inform go-to-market strategies and not as a technical potential study.
- Based on conversations with customers, savings associated with an early retirement opportunity have been overstated in the Consultants' assessment.

- The PAs have limited confidence in the applicability of the out-of-state potential studies referenced in the assessment in view of the mature efficiency market in Massachusetts. In addition, some of the referenced studies are dated and, as a result, do not take into account changes in baseline energy use assumptions that are reflected in the Program Administrator’s proposed savings goals.

These three technical concerns are discussed below.

- Marketing Opportunity Analysis (Point 380 Study)

The objective of the analysis was to deliver relative market opportunity findings and was neither designed nor executed in an appropriate fashion to meet the needs of a potential study. The study confirms that there are large opportunities in key segments and those opportunities are being leveraged to inform PA go-to-market strategies. Although the study presented achievable market opportunity in year one, this was necessary in order to demonstrate the relative importance of sectors and measures only. The achievable market opportunity values presented are not proportional to total achievable market opportunity and are intended only to forecast the market opportunity for a given set of measures implemented in the near term.

The study was informed by PA-specific considerations such as past performance, budgets and operating characteristics. Neither the speed of ramp-up nor slope of s-curve was defined. Even minor discount rate changes could significantly impact aggregate potential estimates. Furthermore, the study relies heavily on secondary data (note: primary data collection would have been emphasized had total achievable potential been a key objective).

- Early Retirement Opportunity Assessment

It is critical to understand that customers do not make the decision to replace functioning equipment based on efficiency alone. Customers need to “assume” that the equipment could breakdown anyway in the near future. Barriers to early retirement include:

- Replacement cost is very high as compared to savings and maintenance and repair costs are relatively modest in many cases
- Best case scenarios have paybacks of 10-20 years
- There is no “burning platform” for customers when equipment is still functioning
- Furnaces & boilers are not 1-1 replacements, with larger scope, cost and risk
- Code compliance issues

- Additional Referenced Studies

Massachusetts - The GDS study was completed in 2009 and thus did not account for significantly lower gas avoided costs, which are used to determine cost-effectiveness. In addition, this study did not take into account changes in baseline energy use or evaluation study results that are now reflected in proposed efforts.

Vermont - While the study was conducted for a state in the same region, the demographics and firmographics of Vermont differ significantly from Massachusetts, which limits the applicability of that study's findings in Massachusetts.

Rhode Island - A significant portion of projected achievable savings were from:

- Behavioral programs not yet launched in Rhode Island where evaluated results could not be used to inform performance as is the case in Massachusetts.
- Price response programs included in the assessment that are not designed and, in addition, may not be compatible with energy efficiency.
- New/emerging technologies that were identified as measures that had technical potential, but were not yet economical.

Furthermore, no modeling was used to demonstrate how specific items that are not currently economically justified would become economical. Cost modeling of future technologies was not informed by research and likely underestimates the actual costs needed to realize the “achievable” potential. The report indicates that it is based on conservative assumptions, but that assertion is supported with only logical arguments as opposed to empirical evidence/facts.

As noted above, now that EM&V results are in and cost drivers are better understood, the Program Administrators are engaging in more refined, informed, and effective discussion with the consulting team about its assessment. The Program Administrators remain open-minded to suggestions that will increase opportunities to deliver available cost-effective energy efficiency savings.

h. Re-Assessment of Savings Goals following June 2012 Council Meeting

At its June 12, 2012 meeting, the Council requested that the PAs reassess the savings goals in their April 30, 2012 short form submission. The Council stated:

Reassessment of Savings Goals—where appropriate, considering all-cost-effective mandate, the Council's priorities, including sustainability, cost drivers and bill impacts, determine whether the PAs can increase savings goals for both gas and electric program portfolios, supported with scenario analysis where helpful.

Each of the PAs has reassessed savings goals consistent with this request, after expressly considering the factors enumerated by the Council. In this Plan, the Program Administrators provide detailed discussion of their review of the all cost-effective energy efficiency mandate (Sections I.F.3, III.A.3, III.B.1, and III.D), the Council priorities (Section I.G), sustainability (Sections I.G, III.B, and III.D), cost drivers (Section III.D.1), and bill impacts (Section III.E). In addition, each PA internally conducted multiple scenario analyses examining measure mixes, different costs, and different savings levels. The PAs engaged in extensive collaborative discussion with each other, referring to multiple data points, including the Council's Consultants' recommended savings levels, planning assumptions, and sharing of best practices. As indicated

in Section III.D.3 and Appendix H, a number of PAs with unique service area challenges expressly reviewed scenarios showing potential bill impact effects associated with materially higher savings levels and have presented the results of such analyses in summary format.¹⁵

Another essential factor that was considered by the PAs after the submission of the April 30, 2012 short form submission was the application of new EM&V results. As effectively presented during the June 25, 2012 EM&V webinar, new study results that became available after the April 30, 2012 short form submission for both electric PAs (in particular with respect to the Home Energy Services initiative) and for gas PAs (in particular with respect to large C&I projects and weatherization projects, as well as with respect to certain equipment rebates) have materially reduced savings estimates for a number of important initiatives offered by the Program Administrators. As described in the cost drivers section in Section III.D.1 above, the effect of these results is to make it more challenging and more costly to achieve the savings levels presented in the April 30, 2012 short form submission. In short, maintaining the savings goals presented in the April 30, 2012 short form submission became much more challenging.

Notwithstanding these challenges, the PAs have proposed the most aggressive set of integrated electric and gas savings goals in the nation, reflecting the PAs' deep commitment to fulfilling the mandates of the GCA, and their reasoned confidence in their excellence in in-the-field implementation. *See* Appendix C. Notably, for electric PAs, the Commonwealth's two largest electric companies, National Grid and NSTAR, as well as WMECO, are each proposing savings levels in excess of the benchmark of 2.5% of retail sales, which is a more challenging goal than has been historically set. Both Cape Light Compact and Unitil are proposing very aggressive savings goals that reflect the unique challenges of their service areas, as have been recognized previously by the Council. For gas PAs, as a result of the well-documented material effects of new evaluation results, the Program Administrators have proposed a statewide target level of savings of 1% of retail load. Each of NSTAR, National Grid and Columbia Gas of Massachusetts is proposing savings levels in excess of this challenging benchmark. Moreover, each of the PAs with uniquely challenged service areas, The Berkshire Gas Company, New England Gas Company, and Unitil has increased its savings goals as compared to the levels proposed in the April 30, 2012 submission based upon the Council's request to reassess savings goals and each Company's continuous self-assessment.

In sum, each of the PAs has carefully considered and reassessed its savings goals in light of the Council's request and in light of the factors enumerated by the Council, as well as multiple other factors described in this Plan. The PAs emphasize that this Plan is an integrated whole and each of the multiple elements set forth in the Plan relate to a certain degree with the goal setting process. The process is iterative, data-reliant, integrated, and involves a level of judgment after consideration of multiple data points. The PAs have aggressively looked to see how they can increase savings goals while also remaining cognizant of the additional priorities and emphases enumerated by the Council. The nation-leading and aggressive savings goals set forth in this Plan reflect those intense efforts, and the PAs' reasoned confidence, as a statewide team, in their abilities to deliver benefits on an integrated basis to customers at levels that lead the country.

¹⁵ As indicated at the June 12, 2012 Council meeting, there are multiple different methods of scenario planning that are possible. In the event the Council believes that additional specific scenario analyses would materially benefit the Council's review, such analyses can be discussed at the July Council meetings.

2. Key Factors, Challenges and Market Barriers

While seeking all available energy efficiency and demand reduction resources that are cost-effective or less expensive than supply, the PAs considered certain key factors, challenges and market barriers in their assessment of the achievable level of energy efficiency set forth in the Plan. These factors were included in the assessment of all available cost effective energy efficiency in the 2010-2012 three year plan supported by the Council and approved in the Orders. Accordingly, they have been considered by the Program Administrators in developing the proposals set forth in this Plan.

a. Market Barriers

This Plan, which strives to obtain all available cost-effective energy efficiency, is grounded in an understanding of market barriers and deliberately strives to address significant market barriers and policy concerns.

To be successful in energy efficiency, the programs must bridge the five major market barriers of awareness, availability, accessibility, affordability, and aversion to risk. These barriers affect customers' adoption of energy efficiency measures and the ability of Program Administrators to achieve and obtain savings. This Plan outlines many initiatives that Program Administrators feel are critical in bridging these five major market barriers.

- **Awareness** is a barrier that historically was not confronted on a large scale, given capped budgets, marketing, and outreach. This Plan recognizes that continued strong public education, marketing, and outreach, including community-based efforts, will be needed to achieve deeper and broader penetration. Deeper penetration refers to the promotion of additional cost-effective technologies and strategies to capture comprehensive, whole-building savings among the traditional base of expected program participants. This deeper penetration requires raising participants' awareness and understanding of the value of investing in additional measures that create increased savings per participant. In addition to expanding marketing and incentive promotion strategies, this Plan incorporates other strategies to overcome awareness barriers, with the goal of sustaining and increasing the level of participation among eligible customers, *i.e.*, making participation broader. Broader penetration can include outreach to traditionally hard-to-reach customer groups, including economically marginalized communities and groups where English is not the first language.
- **Availability** is a barrier when manufacturers either do not produce or do not effectively market sufficient quantities of energy efficient products and services. Availability may also be constrained by limited workforce or delivery mechanisms. The challenge for manufacturers in the energy efficiency sector is to respond not only to the Commonwealth's demand for more efficient products, but also to demands for such products nationally or even globally. This challenge is compounded by the economic pressures which reduce manufacturers' willingness to make additional investments. From a workforce perspective, Program Administrators recognize that continued

workforce training and deployment is required to effectively deliver the programs. This is not an insignificant barrier.

- **Accessibility** is another market barrier which refers to the customers' access to the product. To mitigate this barrier, Program Administrators must continue to connect with mid-stream market actors, such as distributors, to help ensure that products are displayed and stocked in sufficient quantity. The program descriptions set forth in this Plan provide for continued work with key market actors, and include campaigns for training and marketing, as well as proposed community mobilization outreach strategies.
- **Affordability** is a market barrier resulting from the initial cost of energy efficiency solutions. Program Administrators are concerned that affordability remains a major barrier and one that is more difficult to predict as customer buying patterns have changed dramatically with the advent of more limited credit. The Plan attempts to mitigate this barrier through the use of incentives, new delivery models for economically challenged neighborhoods, as well as through the use of broadly accessible financing. In some cases, particularly with respect to gas energy efficiency efforts, the PAs are proposing to increase incentives for measures so that the low commodity cost of natural gas does not impede investments in cost-effective gas energy efficiency measures and services.
- **Aversion to Risk** is a market barrier that describes customers who are unwilling to take a chance on technologies that they perceive to be unproven. In order to address this barrier, the Program Administrators seek to provide detailed, clear information to customers about the direct benefits of energy efficiency measures. In some cases, this information will be provided to customers in the form of a case study that highlights the performance of proposed measures, helping to reduce the perceived risk associated with energy efficient measures and practices.

b. Policy Issues

In addition to market barriers, it is important to also understand the policy issues that need to be addressed to secure all available energy efficiency. These include economic, sustainability, and regulatory issues.

- **Economic** obstacles continue to be relevant in today's environment. The Program Administrators recognize the Plan's tremendous value, but also understand that it is important to consider the short-term rate impacts of the ramp-up of these programs. Given the sensitivity to the cost of the programs, this Plan discusses the associated preliminary expected bill impacts of program implementation. Traditional incremental bill impact analyses are provided for each Program Administrator in Appendix B. Detailed bill impact analyses for each Program Administrator using the new bill impact model being developed under the auspices of the Department will be provided in the October Plans and will also contain the information required by the Department's orders in D.P.U. 08-50-A and D.P.U. 08-50-B.
- **Sustainability** of the programs is an important consideration for the Plan and an expressly repeated priority of the Council. Many advocates, including the Program

Administrators and the Attorney General, stress that in achieving all available energy efficiency, the annual efforts must also strive to be sustainable for the long term. This sustainability is vital to support the health of the economy, and the growth of the workforce and infrastructure needed to ensure the long-term benefits of these efforts.

- **Regulatory Guidance** includes the support of strong regulatory frameworks that complement the Program Administrators' ramp-up of programs. These frameworks create a healthy regulatory infrastructure by which Program Administrators can confidently advance programs knowing that there is clarity in the regulatory rules and process and the opportunity to align shareholder objectives with public policy objectives. The Department's investigation in D.P.U. 11-120 is an ongoing example of the strong commitment to regulatory guidance in Massachusetts, and the Program Administrators will incorporate any outcomes from this proceeding into their plans as soon as practicable after an Order is issued. The Program Administrators appreciate ongoing efforts of the Department and other stakeholders to streamline regulatory processes associated with energy efficiency, as evidenced in the D.P.U. 11-120 Phase II proposal.

c. Assessing Technical Potential

As noted above, the Program Administrators used multiple resources to build a robust understanding of the potential for all available cost-effective energy efficiency and demand-reduction resources. These efforts all are grounded in the definition of "Technical Potential" as the complete penetration of all measures analyzed in applications where they are deemed technically feasible from an engineering perspective. Technical Potential does not necessarily take into account cost-effectiveness, budget constraints, or whether homeowners or businesses are willing to undertake energy saving actions or investments

Economically Achievable Energy Efficiency Potential ("EAEEP") is defined as that portion of the technical potential that is cost-effective (either from a customer, societal, or total resources perspective). As was endorsed in the 2010-2012 Plan as approved in the Orders, this 2013-2015 Plan aggressively targets all available cost-effective energy-efficiency resources, but the Plan also takes in account program implementation constraints such as market and policy barriers. Such barriers led to this Plan's focus on obtaining all available cost-effective energy efficiency in a manner that allows for a sustained effort and that does not create unacceptable bill impacts, consistent with the Council's Priorities, the Sense of the Council document of June 12, 2012, Department precedent and the PAs' public service obligation to their customers.

Assessing potential takes into account impediments to program implementation, including financial, political, and regulatory barriers that are likely to limit the amount of savings that might be achieved through energy efficiency and demand response programs. It, therefore, recognizes both the market and policy barriers. After more than two decades of successfully implementing energy efficiency programs, the Program Administrators have an in-depth understanding of these barriers and were able to integrate their knowledge of both market and policy concerns to inform this Plan. The program incentive design, delivery models, and support infrastructure developed by the Program Administrators and discussed throughout this Plan are informed by a careful review of different types of potential.

3. Allocation of Funds for Low-Income Programs and Education

Energy efficiency funds shall be allocated to customer classes in proportion to their contributions to those funds, and, “at least 10 percent of the amount expended for electric energy efficiency programs and at least 20 percent of the amount expended for gas energy efficiency programs shall be spent on comprehensive low-income residential demand side management and education programs.” G.L. c. 25, § 19(c). Based on the budget figures set forth in this Plan, for electric Program Administrators, 11 percent of the total budget will be allocated to the electric low-income residential sector for 2013-2015. Based on the budget figures set forth in this Plan, for gas Program Administrators, approximately 22 percent of the total budget will be allocated to the gas low-income residential sector for 2013-2015.

4. Minimization of Administrative Cost

General Laws c. 25, § 19(a) requires the Department, when authorizing energy efficiency programs, to ensure that such programs minimize administrative costs to the fullest extent practicable. Administrative costs, also commonly referred to as Program Planning & Administration (“PP&A”) costs, have traditionally been defined as all in-house and outsourced costs associated with planning activities and program administration. These include costs associated with developing program plans, and day-to-day program administration, including labor, overhead costs, and any regulatory costs associated with energy efficiency activities.

As has been their historical practice, each of the Program Administrators is fully committed to pursuing both internal and external opportunities to streamline the administration of their energy efficiency programs and thus their associated administrative costs. To that end, and within the context of the D.P.U. 08-50 Working Group, the Program Administrators initiated discussions in 2010 to review the definition of administrative costs and the classification of the costs in this category to ensure that all Program Administrators report such costs consistently. The result of this effort is that, with one limited exception of the categorization of employee salaries and related expenses¹⁶, consistent statewide cost categories are in place across all Program Administrators. This allows all interested stakeholders to review administrative costs in an objective manner.

The most significant factor in the PA approach to minimizing administrative costs is the statewide collaborative process, which is used by the Program Administrators to coordinate planning, the adoption of consistent programs and processes, program design, EM&V studies, statewide marketing, regulatory proceedings, and the development and sharing of all best practices. Sharing of these costs, which would otherwise be borne by each Program Administrator individually, results in economies of scale that reduce the cost for each Program Administrator. For example, joint releases of RFPs lead to minimization of administrative costs in that the cost for preparation and release of the RFP are shared by the PAs. The Program

¹⁶ For certain PAs, employee labor and related expenses are included in the PP&A, Marketing-Advertising, Sales, Technical Assistance & Training, and Evaluation & Market Research categories, depending on the employee’s responsibility; for other PAs, all employee labor costs and related expenses are included in the PP&A category. This one limited difference is due to different historical practices and differing staff sizes and staff assignments, as well as internal tracking mechanisms.

Administrators also minimize administrative costs by coordinating energy efficiency program delivery, where appropriate, with other customer service activities such as customer acquisition, key account management and trade ally relationships.

Notwithstanding any appropriate coordination with other customer service departments, it is necessary and appropriate for all Program Administrators to maintain a skilled and dedicated administrative staff in order to ensure successful delivery of programs, compliance with the GCA, timely responses to the directives of the Council, Department, and DOER; and documentation and achievement of substantial savings. The Program Administrators seek to balance the need to minimize administrative costs to the extent prudent with the need to maximize program quality and oversight. Councilors have emphasized the need to devote sufficient administrative resources to successfully implement the aggressive programs called for in this Plan.

While the economies of scale and other steps taken by the PAs to minimize costs are effective, and administrative costs incurred by the PAs are transparent and are presented in each Program Administrator's D.P.U. 08-50 tables, exact quantification of the minimization of administrative costs is not possible in a meaningful way. This is because the continuous scaling up and evolution of the Plans make it impossible to establish a solid baseline for a comparison. When the variables are constantly (and necessarily) shifting, there is no opportunity to make a meaningful quantitative comparison or to estimate a counterfactual. Further, a direct quantitative comparison would not be useful because it would only provide a comparison of two points in time; the mandate of the GCA, however, is to seek administrative efficiencies, which is a continuous process that evolves along with energy efficiency planning and programming, whereas costs and administrative efficiency opportunities are always changing. The Program Administrators seek to minimize costs at all available opportunities, and not just from one point in time to another.

5. Competitive Procurement Process

The Program Administrators utilize competitive procurement processes to engage and retain contractors and vendors to perform activities including, but not limited to: audit delivery; quality control; monitoring and evaluation; marketing; and website design. The Program Administrators are committed to continuing to utilize competitive procurement practices to the fullest extent practicable throughout the implementation of the 2013-2015 Plan. Therefore, consistent with past practice, the Program Administrators anticipate that they will issue Requests for Proposals to engage appropriate third party vendors to provide energy efficiency services, consider the input of the Council with respect to the retention of necessary consultants, and, where necessary, work collaboratively to ensure that energy efficiency services have been procured in a manner that minimizes cost to the ratepayers, while maximizing the associated benefits of that investment. In order to build upon the progress made in the 2010-2012 Plan, the Program Administrators will continue to work to expand the pool of qualified program vendors, promote the entry of new market actors into contractor and subcontractor roles, and ensure the transparency of the contractor bidding process and selection criteria used to evaluate proposals.

6. Demand Response

Demand Response is not a key focus in the proposed Plan because such efforts are difficult to cost-justify using the current Total Resource Cost test. Demand savings, however, are a key benefit of proposed efforts. In addition, demand response “enabled” measures and systems, including those that have the potential to be dispatched or controlled in conjunction with Smart Grid systems, are featured in proposed efforts. Further, where applicable, the PAs will facilitate engagement with demand response providers in the open marketplace. Examples of potential measures and systems contemplated include but are not limited to “Smart” devices, energy management system sequence of operations, dimmable lighting systems and controls, as well as demand response enabled technologies.

C. Funding Sources & Financing Initiatives

The Program Administrators seek to leverage available funding sources and financing initiatives in order to increase the benefits of the Plan and minimize customer rate impacts. The following funding sources and financing initiatives are currently available to the Program Administrators.

1. System Benefit Charge (electric only)

The System Benefit Charge (“SBC”) is calculated consistent with G.L. c. 25, § 19(a) which states: “The [D]epartment shall require a mandatory charge of 2.5 mills per kilowatt-hour for all consumers, except those served by a municipal lighting plant, to fund energy efficiency programs including, but not limited to, demand side management programs.”

2. Forward Capacity Market (“FCM”) Proceeds (electric only)

Pursuant to G.L. c. 25, § 19(a), electric Program Administrators’ energy efficiency plans shall be funded in part by “amounts generated by the distribution companies and municipal aggregators under the Forward Capacity Market program administered by ISO-NE, as defined in section 1 of chapter 164.”

The Program Administrators allocate FCM funds across customer sectors according to each sector’s percentage of contribution to SBC funds. Each Program Administrator’s projection of individual FCM revenues is based on its respective FCM bidding.

Bid levels are based on projected and historic achieved annual peak period MW reductions from a PA’s energy efficiency programs, as well as ongoing studies and evaluations that may affect savings. Bids into the FCM must be submitted three years in advance. Therefore, the PAs develop bids based on estimates using the best information available at the time. The PAs also must balance the goal of maximizing FCM revenue with the financial risk to program funding if projected peak savings are not achieved.

As noted above, a portion of the funding for energy efficiency efforts including customer incentives is derived through participation in the FCM. Although limited, there are some unique opportunities to further benefit customers and increase savings, as well as the region’s capacity requirements. The PAs will provide FCM-supported energy efficiency services to electric customers who are not currently eligible for services due to other factors. For these customers,

incentives would be limited to the value of the lifetime revenue stream associated with the demand savings from the project less any administrative expenses that are associated with the project.

3. Regional Greenhouse Gas Initiative Proceeds (electric only)

The electric Program Administrators have estimated the proceeds they expect to receive from Massachusetts' participation in the RGGI based on the following assumptions.

Projections take into account anticipated lags between when RGGI auctions occur and when DOER is able to transfer funds to each electric PA. In 2013, the electric Program Administrators will be allocated revenues from a part of 2012 and part of 2013 RGGI auctions. In 2014, the electric Program Administrators will be allocated revenues from a portion of 2013 and a portion of 2014 RGGI auctions. Similarly, in 2015, the electric Program Administrators will be allocated revenue from a portion of 2014 and a portion of 2015 RGGI auctions. The Program Administrators will work with DOER to develop a forecast that more accurately projects receipt of funds from DOER; this new forecast will be described in the September version of the Plan.

Eighty percent of the Massachusetts proceeds from RGGI auctions will be allocated to energy efficiency Program Administrators, consistent with the Green Communities Act's directives that cap-and-trade pollution control programs including, but not limited to, not less than 80 percent of amounts generated by the carbon dioxide allowance trading mechanism established under the RGGI Memorandum of Understanding and the NO_x Allowance Trading Program, will be made available for energy efficiency program expenditures. G.L. c. 25, § 19(a).

Electric Program Administrators will receive RGGI proceeds in proportion to the amount of funding required to fund their energy efficiency programs above the SBC and FCM.

The electric PAs expect that DOER will continue to pay the electric Program Administrators' portion of the costs of the Council's Consultants retained pursuant to G.L. c. 25, §22(c) out of the 80 percent of RGGI auction proceeds that are allocated to the PAs. This assumption is reflected in anticipated RGGI proceeds amounts, which take into account the reduction of proceeds receivable by the PAs by the amount payable to the Consultants. Because the Consultant fees will be paid by DOER directly out of the RGGI proceeds, the electric PAs' proposed budgets do not include separate expense amounts for Council Consultant costs.

Additional assumptions used by the Program Administrators with regard to the number of Massachusetts allowances sold in each year and the clearing price of future auctions are provided in the table below.

Forecast: RGGI Allowance Sales & MA EE Funding

	2013	2014	2015
Allowance Price (\$/Ton)	1.97	2.01	2.05
Projected Allowance Sales (million tons) ¹	118	118	113
Total RGGI Proceeds (\$M)	232	236	231
MA RGGI Proceeds (\$M)	37	38	37
MA EE RGGI Funds (\$M)²	30	31	30

(1) Allowance sales forecast based on 2012 RGGI Intergrated Planning Model (IPM) results & historical sales patterns

(2) 80% of MA RGGI proceeds dedicated to energy efficiency (EE)

The Program Administrators have been monitoring the 2012 RGGI program review. The projected allowance, allowance price and revenue forecast included in this Plan assumes no changes to the current operating structure. The PAs will continue to monitor RGGI market conditions and incorporate any changes into the September draft of the 2013-2015 Plan.

4. Energy Efficiency Reconciliation Factor (“EERF”) (electric only)

In the event that program costs exceed other available revenue sources, a fully reconciling funding mechanism, the EERF, ensures that the costs for all available cost-effective energy efficiency measures will be funded. The EERF recovers and reconciles energy efficiency costs for a particular program year with the revenue an electric PA receives through: (1) the SBC; (2) participation in the FCM; (3) proceeds from participation in cap-and-trade programs such as RGGI; (4) LBR, for electric PAs without a Department-approved decoupling mechanism; and (5) proceeds available from other private or public funds that may be available for energy efficiency or demand resources. G.L. c. 25, § 21.

5. Carryover Information

In determining its Energy Efficiency Surcharge, a Program Administrator takes into account funds carried over from the previous year’s program, whether positive or negative. These “fund balances” are used to adjust projected funding levels in the Plan.

6. Outside Funding Levels

The 2013-2015 Plan does not contain outside funding assumptions given the absence of material viable funding sources. The Program Administrators, as well as councilors and government agencies, all actively continue to seek new sources of outside funding. The Program Administrators’ approach in this regard reflects lessons learned over the course of the 2010-2012 plan, in particular the low likelihood that a major new federal “cap and trade” program will be implemented in the foreseeable future as had been anticipated when the 2010-2012 Plans were initially developed and approved by the Council.

7. Financing Initiatives

During the course of the last two years, the Program Administrators developed, deployed an offered customers several financial products in conjunction with the Massachusetts Bankers

Association and Credit Unions - with roughly fifty financial institutions participating in this initiative. The new Mass Save[®] financing initiative is offered through multiple financial institutions. The Program Administrators expect to have enough capital infusion from the diverse Massachusetts lending community to meet customer demand for financing in the next three years. The Program Administrators' collaboratively-developed financing initiatives reflect both the strong coordination among the PAs, as well as the Program Administrators' responsiveness to comments and suggestions from councilors. Program implementers in other states have frequently contacted the Program Administrators to learn from the Massachusetts experience in development of a state-of-the-art lending initiative that leverages the experience of local banks.

The HEAT Loan initiative also remains available, which provides qualified customers with zero percent interest loans up to \$25,000 with terms up to seven years and can be applied towards certain specified energy efficiency upgrades. With the express support of DOER and the Council, a portion of the HEAT Loan may be used to finance the mitigation of barriers preventing the installation of energy efficient measures (*i.e.*, pre-weatherization measures). From 2010 to 2012 (to date), customers have been approved for a total amount of approximately \$70,106,000 in HEAT Loan funds for energy efficiency improvements. For 2013-2015, certain gas PAs are proposing additional budgetary dollars in the Residential Home Energy Services initiative to make the HEAT Loan available in support of gas energy efficiency efforts in service territories where electricity is supplied by a municipal light plant.

Financing allows customers, who may not be able to raise enough capital to pay for their customer contribution, to borrow funds in order to invest in energy efficiency. Customer financing does not reduce the amount of money necessary to be collected from ratepayers because it does not reduce the Program Administrators' energy efficiency budgets. To the extent that access to low-cost capital is a barrier for certain customers, financing can alleviate that and encourage energy efficiency investments.

The Program Administrators are continuing their efforts to understand the nature of barriers, for different customer segments, which may be related to accessing capital, and to explore financing products/solutions to address them, particularly for C&I customers who have not taken advantage of the financing mechanism described above in great numbers as has been the case for residential customers. In addition, some of the Program Administrators are proposing to provide customers with the ability to repay their share of program costs with zero percent interest over a two year period.

D. Summary of Budgets, Savings, and Benefits

For the 2013-2015 Plan, the Program Administrators have sought to balance savings and budgets; therefore, savings goals are aggressive in order to acquire all available cost-effective energy efficiency, but sustainable so that these aggressive goals can be maintained throughout the entire three-year period and planned with consideration of bill impacts. The Program Administrators have integrated planning and implementation in order to achieve sustainable savings. Based on prior experience, in this Plan, the Program Administrators have taken note of EM&V factors and trends when planning savings goals. The process for developing goals is discussed further in Section III.D.2, below. In order to present reliable data, the Program

Administrators have focused on program-driven savings, which is the savings achieved through the efforts of the PAs. The PAs intend to incorporate any results of the proceedings in D.P.U. 11-120, Phase I, relative to calculating net savings as soon as practicable after an Order is issued, as discussed in Section III.O below.

Planned budgets in this Plan take into account statutory low-income expenditure requirements, and reflect economies realized through prior efforts. In 2013-2015, the PAs are placing an increased focus on benefits. In determining target benefits, the PAs have sought to accommodate the effect of changed avoided costs.

The budgets, savings, and benefits tables presenting in this Plan are preliminary, and will necessary evolve based on (1) impact evaluation results to be finalized by July 13, 2012 for this Plan; (2) proposed legislation, if passed; (3) any (currently unexpected) changes in regulatory policy, such as cost recovery and incentive plans; (4) planning refinements; and (5) program level data.

1. Cost Drivers

Introduction

The Program Administrators' statewide energy efficiency programs have evolved significantly since the development of the first three-year plan in 2009. As a result of their success, the Program Administrators are currently facing a new series of challenges – changes in projected program costs and savings levels. To address these challenges and deliver the most cost-effective energy efficiency programs to their Massachusetts gas and electric customers, the Program Administrators seek to develop a thorough understanding of current and future cost drivers and savings levels for their proposed energy efficiency programs. The Council has identified cost drivers as a core priority and has asked that the Program Administrators discuss such cost drivers in detail in the Plan. The Program Administrators address this priority below.

Certain energy efficiency measures have changing costs and shifting levels of savings over time as well as varying frequency of deployment and levels of market penetration, which make it difficult to accurately plan for their impact on overall budgeted costs and projected savings. Additionally, there are varying levels of sensitivity to different cost drivers. Finally, the interplay between different measures (planned vs. actual measure mix) can result in budget and savings variances throughout the year. The result is that the relationship between costs and savings is not a stagnant one; rather, it is a dynamic relationship that is determined by cost and level of savings for individual measures, rate of deployment for those measures, and the interplay between the many energy efficiency measures available to customers.

From 2009-2011, the cost to achieve savings for electric energy efficiency programs throughout the state has been trending down. During that same period, the cost to achieve savings for gas programs has been trending upwards. These trends may be caused by increasing costs for certain measures, or in some cases, by decreasing levels of saving due to changes in federal standards and/or the application of results from the most recent impact evaluation study. Additionally, as noted above, costs are also driven by changes to the planned mix of measures actually deployed in the field. However, this does not mean that all electric costs are declining,

nor that all gas costs are rising. Understanding the interplay between costs and savings allows Program Administrators to better project the future cost of achieving savings while being mindful of the impact to customer bills. If the cost to achieve climbs, the cost of implementing measures may be increasing. Alternatively, costs may remain steady but the potential savings of a measure or a program could be decreasing. This section seeks to describe the historical differences between program costs and use that information to explain the statewide projections presented in this Three-Year Plan.

Sector Cost Trends

The previous three-year plan can be used to understand cost drivers and trends. Statewide, electric portfolio costs per kWh declined from 2009 to 2011. In 2010 the cost/kWh on a lifetime basis was \$0.032. This cost declined in 2011 to \$0.026 on a pre-evaluated lifetime basis. However, lifetime savings increased 45 percent from 7,350,249 MWh to the pre-evaluated level of 10,630,490 MWh over this same period of time. While this has been an excellent trend, the Program Administrators and stakeholders do not expect to see costs decline and savings increase at this rate going forward. A review of recent trends in the individual customer sectors is helpful in illustrating this point as the sectors appear to have different trends than the overall portfolio.

Pre-evaluated portfolio savings from 2011 increase 45 percent, with only a 17 percent increase in cost. Those savings were largely driven by the C&I sector, which achieved a 48 percent increase in savings with only an 11 percent increase in costs. The residential sector experienced a 33 percent increase in savings and a 25 percent increase in costs. Further, the low-income sector experienced a 19 percent increase in savings, but only a 17 percent increase in costs.

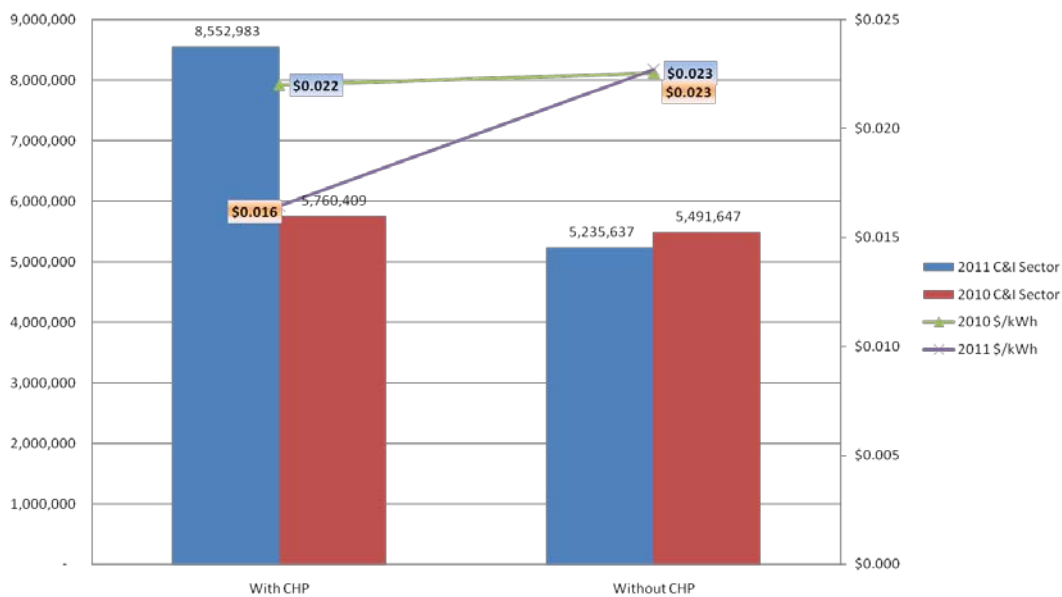
Trends in the gas portfolio of programs are almost the exact opposite of the trends seen in the electric portfolio. The portfolio level of gas savings increased by 37 percent, but, to achieve those savings, costs rose by 56 percent. This drove the cost to achieve savings on an annual therm basis from \$5.53 in 2010 to \$6.33 in 2011. Looking at the individual sectors, C&I increased savings by 37 percent from 2010 to 2011, but costs increased 73 percent. The residential sector experienced a 42 percent increase in savings from 2010 to 2011, with a 48 percent increase in cost. Savings in the low-income sector increased by 40 percent but costs increased 63 percent.

This analysis indicates that, for the gas programs, the higher the savings goal the higher the cost to achieve those savings – a trend that is exacerbated in a time of low gas commodity costs. Therefore, the gas Program Administrators must be even more mindful of increasing savings targets as the increased savings are coupled with an increase in cost.

Impact of Combined Heat and Power (“CHP”) 2011 and 2010

While the cost per kWh has declined for the statewide electric portfolio of programs, the most notable decline occurred in the C&I sector with lifetime cost/kWh declining from \$0.022 in 2010 to \$0.016 in 2011. The largest single source of savings in the C&I sector has been from

CHP projects. By combining useful heat with power generation, CHP has been one of the largest contributing factors in the decrease in cost of savings and results in very large savings at a lower cost than most other residential and C&I projects. Statewide this cost is estimated to be \$0.162 cents on an annual basis for all C&I CHP projects (or \$0.007 on a lifetime basis). CHP projects can have a large impact on both the average cost and average savings of the portfolio. However, project cost, size, and savings vary depending on the specific customer and project application. In order to show the variation in magnitude of CHP projects, the Program Administrators conducted an analysis which compares C&I sector costs with CHP and without CHP. As shown below, in 2010 statewide CHP only had a minor role in impacting the C&I total savings and the cost/kWh. However, CHP had a very large impact on savings and the cost/kWh during program year 2011. In the chart below the blue bar and purple line represent 2011, while the red bar and green line represent 2010.



As this analysis shows, CHP projects are very difficult to plan because their impact on the portfolio can be substantial. Only three Program Administrators have entered into a CHP project over the past three years. While the Program Administrators are including some reasonable projections for CHP in their 2013-2015 Plan, they have been cautious not to overestimate its contribution to overall savings goals. Doing so would result in a significant shortfall in budgets due to its lower cost than other typical C&I projects.

Other C&I Cost Drivers

In addition to CHP, there are several other cost drivers in the C&I sector. Upstream initiatives allow Program Administrators to buy-down the distributor’s cost of energy efficiency measures, ultimately translating into lower costs for customers. Upstream lighting has been very successful in lowering costs and the Program Administrators look to extend this program to measures such as electronically commutated motors. The Program Administrators continue to explore new and innovative purchasing strategies in order to achieve the lowest possible cost for their customers. However, the Program Administrators are also aware of several increases in cost/kWh in the C&I sector due to changes in the federal efficiency standards for refrigeration,

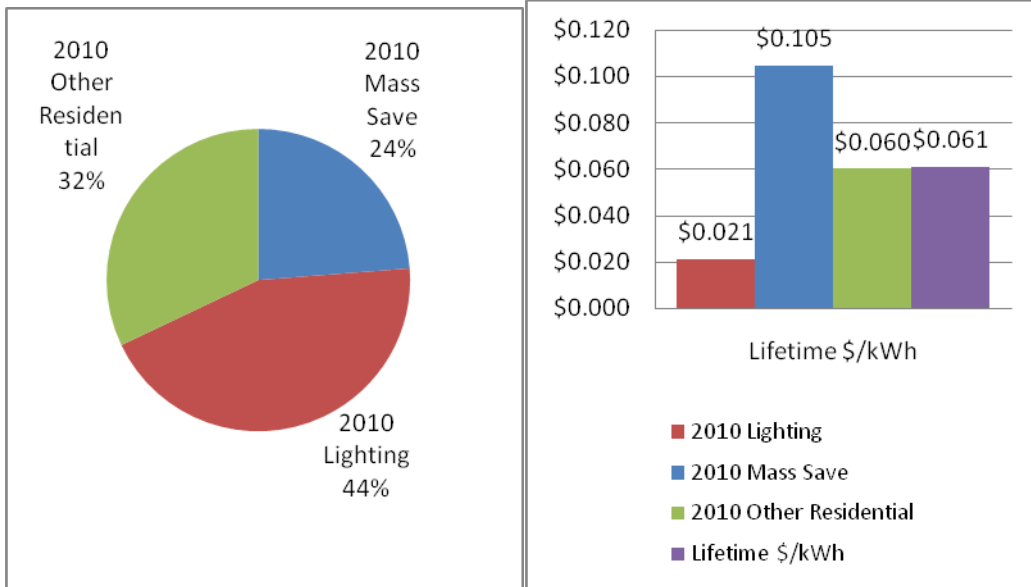
boilers, lighting, lamp ballasts, and clothes washers which will lower the historical savings levels for these measures as the baseline efficiency increases.

Similar challenges will arise in the gas C&I sector from more stringent federal standards. However, the gas C&I sector programs have largely relied on custom projects for the bulk of the sector savings. Certain targeted custom projects allowed the gas Program Administrators to achieve excellent value for the dollars spent. Statewide, custom projects have accounted for between 50 and 90 percent of C&I sector savings. Two evaluation studies that will be incorporated into the 2011 Annual Report will have a profound effect on these savings for several Program Administrators. The impact evaluation of custom projects dramatically lowered the realization rate for these projects for some PAs. Combined with the results of the C&I net-to-gross study (net-to-gross ratios vary by Program Administrator with the custom measures having a net-to-gross ratio ranging from 55 percent to 110 percent and prescriptive measures having a net-to-gross ratio ranging from 78 percent to 103 percent), certain PAs have seen a substantial impact.

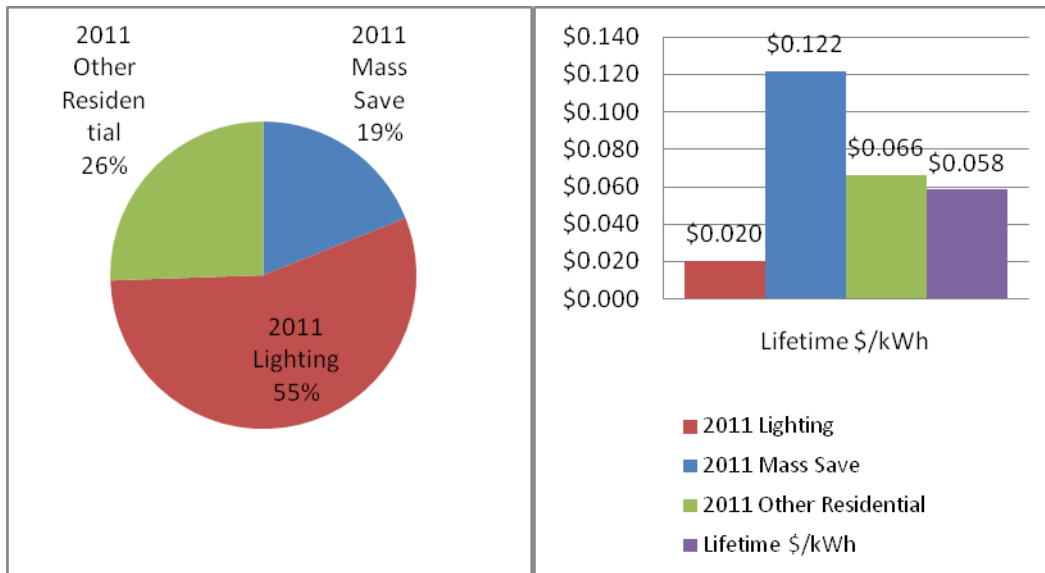
These EM&V results have been incorporated into the PA forecasts for the next three years. As shown above, the results of these evaluations will on average decrease potential savings for custom and prescriptive gas projects, and, therefore, the cost to achieve therm savings for these projects is expected to increase for most Program Administrators. However, as with most custom programs, this will vary by Program Administrator and it is reasonable to expect such a variation in projected C&I cost/therm for period 2013 through 2015. In addition, with the decline in the price of natural gas, CHP projects become more attractive to C&I customers on the electric side, but the payback period increases as gas C&I customers see a decrease in their gas bills. Therefore, gas C&I customers could be less interested in investing in expensive long-term efficiency equipment.

Residential Sector Cost and Allocation

In the electric residential sector the analysis also shows a declining cost per kWh from \$0.061 in 2010 to \$0.058 in 2011. However, the Program Administrators do not believe this is accurately representative of actual current costs in the residential portfolio, nor indicative of the future cost/kWh. The chart below on the left shows the percent of total savings achieved by the major residential programs for 2010. The chart below on the right shows the cost of residential lighting, the Home Energy Services program (known as the “Mass Save” program in 2010), and the cost of the remainder of the residential program portfolio.



The cost of the Home Energy Services program rose from \$0.105 in 2010 to \$0.122 in 2011 and the cost of the other residential programs rose from \$0.060 to \$0.066. Only lighting costs declined by \$0.001 from 2010 to 2011. However, the portfolio shifted its spending from other programs to the lighting program.



Allocating portfolio spending from 44 percent to 55 percent in the least expensive program drove down the residential cost/kWh. This would indicate that the Program Administrators can drive the overall sector cost down even when other costs rise by expanding the lighting program if the cost per kWh in the lighting program is sustainable and expected to remain low. However, the cost of LEDs is much higher than CFLs that currently make up the majority of the lighting program, and could change the low cost of the lighting program over the next three year plan.

For gas programs, residential costs increased for every single gas program from 2010 to 2011. There is no evidence of declining costs in the gas program portfolio. Similarly, there is a concern with increasing federal standards eroding potential savings. For example, while the gas Program Administrators are offering a new, 97 percent efficiency furnace in this three-year plan, the baseline will increase from 78 percent efficiency furnaces to 90 percent efficiency furnaces by 2015. This will likely reduce potential savings of furnaces by 66 percent, despite the addition of a new more efficient technology. The potential savings for this measure are significantly limited past 2015 and the cost of installing the furnace will not decline. Therefore, one would expect to see an increase in the cost per therm because of the reduced savings.

Mass Save and Lighting

The electric residential sector faces a unique challenge with the EISA standards which will begin to take effect during the next three years. Historically, the residential lighting program has had a cost/kWh of \$0.021 but this cost level will not persist into 2013-2015. Lighting measures impact the residential new construction, Home Energy Services, lighting, and multi-family core initiatives and the low-income programs. This is one of the largest cheapest sources of savings for the residential programs.

EISA standards will be changing the savings and measure life of CFLs and LEDs. As 2020 approaches and the changes to EISA go into effect, CFLs are expected to become the standard bulb. The Program Administrators must accurately reflect the changes in measure life and savings levels of these bulbs. The Chart below outlines our best estimates of the new savings levels and measure lives for residential lighting.

Savings & Measure Life	CFLs	LEDs	CFL Life	LED Life
	kWh	kWh	yrs	yrs
2012	47	48	7	20
2013	38	45	6	16
2014	36	43	5	17
2015	33	41	5	17

For the Residential Lighting initiative, the cost of a CFL was three dollars per bulb in 2012 and the average incentive was \$1.60 per bulb. For LEDs the average cost was 50 dollars per bulb and the average incentive 25 dollars per bulb. For other programs and initiatives, such as direct install, these costs will be higher but, historically gross savings are also relatively higher in direct install programs because of the ability to insert the bulb directly into the socket. As savings per bulb decline, as depicted in the chart above, the cost of CFL bulbs will not decline. However, the Program Administrators are planning to slightly lower the incentive offered for 2013-2015 in order to manage the increasing cost per kWh for CFL bulbs. LEDs will have higher costs, but the slightly higher savings will not offset that increase in cost. The cost per bulb for LEDs is lower in 2013-2015 than in 2012 as the technology becomes more common and supported, but the costs will still remain significantly higher for LEDs compared to CFLs.

The Program Administrators seek to support LEDs, which have material benefits enjoyed by customers, such as light quality, in this Plan and also going forward past 2015. LEDs will be a major source of efficient lighting as federal standards go into effect. This support will vary from program to program and from Program Administrator to Program Administrator, but support for this technology will encourage manufacturers and consumers to adopt this new sustainable technology going forward. It is important to note, however, that there will be a higher cost for PAs to this strategy in the short term, with a goal of a long term market transformation to support efficient less expensive LED lighting for the future.

Production and Savings

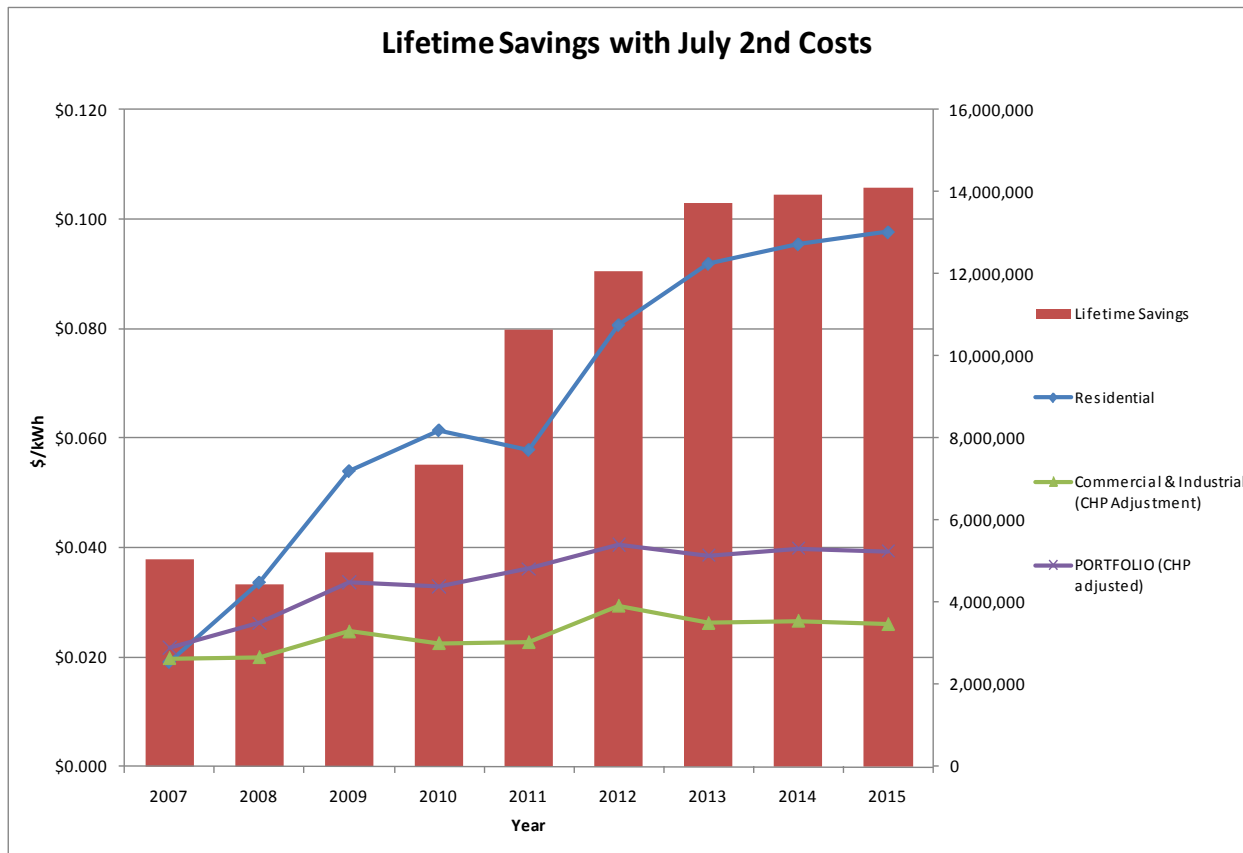
While Program Administrator electric savings targets for 2013-2015 are relatively flat for each year compared to 2012, as discussed above, federal standards are increasing for several measures and evaluation impacts that are expected to lower their savings potential. This means that in order to achieve the same level of savings, the Program Administrators must perform *more* audits, install *more* measures, and enroll *more* customers to achieve the *same* level of savings. For the gas Program Administrators, the effects are even more profound as savings goals increase over the three-year period from 2013 to 2015. The Program Administrators have highlighted below the increase in production on a statewide basis from 2013 to 2015 showing the number of audits performed and bulbs sold illustrating the expected the increase in production over the next three years.

Electric Participants 2010-2015	2010	2011	2012	2013	2014	2015
Lighting Program	272,494	732,165	829,524	1,086,920	1,137,574	1,145,087
MassSave Audits	29,809	35,366	45,978	48,970	50,734	52,729
Low Income Audits	17,431	15,130	29,448	28,271	28,948	30,061
C&I retrofit	5,441	7,708	8,004	9,216	9,004	9,321
Gas Participants 2010-2015	2010	2011	2012	2013	2014	2015
Residential	190,393	307,696	393,616	445,535	446,638	448,764
Low Income	3,935	4,024	5,458	6,163	6,294	6,438
C&I	5,904	7,688	14,104	17,596	17,600	17,913

These tables show that the Program Administrators are working harder to get to more customers, but this is not necessarily translating into greater savings. For gas PAs, participation goals are higher in 2013 compared to 2012, even though the total savings goal is lower in 2013. This is an example of how the decrease in savings impacts the total savings target. The results for the electric PAs varies by sector. The chart below shows the long-term savings for the electric Program Administrators, along with the cost to achieve the savings by sector. The bars represent the total lifetime savings of the entire statewide portfolio, while the lines show the residential, C&I, and portfolio cost to achieve these savings (adjusted to account for some of the steep decrease in savings attributable to the 2011 CHP projects).

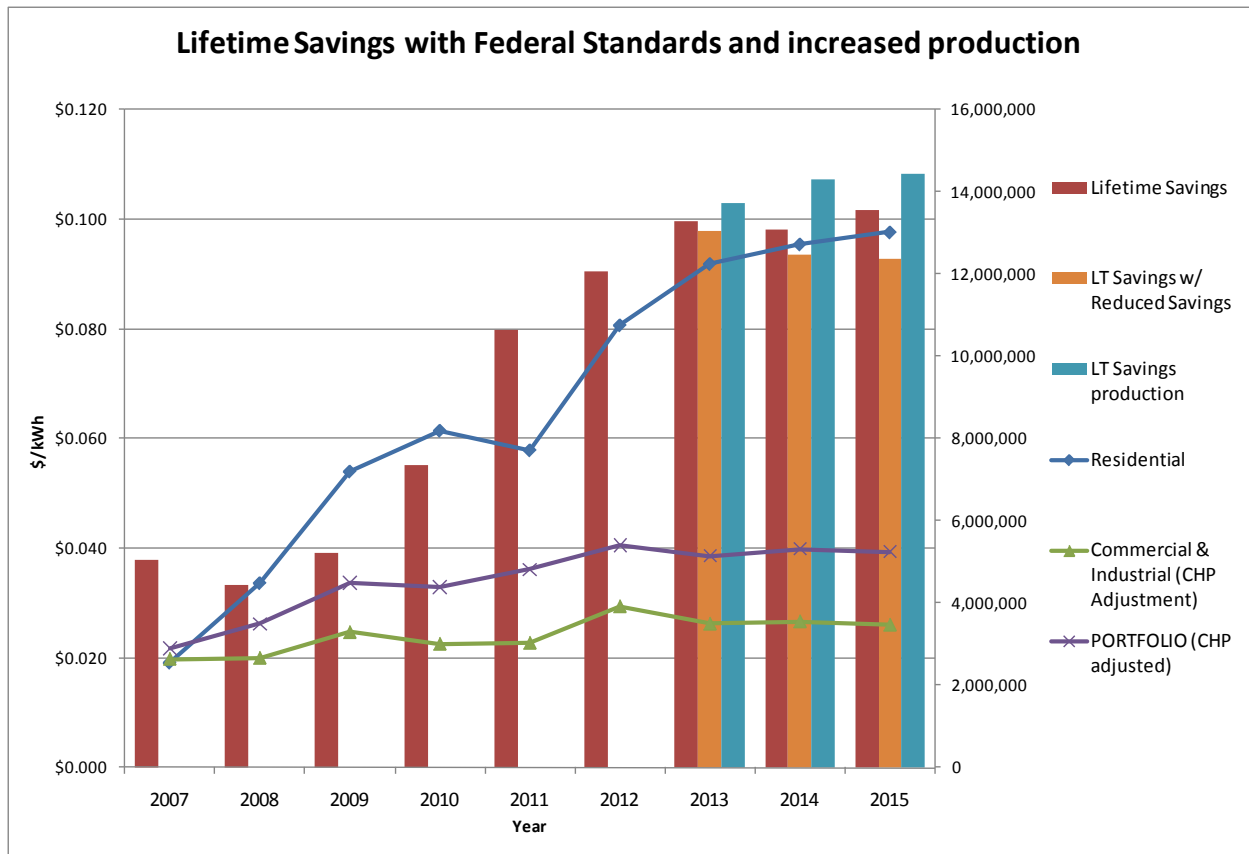
The chart also shows the relatively flat lifetime cost of the C&I program, along with the increasing residential lifetime costs. As discussed above, the residential sector's lifetime costs

are increasing due to shortening measure life and increasing cost to the lighting initiative. This increase is driving the cost of the portfolio up; however, the cost for the portfolio is expected to remain relatively flat over this proposed Plan.



This chart should show the relatively flat lifetime cost of the C&I program along with the increasing residential lifetime costs. As discussed above, the residential sector’s lifetime costs are increasing due to shortening measure lives and increasing cost to lighting measures. This increase is driving the cost of the portfolio up; however, the cost for the portfolio is expected to remain relatively flat over term of this Plan.

Building on the chart above, if the participation table above is combined with the savings chart, one can estimate that the Program Administrators increased production, as shown in the table below titled Lifetime Savings with Federal Standards and Increased Production. The total savings may not always be reliable, as this target can be skewed by the total savings due to federal standard baseline increases and impact evaluation results. This chart shows two additional lines - the first line (gold), shows an estimation of loss of savings due to evaluation impacts and federal standards. The second line (light blue) is constructed using the increase in participants and production included in the Plan to meet statewide savings goals.



The blue bar shows that a greater amount of participation is needed to offset the estimated savings decrease. Program Administrators must work more quickly to achieve the same level of savings. The same level of savings cannot be achieved by including the same number of participants as prior years; therefore, the PAs have to be more aggressive in pursuing new opportunities to meet their aggressive goals. However, the costs of an audit or measure installation have not declined as much as the expected savings. Therefore, this increase in participation comes at an increased cost.

As always, the Program Administrators will strive to keep costs down, but the PAs have little control over the eroding savings from increases in federal standards and any downward free-rider results from evaluations. There is potential, however, for new opportunities, which the Program Administrators will continue to explore through best practices and market assessments. As standards rise, incremental cost will decline. This could allow new technologies and measures, which were previously too cost-prohibitive to become cost-effective, and allow for more efficient measures to be included in the Program Administrators' already robust portfolio of programs.

2. Process to Determine Goals

The PAs engage in a collaborative and iterative planning process for setting savings goals and budgets. The planning process for savings varies for each program and initiative, but certain common assumptions are used across programs and initiatives. An example of a specific

planning process includes budgeting for core initiatives within the Residential Products Program, which is very measure-specific and driven by the number of rebates. Other initiatives take a whole house approach and plan by audits, homes, or customer sites. Regardless of the type of program, the PAs typically begin the planning process by looking at historical data from the most recent few years and examine some key metrics that provide insight into participation trends (*i.e.*, how many boilers were rebated or number of weatherization jobs completed), savings achieved, and costs to achieve these savings. The PAs collaboratively discuss changes that need to be made to each program based on both the historical data as well as forward-looking information. Using this information, the PAs may decide, for example, to discontinue measures that have become standard efficiency, or to test new measures for cost-effectiveness and add them to the appropriate program. These types of overarching decisions are done at the statewide level at the respective management committees, ensuring input from all stakeholders and continuous sharing of best practices and facilitating consistency of offerings among the Program Administrators.

Each PA uses this information to develop a forecast that is sustainable for the planning period. To help verify these forecasts, PAs may consult their lead vendors to assist with realistic projections based on field experience in the program or what is in the vendor's queue.

The latest savings impacts are applied to the forecast savings, and the annual and lifetime savings are summed up at the program, sector and portfolio level. The process must be fluid and flexible, because information is received at various times during the planning process that is critical to include, such as evaluation impact results. Changes such as evaluation impact results are what make the planning process so iterative. If an evaluation impact result lowers savings for a specific program, the PAs need to adjust the implementation strategies to ensure that the overall goal at the portfolio is still achievable, while minimizing the impact to the budget. As an example, the 2010 High Efficiency Heating Equipment gas evaluation impacted the PAs so significantly that they would have had to spend three times the program's original budget to achieve the original savings estimates. Instead, PAs reallocated part of this budget to other programs that yielded a lower, more realistic cost per savings.

In addition to forecasting savings goals, PAs must also develop budgets for marketing expenses, internal payroll, evaluation, administrative expenses and vendor-related fees. These budgets are program-specific and are often driven by how aggressive the goals are (a large ramp-up in savings goals typically needs more marketing dollars), when the program was last evaluated, and how many full-time employees are dedicated to each program. These budgets can vary significantly by PA, and typically make up a quarter to a third of each program's budget, with the largest portion of the budget typically dedicated to customer incentives.

3. Unique Service Areas - General Discussion

The Commonwealth of Massachusetts is a composite of different communities and regions. While it is necessary to address energy efficiency plans, programs and objectives on a statewide basis, the detailed factors that influence costs, savings potential, and the cost to achieve savings are different in each PA's service territory. Each PA has a distinct mix of customers and sectors, which affects energy efficiency programs in different ways. For some PAs, the variety of communities in which they serve results in costs, savings and cost to achieve that closely

resembles the statewide average. However, for other PAs, the unique or more limited geographical regions they serve can result in a mix of specific characteristics that are significantly different from statewide averages. These specific factors have a direct impact on the costs, savings and cost to achieve that these PAs need to reflect in their individual PA energy efficiency plans.



For example, the geographical area served by one PA may have a disproportionately smaller percentage of commercial customers in its territory as compared with the statewide averages. Similarly, a PA may have a disproportionately lower-income population than the statewide averages, or serve a region that is economically disadvantaged as compared with the Commonwealth as a whole. At a more granular level, the mix of energy efficiency measures deployed by one PA may also vary considerably from statewide averages based on factors such as the age of the housing stock, the percentage of homes with electric heat, or the concentration of certain industries and business in the service area. While PAs with lower diversity in key customer segments can be susceptible to larger uncertainties in program performance, they may also be able to tailor go to market strategies and outreach approaches more specifically to their customers in ways that positively impact planning assumptions. All of these factors can result in variances in a particular PA's costs, savings and cost to achieve relative to statewide averages.

As recognized explicitly in the Orders and in the Council's resolutions with respect to the 2010-2012 gas and electric plans, these differences in service areas can justify variations from statewide targets in savings goals and related matters. See e.g., Gas Order at 28; Council Resolution of October 27, 2009. Specific factors that the Department considered in endorsing the Council's approach included "economic conditions and median income." Gas Order at 28.

In this Plan, The Berkshire Gas Company, New England Gas Company, Unitil and Cape Light Compact are proposing aggressive savings goals that are tailored to the conditions within their service areas and ensure that the mandate of the GCA that all available cost-effective energy efficiency be obtained is met. As part of this Plan, each of these Program Administrators provides in Appendix H a presentation with respect to the unique challenges in its respective service area that justifies variation from statewide targets. Both the Council and the Department supported variations from state targets for each of these Program Administrators with respect to the 2010-2012 Plan, and the sound reasoning applied in that decision-making process continues to apply for the 2013-2015 Plan.

All Program Administrators are supportive of these specific requests and note the valuable contributions to the overarching statewide effort set forth in this Plan that are provided by each of these Program Administrators and their personnel. Each Program Administrator,

regardless of size, contributes uniquely and materially to the overall statewide effort and commitment that is the hallmark of energy efficiency implementation in Massachusetts. Presentations related to specific PA territories can be found in Appendix H, with the presentations referring to/summarizing scenario analyses consistent with the Council's requests. Maps showing the PA service territories in the Commonwealth are included in Appendix G.

4. Electric Statewide Budget, Annual Savings, Lifetime Savings, and Benefits

BUDGET (\$)

Sector	2013	2014	2015	2013-2015
Residential	\$ 170,571,643	\$ 184,373,633	\$ 194,674,786	\$ 549,620,062
Low-Income	\$ 59,983,681	\$ 59,396,883	\$ 60,726,057	\$ 180,106,621
C&I	\$ 315,938,635	\$ 327,751,360	\$ 345,315,469	\$ 989,005,464
TOTAL	\$ 546,493,959	\$ 571,521,875	\$ 600,716,312	\$ 1,718,732,147

ANNUAL SAVINGS (MWh)

Sector	2013	2014	2015	2013-2015
Residential	295,138	327,627	331,333	954,098
Low-Income	29,903	29,110	28,769	87,782
C&I	852,753	849,564	859,061	2,561,379
TOTAL	1,177,795	1,206,302	1,219,163	3,603,259

LIFETIME SAVINGS (MWh)

Sector	2013	2014	2015	2013-2015
Residential	1,757,346	1,791,984	1,807,431	5,356,761
Low-Income	310,820	289,716	283,264	883,801
C&I	11,230,645	11,019,849	11,467,268	33,717,761
TOTAL	13,298,811	13,101,549	13,557,964	39,958,324

BENEFITS (\$)

Sector	2013	2014	2015	2013-2015
Residential	\$ 589,583,948	\$ 624,416,801	\$ 658,836,573	\$ 1,872,837,322
Low-Income	\$ 121,343,347	\$ 113,954,694	\$ 117,712,572	\$ 353,010,613
C&I	\$ 1,544,098,883	\$ 1,572,913,873	\$ 1,620,559,506	\$ 4,737,572,262
TOTAL	\$ 2,255,026,179	\$ 2,311,285,368	\$ 2,397,108,651	\$ 6,963,420,198

* All of these tables reflect statewide “rolled-up” proposals of the individual Program Administrators for 2013-2015.

5. Gas Statewide Budget, Annual Savings, Lifetime Savings, and Benefits

BUDGET (\$)

Sector	2013	2014	2015	2013-2015
Residential	\$ 69,353,483	\$ 72,143,933	\$ 74,286,144	\$ 215,783,560
Low-Income	\$ 34,336,841	\$ 35,345,738	\$ 36,504,424	\$ 106,187,004
C&I	\$ 49,541,162	\$ 50,174,378	\$ 51,556,323	\$ 151,271,862
TOTAL	\$ 153,231,486	\$ 157,664,049	\$ 162,346,891	\$ 473,242,426

ANNUAL SAVINGS (Therms)

Sector	2013	2014	2015	2013-2015
Residential	9,332,531	10,579,331	10,620,802	30,532,664
Low-Income	1,392,909	1,424,695	1,468,806	4,286,410
C&I	10,448,636	10,572,614	10,867,191	31,888,441
TOTAL	21,174,076	22,576,640	22,956,799	66,707,515

LIFETIME SAVINGS (Therms)

Sector	2013	2014	2015	2013-2015
Residential	111,388,068	115,405,481	118,083,890	344,877,439
Low-Income	28,031,299	28,746,147	29,674,031	86,451,477
C&I	142,341,745	144,306,726	148,202,035	434,850,507
TOTAL	281,761,112	288,458,354	295,959,957	866,179,423

BENEFITS (\$)

Sector	2013	2014	2015	2013-2015
Residential	\$ 160,598,522	\$ 166,432,647	\$ 171,181,856	\$ 498,213,025
Low-Income	\$ 51,546,183	\$ 52,675,358	\$ 54,277,833	\$ 158,499,374
C&I	\$ 141,384,222	\$ 144,947,705	\$ 149,891,104	\$ 436,223,031
TOTAL	\$ 353,528,927	\$ 364,055,709	\$ 375,350,793	\$ 1,092,935,429

* All of these tables reflect statewide “rolled-up” proposals of the individual Program Administrators for 2013-2015.

E. Bill Impacts

Consistent with the goal of the three-year Plan to provide for the acquisition of all available energy efficiency and demand reduction resources that are cost effective or less expensive than supply, the Program Administrators sought to develop a statewide Plan that provides for this acquisition with the lowest reasonable customer contribution. G.L. c. 25, § 21(b). Additionally, consistent with the requirements of the GCA and of the Department's Order in D.P.U. 08-50-A, the Program Administrators worked diligently and collaboratively to review and analyze the rate and bill impacts associated with the implementation of the Plan in order to ensure that such impacts are equitable. The PAs have sought to balance the value of the long-term benefits expected from proposed energy efficiency efforts with short-term customer bill impacts. Proposed budgets reflect these considerations along with a focus on the equitable distribution of costs and benefits for customers.

Through the D.P.U. 08-50 Bill Impacts Working Group, the Program Administrators, the Department, and interested stakeholders, including the DOER and the Attorney General, are developing a common analytic model for billing analysis. At this time, the Program Administrators have proposed a model that reflects both the costs of energy efficiency efforts as well as the multi-year benefits of such efforts on Massachusetts ratepayers. The collaborative work on this model is an example of the Program Administrators commitment to developing and sharing best practices, not only among themselves, but also with interested stakeholders (including learning from such stakeholders). The proposed bill impact model seeks to quantify the Three-Year Plan's costs and benefits over the long term (*e.g.*, for the average life of efficiency measures), in order to capture the full effect of planned energy efficiency initiatives, impact of Demand Reduction Induced Price Effect ("DRIPE") for electric PAs, as well as comparison of effects among program participants and non-participants. In addition, the proposed new bill impact model would, for electric Program Administrators, be able to compare energy efficiency programs in place to a zero efficiency case with no energy efficiency programming, as well as to an incremental case without additional EERF funding. This proposed model was developed by the Program Administrators in response to a meeting of the Bill Impact Working Group Subcommittee, and discussions seeking a simplified, meaningful model that relied less on statewide assumptions than other possible models. The most recent technical session of the bill impacts subcommittee was held on June 25, 2012 to discuss the PA-proposed model and other potential models. These models are still in active development and review, and the PAs will continue to participate actively in the Department initiated working group process.

In developing these models, Program Administrators have been guided by the following core provisions of the Department's Order in D.P.U. 08-50-A, which make clear that not only the costs of energy efficiency efforts, but also the benefits of such efforts must be reflected in the final billing analyses to be submitted in October:

- Rate and average bill impact analysis should be performed on a portfolio basis, as opposed to a program-by-program basis, because it is the entire portfolio of programs that will affect customer rates and bills.

- Rate and average bill impact estimates should account for the impacts over the long term (e.g., for the average life of efficiency measures), in order to capture the full effect of energy efficiency savings and costs.
- Rate and average bill impact analyses should compare the estimated rates and bills with the energy efficiency programs in place to the estimated rates and bills that would be in place in the absence of the energy efficiency programs.
- Rate and average bill impact estimates should be conducted for each customer class, as well as for all customers on average.
- Rate and average bill impact estimates should present not only the absolute dollar increase in distribution rates and bills but also the percentage increase in distribution rates and bills.
- Rate and average bill impact estimates should present the percentage impact on total rates and bills, as well as the percentage impact on distribution rates and bills.
- Rate and average bill impact estimates should include ratepayer costs associated with the mandatory charge of 2.5 mills per kWh, as well as any other funds generated from the forward capacity market or the funds generated by RGGI, as these funds are not directly recovered from the Program Administrator's electricity customers.
- Rate and average bill impact estimates should account for the revenues that are collected through a revenue decoupling mechanism or through an interim lost base revenue adjustment mechanism.

D.P.U. 08-50-A at 57-58.

Further, as required by the Department's Order in D.P.U. 08-50-A, the model allows for:

- Estimates of both absolute and percentage impacts on total customer bills. *Id.* at 58.
- Factors in the effects of DRIPE. *Id.* at 59.
- The comparison of effects among programs participants and non-participants. *Id.* at 59.

The Program Administrators emphasize that the actual rate and bill impact that will be realized by a customer will depend on several variables, including the cost of service in a particular Program Administrator's service territory, the customer's actual individual usage, the level and quality of measure installation, and the availability of public or private funds other than those collected through the SBC for application towards energy efficiency expenditures, such as proceeds realized from the FCM or from cap-and-trade programs (e.g., the RGGI). Utilizing the model ultimately determined by the Bill Impacts Working Group, each individual Program Administrator will include a detailed, PA-specific rate and bill impact analysis for each of four

sectors (residential, low-income, small C&I, and large C&I) in its individual filing to be made at the Department on October 31, 2012.

At this time, the Program Administrators have prepared traditional bill impact models for review. Please see Appendix B for sample residential, low-income, and small C&I bill impacts using the traditional bill impact model, which show incremental bill impacts.

F. Statewide Programs

1. Strategic Overview of Residential, Low-Income, and C&I Programs and Program Consolidation

Throughout this 2013-2015 Plan, the Program Administrators intend to expand upon strategies to promote greater energy savings and peak demand reductions by building on existing programs and services. The PAs intend to continuously improve the methods by which programs are delivered by focusing on developing the suite of measures and practices in order to remain relevant over time. The Program Administrators will pursue new technologies and incentive structures to encourage expanded and more comprehensive program participation. Consistent with Council priorities, the depth of existing programs will also continue to expand over the next three years as new initiatives are introduced to increase participation and savings. Programs that address potential energy and demand savings in both existing buildings and new construction, which have a history of producing significant savings, will be ramped up and new initiatives will be developed and introduced.

In the 2013-2015 Plan, the PAs are providing consolidated programs, with several core initiatives available under each program. This consolidation will allow for increased flexibility to address market conditions and maximize savings, reduced customer confusion, and potentially reduce the need for mid-term modifications.

2. Consistent Messaging

A critical component of integration and seamless delivery is consistent messaging. The Program Administrators continue to improve and expand the statewide website (marketing portal) and marketing approach to increase customer awareness of program offerings and the Mass Save[®] mark as a representation of the consistency across all Program Administrators.¹⁷ Continued use of the Mass Save mark as the umbrella under which all Massachusetts energy efficiency programs operate will reinforce that the Program Administrator offerings across the state are seamless and consistent. Per with evaluation findings, the PAs will continue their practice of co-branding by using the Mass Save mark concurrently with the Program Administrators' brands, which represent highly recognizable local entities that are trusted by customers. The Program Administrators will continue their practice of communicating to customers that Mass Save is brought to them through the local utility or municipal aggregator. Individual Program Administrators will continue to implement their own complementary marketing initiatives to reinforce and support the overall statewide marketing strategy, as well as address unique local conditions and/or sub-markets in their service areas. These individual

¹⁷ Mass Save is a registered trademark of the Program Administrators and all rights thereto are reserved.

activities will be undertaken in consultation with all other Program Administrators in order to avoid inadvertent inconsistent messaging.¹⁸

3. Same Delivery Mechanism for Gas and Electric

The Program Administrators will continue to utilize consistent delivery mechanisms for gas and electric programs. While delivery will remain seamless across the state, the Program Administrators plan to continue to examine additional ways to reach new gas and electric customers. New delivery mechanisms for gas and electric will be explored from a statewide prospective (*e.g.*, with C&I customers, the feasibility of introducing a self service portal for smaller customers, personal conduits via web-based chat or telephone assistance, and provision of fee-based on-site assessments for C&I customers). In addition, the Program Administrators plan to expand upon current delivery mechanisms which have proven successful including expanding upstream offerings to include other gas and electric equipment within the replacement on failure market. Coordination and consistency among and between electric and gas PAs will continue to be a point of emphasis, including in the process of interacting with customers.

4. Review of New Technologies

There is a steady flow of new technologies being developed and offered to increase the efficiency of energy use for residential and C&I customers. Before incorporating new or unfamiliar technologies in their program offerings, the Program Administrators are responsible for performing a thorough review to ensure that such products or devices will provide cost-effective energy savings for their customers. To address the need for these reviews, the Program Administrators have established the Massachusetts Technical Assessment Committee (“MTAC”).

The MTAC consists of key technical staff from each Program Administrator as well as a representative of the advisor hired by the PAs to act as a facilitator for this committee. The MTAC reviews technical and incentive issues of statewide interest and is coordinated by a project manager designated by the Program Administrators represented in the committee. MTAC provides documented technical interpretations and technology assessments to the program implementers and is the authority for consistent program interpretation of technical matters for all of the participating Program Administrators. The MTAC has developed a set of protocols for the content of their review and procedures for documenting and disseminating their conclusions and technical interpretations. The MTAC meets as needed to address specific issues and during the annual Program review and planning periods.

Requests for program consideration of a new or unfamiliar technology that come from a vendor or customer are forwarded to the MTAC by the receiving Program Administrator or through the Mass Save website. This group can undertake or direct such tasks as:

- Research and analysis of specific measures that are candidates for inclusion in the programs.

¹⁸ Program Administrators have used the ENERGY STAR®, GasNetworks, and COOL SMART brands on a consistent basis for applicable equipment initiatives in order to help drive participation.

- Determination whether a specific new technology should be approved as a) a prescriptive measure eligible for all appropriate PA programs or b) a measure whose eligibility is limited to custom projects where savings and cost effectiveness are to be determined on a site-specific basis.
- When appropriate and agreed to by the respective Program Administrators, development of common program implementation materials or procedures including: technical specifications, technical study/commissioning protocols, equipment baseline reference sheets, inspection forms, and other technical and administrative support materials, for use by the respective Program Administrators' staff and contractors.
- Development and maintenance of statewide uniform "custom express" software applications which provide an expedited approach to calculating savings and incentives for certain custom technology projects.
- Recommendation of new items or changes to existing items on prescriptive offering lists, adjustments to savings estimations, and additions or modifications to the list of acceptable measures on an annual basis, or on a cycle and through a procedure to be determined.
- As-needed assignments to collect data and/or to produce recommendations which would allow the Program Administrators to address unanticipated program implementation issues.

5. Long-term Goals

The Plan's long-term goal is to provide a consistent set of statewide programs and strategies that can be delivered to customers in a seamless fashion, regardless of whether the customer is served by a combined gas/electric Program Administrator, by different gas and electric Program Administrators, or has facilities or projects in multiple Program Administrator service areas. Program Administrators will continue to explore ways to achieve this goal.

In line with increasing savings goals, the Program Administrators are looking to garner participation throughout market sectors that have had historically low participation rates in Massachusetts programs, while identifying ways to provide customers who are more active in Mass Save programs packaging of services to encourage the pursuit of more comprehensive projects.

Over this Three-Year Plan, the Program Administrators are committed to a continued focus on deeper savings, exploring ways to effectively encourage customers and trade allies to focus on more long-term, comprehensive and advanced energy efficiency solutions. The PAs also recognize that reducing or eliminating barriers to customer and vendor participation is an important driver of successful program operations, and the PAs will work to implement findings from process evaluations to streamline and improve programs. In addition, the Program Administrators will continue to improve delivery mechanisms to encourage statewide participation in energy efficiency programs by all customer segments.

6. Program Descriptions

a. *Residential Program & Core Initiative Descriptions*

Over the course of the next three years the PAs plan to build on the many successes that occurred in the electric and gas residential and low-income sectors during the initial three-year plan. As noted in the following program descriptions, there are many new program enhancements planned for 2013-2015. These enhancements are designed to take residential and low-income programs to the next level in terms of strategic program delivery and maximizing energy savings opportunities for our consumers.

While there are many new components within these descriptions, there are also fundamental program elements that will continue to serve as the core infrastructure for future innovation. The best example of this is the Home Energy Services initiative that provides the gateway for residential consumer participation and exposure to the broad array of complementary program initiatives that drive broader and deeper savings. The PAs plan to enhance and refine this recently redesigned initiative (strongly supported by the Council) through greater initiative integration and inclusion of innovative strategies designed to minimize participation barriers.

As noted throughout this Plan, the PAs are committed to building upon the other successful electric and gas residential and low-income programs through greater integration, introduction and acceleration of new technologies such as LED lighting, strategic focus on multi-family and performance-based community engagement initiatives, combined with an overall goal of delivering robust, cost-effective programs.

RESIDENTIAL WHOLE HOUSE PROGRAM

Description:

This program focuses on comprehensive gas and electric energy efficiency opportunities associated with mechanical, electrical and thermal systems in existing residential single homes and multi-family facilities. It offers energy assessments and provides technical assistance and incentives in a variety of core initiatives to encourage whole house or whole building upgrades of measures and equipment with a higher efficiency product. The program also includes new construction opportunities in conjunction with retrofit efforts for residential customers in the Commonwealth.

Mass Saver Combo Events Tour Malls and Outlets Across the State



Cape Light Compact booth, shown here at the Cape Cod Mall, distributed 2,500 packages of the most cost effective energy efficient lighting products to customers between March & April, 2012. Statewide, all PAs distributed over 21,000 packages through similar mall events during 2011.

Program services include technical assistance (to identify and quantify opportunities), and financial incentives, typically based on a percentage of project costs (both material and labor) that make upgrades attractive to building owners, home owners, tenants and new construction builders. The Program Administrators also partner with advocates, building scientists, and regulators to ensure that the best practices in building design and equipment specifications introduced and propagated by the program are ultimately built into the evolution of better building requirements.

For the 2013-15 Plan, the Program Administrators are proposing to include all whole house core initiatives (*i.e.*, HES, Multi-Family Retrofit, Residential New Construction) within the overall Residential Whole House Program. As the name implies, this program targets residential single family homes and residential multi-family dwellings by addressing the entire home or facility with energy efficiency opportunities. The core initiatives offer incentives, for recommended retrofit measures including lighting, refrigeration, insulation and air sealing, and coordinates with the Residential Products Program to incorporate technologies such as heating and cooling equipment, controls, and programmable thermostats. In addition to the financial incentives, the HES and Multi-Family Retrofit core initiatives allow participants to qualify for interest-free loans for the customer portion of project costs.

<u>SECTOR</u>	<u>PROGRAM</u>	<u>CORE INITIATIVE</u>	<u>ADMINISTERED BY</u>	
RESIDENTIAL	WHOLE HOUSE	RESIDENTIAL NEW CONSTRUCTION	ELECTRIC & GAS PAs	<ul style="list-style-type: none"> • JOINT
Core Initiative Overview	<p>Key Objectives:</p> <p>The Massachusetts Residential New Construction (“RNC”) Core Initiative strives to increase the construction of energy efficient market rate homes that exceed the state’s energy code. To address the challenges of rising energy codes and a downturn in the housing market, the Program Administrators will look to incorporate the lessons learned from the past three years and the associated initiative pilots (lighting design and multi-family new construction) to increase participation and energy savings.</p> <p>The PAs will continue working with the Home Energy Rating System (“HERS”) infrastructure and provide ongoing training to the construction industry. The initiative is a proud participant of the national ENERGY STAR® Homes Program and benefits from the regional, as well as national, advertising efforts that ENERGY STAR® Homes implements.</p>			
	<p>New Enhancements</p> <ul style="list-style-type: none"> • The PAs seek to incorporate the lighting design and multi-family new construction pilots mentioned above. • The initiative will transition to prescriptive offerings for homes exceeding the Massachusetts User Defined Reference Home (“UDRH”). <p>These additional initiative enhancements, will build on the current initiative structure to increase participation and energy savings. The prescriptive offerings are detailed in the “Core Initiative Design” section below.</p>			

Core Initiative Design

The PAs continue their strong commitment to a whole-house approach for the residential new construction market. The initiative is committed to achieving both a broader market penetration of energy-efficient homes as well as moving builders toward deeper energy savings where possible. The PAs will strive to both retain existing participating builders and recruit additional homebuilders and contractors. The PAs will train builders on the Environmental Protection Agency's ("EPA") ENERGY STAR® Homes Program in support of the 2012 Massachusetts Stretch Energy Code.

The initiative will provide incentives for projects exceeding the UDRH:

- Prescriptive Option 1 – a bundle of prescriptive measures that address heating, cooling, and hot water equipment, lighting, water use reduction, and efficient appliances
- Prescriptive Option 2 - a bundle of prescriptive measures that include all Option 1 measures as well as enhanced envelope air tightness and duct tightness
- Prescriptive Option 3 - a bundle of prescriptive measures that include all Option 1 & 2 measures as well as enhanced envelope thermal performance
- Prescriptive Option 4 - a bundle of prescriptive measures that include all Option 1, 2, 3 measures as well as Passive House Certification or EPA ENERGY STAR® Version 3 certification

Builders are encouraged to improve a building's energy usage through enhanced envelope measures, energy efficient space and water heating, appropriately sized cooling equipment, programmable thermostats, ENERGY STAR® qualified appliances, Water Sense plumbing fixtures, efficient lighting and controls, and proper mechanical ventilation. Builders are also encouraged to properly orient homes to take advantage of passive heating and cooling.

All homes participating in the initiative are required to install efficient lighting products in appropriate hard wired sockets and pass a final verification inspection. As energy codes become more stringent, the PAs will continue to encourage proper lighting design and the installation of new, cutting edge, lighting products and controls. A single family home is defined as a single family detached house, while a multi-family home is defined as two or more attached units. All residential new construction projects in the Commonwealth are encouraged to participate in the initiative. Mixed-use and large buildings are addressed on a custom basis in cooperation with the commercial initiatives.

The Multi-Family New Construction ("MFNC") core initiative offers incentives to eligible 4+ story multi-

	<p>family facilities that are located in participating PA territories. The goal of the MFNC core initiative is to provide a seamless transition from the current multi-family pilot to a fully integrated initiative. This initiative will take the lessons learned from the three year pilot and continue to provide a single point-of-contact for the participants and service for all fuel sources and meter configurations. A suite of offerings will include a comprehensive list of measures, such as wall insulation, heating systems, instant savings domestic hot water measures, appliances, lighting, and controls, to maximize energy savings above Massachusetts energy code.</p>
Marketing Overview	<p>Target Market:</p> <ul style="list-style-type: none"> • Homebuilders/Developers • Contractors • Architects/Designers • Trade allies • HERS raters • Homebuyers • Realtors • Code Officials • Appraisers/Mortgage bankers
	<p>Strategy:</p> <p>The initiative will use a combination of the following to reach the target markets: trade shows, builder training (on-site and lecture), lumber yard outreach, strategic partnerships such as Home Builders Associations (“HBA”), geo-specific targeting based on construction activity.</p>
Technologies/Incentives	<p>The following is a list of targeted end uses, recommended technologies, and incentives offered:</p> <p>The PAs are currently modeling prescriptive bundle options as well as the multi-family new construction initiative offerings and have not yet finalized specific measures or incentive levels. The PAs will work with the MTAC to include new measures or technologies as appropriate.</p>
Delivery Mechanism	<p>The initiative is administered statewide by the PAs. Through a competitive bid process, the PAs chose a</p>

	<p>statewide implementation vendor to oversee the daily operations. The vendor is responsible for tracking and reporting program activity to each PA. Throughout the planned timeframe, the PAs will continue to work with the market-based network of trained contractors who offer energy efficiency and rating services to homebuilders.</p> <p>The PAs will deliver in-depth trainings to the target market in the fundamentals of building science, energy codes, and the latest emerging technologies to promote the initiative, as well as support workforce development efforts through the Green Jobs Act.</p>
<p>Three-Year Deployment Strategy/Roadmap</p>	<p>For residential new construction, the efforts to achieve both deeper savings and gain broader market penetration will continue through multiple channels of participation, one of which continues to push homes closer to net zero energy. The initiative is dedicated to promoting energy efficient new construction by supporting the target market.</p> <p>For the three-year deployment, the PAs will focus on:</p> <ul style="list-style-type: none"> • Streamline and simplify initiative offerings to reduce complexity and increase participation • Support target market in achieving deeper levels of energy savings with relevant trainings • Expansion of the base of participating builders/homeowners • Continued coordination with existing and new market allies • Continue to promote consumer awareness through statewide marketing
<p>Special Notes</p>	<p>For homes enrolled in the 2012 initiative, the PAs will grandfather these projects under the 2012 performance incentive tiers until November 1, 2013.</p> <p>The PAs will include preliminary incentives amounts and prescriptive option details in the September version of this document.</p>

<u>SECTOR</u>	<u>PROGRAM</u>	<u>CORE INITIATIVE</u>	<u>ADMINISTERED BY</u>	
RESIDENTIAL	WHOLE HOUSE	HOME ENERGY SERVICES	ELECTRIC & GAS PAs	<ul style="list-style-type: none"> • JOINT
Core Initiative Overview	<p>Key Objectives:</p> <p>To offer single family (1-4 units) residential customers energy efficiency recommendations and incentives that enable those customers to identify and implement cost-effective energy efficiency improvements. The Home Energy Services (“HES”) Core Initiative utilizes outreach mechanisms, cross-marketing, incentives, and financing to make it easy, clear, and compelling for customers to participate in all residential energy efficiency programs. The program exemplifies a program-as-a-system approach where all components work together to support the success of achieving deeper energy savings per customer.</p> <hr/> <p>New Enhancements:</p> <p>The PAs are considering various initiatives for implementation over the next three years. However, as the redesigned market model continues into the next three year plan, it is our recommendation that new initiatives are phased in throughout the three-year plan. As Independent Installation Contractors and Home Performance Contractors are still familiarizing themselves with the new program model, we believe it is best to allow adequate time for the contractors to become proficient. Also, to ensure proper roll out, the PAs recommend allowing for adequate planning of timelines for various initiatives to include a test period and review prior to launch.</p> <p>Near term</p> <ul style="list-style-type: none"> • PAs plan to investigate the opportunity to incorporate cost-effective new technologies and measures (e.g. smart power strips, LEDs, advanced insulation including spray foam insulation) • PAs intend to explore offering recognition events to encourage contractors to maintain high quality 			

	<p>work, highlight best practices and recognize various program partners for excelling in their profession.</p> <ul style="list-style-type: none"> • PAs plan to explore enhanced customer follow-up strategies to encourage increased major measure implementation. Strategies may include targeted emails and mailings. • PAs intend to investigate online options for customer sign-up/tracking by enhancing web/mobile friendly applications for ease of customer use. For example, PAs would like to explore capturing customer interest in receiving a Home Energy Assessment through the online portal. • PAs intend to define the hard to reach/hard to serve market and explore solutions. PAs plan to investigate options to overcome tenant-landlord barriers to program participation, focusing on clear program outreach to maximize savings and benefits from this hard to reach/ hard to serve market. PAs plan to build on lessons learned from past experience. • PAs plan to review evaluation results from the 2012 pre-weatherization barrier initiative, which offered incentives to evaluate conditions and remediate health and safety barriers such as knob and tube wiring, dryer vents, and combustion safety. Based on the analysis, PAs intend to design a standard pre-weatherization barrier offer and may review incentives for other barriers. • PAs intend to continue supporting the development of highly qualified Home Performance Contractors (“HPCs”) and Independent Insulation Contractors (“IICs”) by offering various training subsidies for workforce development needs such as technical skills, business skills, and sales trainings. • PAs intend to explore a shared incentive approach in multi-unit buildings to maximize the incentive among all units in the building to achieve deeper energy savings. This approach will address a whole-building approach as opposed to a unit-focused approach. • PAs plan to continue engagement with community groups and initiatives to market HES. Refer to the <i>Elements of a Community Model</i> section submitted as part of Metric #2 of the “2011 Community Outreach Report”, as well as the Community Engagement description in Section III.H.2 of this Plan. • PAs intend to test the efficacy of enhanced incentives to increase penetration into hard to reach markets, such as 2-4 unit dwellings and customers at 60-80% of AMI in 2013. PAs will seek to incorporate lessons learned from a similar program offered in the early 2000’s. PAs intend to use
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	<p>lessons learned from the 2013 trial offer to implement a broad offering in 2014 and beyond.</p> <ul style="list-style-type: none"> • PAs plan to review the HPC evaluation results to identify any variations in customer experience and implementation rates to develop strategies for continued improvements. Recommendations may be implemented among Lead Vendor Energy Specialists and Home Performance Contractors. <p>Longer term</p> <ul style="list-style-type: none"> • PAs anticipate offering deeper energy savings based upon lessons learned from the major renovations, including additions and deep energy retrofit pilots. Significant research is necessary to develop the trainings needed to build the contractor infrastructure to implement this initiative successfully. • PAs intend to explore possible partnerships and incentive offerings with trade allies such as fuel dealers, general contractors, roofers, and siding contractors to increase customer participation by promoting the HES initiative. • PAs plan to review the results of the 2011 “Packaged Measures Pilot” for lessons learned to develop a cost-effective package or bundle of incentives for customers to implement multiple deeper energy savings measures.
<p>Core Initiative Design</p>	<p>The HES core initiative is committed to a comprehensive whole-house approach and seeks to maximize energy savings. The initiative directs customers using natural gas for space heating to their gas provider and customers using electric, oil or propane for space heating to their electric provider. It is also recognized that exceptions to this guideline may occur (<i>e.g.</i>, specialized high bill complaints, community outreach programs, etc.). In these cases, and unless there are prior mutual agreements between the gas and electric PAs, the PAs will seek to negotiate in good faith to achieve a resolution that serves the common interests of both PAs, the interests of the consumer, and maximizes savings opportunities on a fuel-neutral basis. The initiative is committed to achieving maximum program success and deeper energy savings. The program aims to make distinctions indiscernible to consumers.</p> <p>The service is intended to be customizable, providing personalized information and incentives to a broad group of customers. Customers are guided to the appropriate program services, including targeted energy efficiency information, advanced diagnostics, and efficiency rebates and incentives. Low-income</p>

customers are referred to appropriate low-income programs.

The PAs currently offer one single comprehensive assessment, called the Home Energy Assessment.

This assessment is an in-home visit designed to provide general information and education about energy efficiency and identify opportunities and challenges for energy saving installations. With the customer's permission, Compact Fluorescent Lights ("CFLs") are installed for no cost in all appropriate locations, as are low-flow shower heads, faucet aerators and programmable thermostats (as needed and qualified). The instant energy savings realized during the Home Energy Assessment are intended, on average, to exceed the expected average cost to deliver this visit. Additionally, during this visit, customers' specific needs will be evaluated, and opportunities for subsequent direct installation measures may be identified. Customers will be directed to other energy-efficiency resources as appropriate.

The Home Energy Assessment also includes a variety of diagnostic techniques such as infrared scanning (temperature permitting). Wherever feasible, full installation of targeted cost-effective air sealing is provided at no cost to the customer. In all cases where the customer elects the fully subsidized air sealing offer, or installation of insulation, a blower door test and combustion safety test will be performed pre and post installation to maximize air leakage reduction and maintain combustion safety standards. If specific energy-efficient improvements require professional contractors, or a customer contribution, the Energy Specialist explains the contractor services required to install recommended measures, as well as all available energy efficiency financial incentives.

Another visit, the Special Home Visit, may be scheduled for those customers interested in measure screening such as a refrigerator screening or in "no heat" emergency situations where a pre-screening for an applicable incentive is required. An Energy Specialist will perform a quick assessment of the home for energy efficiency opportunities, install instant savings measures (where appropriate), and screen the refrigerator or heating system for upgrade eligibility. A customer may be scheduled for a Special Home Visit as determined during the initial intake process.

To ensure all work is completed to the PAs' standards, the Quality Assurance Visit allows all work to be inspected. This may be done through a combination of methods, including a phone survey, postcard, e-mail or actual site visit by the lead vendor and/or a third-party PA-approved vendor. Quality inspections are performed to ensure that contractor-installed measures are accurate, professional, and safely installed

	<p>based on initiative standards, as well as to ensure savings.</p> <p>The PAs strive to maximize energy savings by promoting and supporting contractor training and education in an effort to establish a broader workforce knowledgeable of proper installation techniques. The goal is to have a sustainable and experienced workforce focused on achieving maximum energy savings and ready and able to meet customer demand.</p>
<p>Marketing Overview</p>	<p>Target Market:</p> <p>The HES initiative target market is all non-low-income residential customers living in single family houses or one- to four-unit buildings that are not part of a larger site where an association exists (such as a condo association with multiple 4-unit buildings). The initiative aims to reach the aforementioned customers who are interested in making their homes more energy efficient. HES is a fuel-blind initiative.</p> <hr/> <p>Strategy:</p> <p>Outreach and marketing efforts will be expanded and PAs plan to explore building relationships with realtors, home improvement contractors, architects and others involved in renovations of one-to-four family homes. Marketing efforts will be designed to meet the objectives of reaching more customers (going broader into the customer base) and maximizing energy savings opportunities (going deeper into each home to find ways to save energy). The PAs will also continue market segmentation work to strategically target customers with the most opportunity as to increase the rate of audits that result in energy efficiency measure recommendations.</p> <p>The PAs plan to work closely with Independent Installation Contractors and Home Performance Contractors as a means to increase participation and consumer savings. Further, the PAs plan to continue to seek new ways to identify, educate and reach landlords and other hard to reach/ hard to serve customers to increase participation. Efforts may include targeted marketing based on identified key demographics to better reach the 2-4 unit property sector.</p> <p>The initiative’s multi-media outreach campaign will focus on partnerships with local media outlets or affiliates, radio, print advertising, web-based marketing through various social media sites, and through</p>

part of the consolidated website, www.masssave.com, which integrates all of the Massachusetts energy efficiency programs and incentives into a single source web-based outlet.

Current forms of multi-media outreach include:

- Mass Save[®] website (enhanced via the Statewide Integrated Energy Efficiency Website)
- Bill inserts
- Highly visible billboards
- Radio, print and visual media advertising
- Registry of Motor Vehicle advertising
- Cinema advertising
- New media advertising (advanced online options)
- Targeted outreach through Community-based Outreach Initiatives (“CBOs”). These initiatives utilize community outreach for promoting this program and the array of incentives available.

Individual Program Administrators may conduct additional marketing, such as behavior feedback mechanisms, if applicable and may ramp their marketing up or down as needed to meet participation and budget goals.

Technologies/Incentives

The following is a list of targeted end uses, recommended technologies, and incentives offered:

Targeted End Use	Technology	Incentive
Immediate savings measures	Lighting, low cost DHW measures	100% subsidy
Heating and Cooling	Targeted cost effective air sealing	100% subsidy
Heating and Cooling	Insulation	75% up to \$2,000
Heating	Electric heat thermostats	100% subsidy
Heating	Heating System	Varies
Water Heating	DHW Heating System	Varies

Additionally:

- 0% financing HEAT Loan offers \$500-\$25,000 with terms from 2 - 7 years for qualified customers

	<ul style="list-style-type: none"> • LED lighting will be explored for inclusion in the program • Alternative insulation types, if cost effective, (<i>e.g.</i>, spray foam, rock wool) will be incorporated into the program offers • Pre-weatherization offers • Early heating system and heat pump water heater replacement rebates • The PAs will work with the MTAC to include new measures or technologies as appropriate.
<p>Delivery Mechanism</p>	<p>The program is delivered by lead vendors selected through a competitive bidding process. Lead vendors are responsible for managing and training market based participants such as participating IICs and HPCs. Additional lead vendor responsibilities include:</p> <ul style="list-style-type: none"> • Consistent statewide training • Data reporting • Achieving aggressive savings • Customer satisfaction • Quality control standards • Scheduling requirements • Technical Assistance • Maintain and report health and safety information <p>Two groups of participating contractors, Home Performance Contractors (“HPCs”), and Independent Installation Contractors (“IICs”) provide services in addition to those services offered by the lead vendor. All participating contractors must meet program eligibility and requirements. HPCs independently recruit customers, provide Home Energy Assessments, and implement weatherization measures. IICs provide installation of weatherization measures for those customers who received a Home Energy Assessment from the lead vendor. IICs also have the opportunity to independently recruit customers and refer them to the lead vendor for the Home Energy Assessment.</p> <p>In order to receive incentives or program rebates, customers are required to have a Home Energy Assessment through either the PAs lead vendor or via a participating Home Performance Contractor to identify and prioritize all cost-effective energy efficiency upgrades. Insulation work, whether performed by a Home Performance Contractor or Independent Installation Contractor, will have a quality control</p>

	<p>inspection performed by the PA-vendor, or third party vendor when the work is complete. This will ensure that high quality is maintained, and installations meet BPI standards or similar standards set by the PAs. After a competitive bidding process, the PAs contracted with a third-party Quality Control (“QC”) vendor to perform QC inspections of program implementation vendors, and participating contractors. The QC vendor will provide valuable information and feedback to the HES members on successes and identify areas of possible improvement.</p> <p>The HES members are working together toward a “best practices” approach to provide a more coordinated statewide training to reinforce quality installation techniques in HES. It is expected that training requirements will increase over time in order for contractors to retain their status as a HES participating contractor. Additionally, contractors must maintain a high level of customer satisfaction to continue participating in the initiative.</p>
<p>Three-Year Deployment Strategy/Roadmap</p>	<p>With the numerous enhancements that have been identified for this initiative, HES will continue to prioritize the enhancements that will lead to the most benefits for the largest number of customers. PAs intend to better capture and utilize property data for the purpose of identifying properties with potential installation opportunities to implement targeting marketing efforts. PAs will continue to explore new technologies in conjunction with significantly increasing the implementation of known cost effective measures. PAs intend to continue to develop the proficiency of participating contractors through establishing qualification/training guidelines using the BPI or its equivalent as a benchmark. Please see ‘Core Initiative Overview’ section for near term and longer term enhancements that will be explored in this three-year plan.</p>
<p>Special Notes</p>	<p>HES underwent significant changes in 2011, and numerous enhancements are proposed to continually address customer needs. The priorities have been made to address the most customers with the biggest savings impacts. The PAs will continue to refine the priorities as evaluations are completed. The key to proposed efforts will be to research, train, and test theories before full-blown implementation to ensure that the PAs are addressing opportunities with the best information available. One key effort, Efficient Neighborhoods+, will address hard to reach/hard to serve customers in economically challenged neighborhoods. For further detail, please refer to section III.F.6.b.i.</p>

<u>SECTOR</u>	<u>PROGRAM</u>	<u>CORE INITIATIVE</u>	<u>ADMINISTERED BY</u>	
RESIDENTIAL	WHOLE HOUSE	MULTI-FAMILY RETROFIT	ELECTRIC & GAS PAs	<ul style="list-style-type: none"> • JOINT
Core Initiative Overview	<p>Key Objectives:</p> <p>The Multi-Family Retrofit core initiative offers energy assessments to eligible multi-family facilities, containing five or more dwelling units that are located in participating PA service territories. Incentives are offered for eligible cost-effective improvements that increase gas and electric efficiency (including, but not limited to lighting, hot water measures, shell improvements, heating, cooling and water heating equipment and controls). They are supplemented by additional incentives and services from the applicable C&I initiatives.</p> <hr/> <p>New Enhancements:</p> <p>Strategies under consideration to achieve deeper savings include:</p> <ul style="list-style-type: none"> • Differentiated services for condominiums • Incorporate additional emerging technologies • Modify weatherization incentives to master-metered gas heated sites for greater consistency across the entire multi-family sector • Consider expanding offerings to certain multi-family market segments to allow customers to receive incentives for deliverable fuel efficiency improvements from their electric PA • Target landlord, building management, building operator trade associations, and design professionals, including the expansion of successful case studies • Renew focus on coordinating the multi-family and commercial initiatives to streamline delivery of 			

	<p>packaged, comprehensive energy efficiency services to the multi-family sector.</p> <ul style="list-style-type: none"> • Develop opportunities for lead generation through other PA programs.
<p>Core Initiative Design</p>	<p>The initiative design is based upon the following guiding principles:</p> <ul style="list-style-type: none"> • Participants will initiate a request for all services offered by the initiative through one party, without the need to directly contact multiple program administrators or multiple parties within the same program administrator. Throughout the project life cycle, the participant will have access to a single point-of contact that will facilitate all programmatic communication and coordination. • Eligibility for initiative measures and services will be based on cost-effectiveness and will not be restricted by the rate class associated with the meter(s) for the facility. • The initiative is structured to ensure that participants are provided with an integrated “whole facility” assessment that would provide the customer with documented opportunities for improvement regardless of fuel type. <p>The PAs strive to deliver a fully integrated offering to a participant, regardless of fuel type, service territory or rate class, in a manner that will result in a seamless customer experience, thus mitigating the potential for customer confusion and lost opportunities. An integral part of the initiative’s design involves the services of a Multi-Family Market Integrator (“MMI”) who provides a single point-of-contact at intake to help ensure the seamless delivery of the initiative’s phases described below.</p> <p><u>Participant Screening:</u> Delivering energy efficiency services to the multi-family market is challenging because of the many variations in size and construction, as well as ownership and decision making structures that exist. The Program Administrators will ensure that the services offered by the Multi-Family Retrofit Core Initiative are easily scalable to accommodate simple projects to highly complex projects. In addition, there will be a screening process to identify where along this continuum a project lies. The screening information will be obtained when the potential participant is contacted upon enrollment. It is during the initial discussion with the potential participant, that the MMI will gain a better understanding of the end uses available for treatment and the motivations that drove the potential participant to solicit energy efficiency services. Armed with this information, the MMI will explain that, in addition to the measures initially requested, a more complete assessment may be performed to identify other energy savings opportunities. By</p>

motivating the participant to accept the whole facility assessment, the project could ultimately result in deeper savings than otherwise would have been realized.

Enrollment:

Because of the diversity within the multi-family sector and the various market actors that may be involved in lead generation, the Initiative allows for multiple points of entry that will all ultimately provide participants with comprehensive offerings and a seamless experience. Participants may enroll via telephone or their request for services may be initiated by other market actors, such as a PA's Account Executive, referral from another PA initiative, a contractor, a consultant or engineer. Each participant will need to contact only one party to avail themselves of comprehensive services. Once the MMI is made aware of a project (either via telephone or lead from another market actor), he or she reviews the information provided then makes the initial contact with the customer and collects further information, as needed, to complete the enrollment.

Whole Facility Assessment

Based on the outcome of the screening/enrollment process, the appropriate technical resources will be assigned to conduct a whole facility, fuel-blind assessment. The MMI will attempt, through the screening process, to identify all resources required for the assessment; however, there may be instances where additional expertise is required and further site visits may be necessary. Technical assessments, benchmarking, and engineering studies may be conducted on a custom basis.

Proposal for Energy Efficiency Services

Using the findings from the site specific assessment, the appropriate parties will draft a project proposal that will include measures, other available services and incentives. Once the comprehensive offer receives PA approval, it will be presented to the participant by the parties required to help the customer fully understand the offering.

Delivery of Measures and Services

The implementation vendor(s) will coordinate the delivery of the measures and services opted by the customer. To the extent possible, all dwelling unit measures will be installed in a single visit to minimize disruption for the tenants; however, multiple visits may be required for the installation of common area measures. The multi-family core initiative will continue to integrate with the commercial initiatives for applicable measures and services for seamless delivery to the customer.

	<p><u>Quality Assurance</u> Quality assurance will be performed in support of this initiative. After a competitive bidding process, the PAs contracted with a third-party Quality Assurance/Quality Control (“QA/QC”) vendor to perform inspections on a select percentage of projects. The QA/QC vendor will provide valuable information and feedback on successes and identify areas of possible improvement. These inspections will be in addition to the final inspections already performed by the implementation vendors of their subcontractors.</p> <p><u>Additional Core Initiative Design Elements</u></p> <ul style="list-style-type: none"> • A link to the current EPA Benchmarking tool (Portfolio Manager), or other comparable tool, is included on the website page(s) associated with the Multi-Family Retrofit Core Initiative. This will allow building owners/managers to assess the energy efficiency of their buildings against comparable facilities. <p>The PAs recognize that proper training for building operator and maintenance staff is a key factor in ensuring that expected savings are realized initially and persist over time. PAs plan to fund training events and opportunities as appropriate.</p>
<p>Marketing Overview</p>	<p>Target Market:</p> <p>Residential multi-family facilities with five or more dwelling units. The initiative will address unique circumstances associated with mixed use buildings.</p>
	<p>Strategy:</p> <ul style="list-style-type: none"> • Strategies for marketing to target market and industry actors should focus on, but not be limited to: lower energy and maintenance costs, more durable and comfortable building, enhanced property value, generous financial incentives, tenant retention, and environmental benefits for your community. • Continue to develop and promote case studies for print and online media to help educate and market to facility owners. • Develop additional marketing strategies to capture and use data on participant in other initiatives to help achieve deeper market penetration.

	<ul style="list-style-type: none"> • Target landlord, building management, building operator trade associations, and design professionals, including the expansion of successful case studies. • PAs will investigate ways to enhance the online user experience. • Continue to build on the MMI relationship with larger property manager to enroll complete portfolios of eligible sites. • Explore opportunities in industry newsletters to educate market actors such as engineers, realtors, architects and/or property manager. • Participate, as appropriate, in trade ally shows, such as realtor conferences, multi-family property manager conferences, for example: the Rental Housing Association Conference and Expo. 																																										
Technologies/Incentives	<p>The following is a list of targeted end uses, recommended technologies, and incentives offered for qualified replacements with dollars caps (as applicable):</p> <table border="1" data-bbox="541 716 1904 1377"> <thead> <tr> <th data-bbox="541 716 951 773">Targeted End Use</th> <th data-bbox="951 716 1516 773">Technology</th> <th data-bbox="1516 716 1904 773">Incentive</th> </tr> </thead> <tbody> <tr> <td data-bbox="541 773 951 813">In Unit Lighting</td> <td data-bbox="951 773 1516 813">Compact Fluorescent Light Bulbs</td> <td data-bbox="1516 773 1904 813">No Cost to Customer</td> </tr> <tr> <td data-bbox="541 813 951 886">In Unit Lighting</td> <td data-bbox="951 813 1516 886">ENERGY STAR[®] Rated Light Fixtures (in unit)</td> <td data-bbox="1516 813 1904 886">No Cost to Customer</td> </tr> <tr> <td data-bbox="541 886 951 1000">In Unit Lighting</td> <td data-bbox="951 886 1516 1000">LED technology</td> <td data-bbox="1516 886 1904 1000">Copayment to be determined based on cost-effectiveness screening</td> </tr> <tr> <td data-bbox="541 1000 951 1040">Water Conservation</td> <td data-bbox="951 1000 1516 1040">Faucet Aerators and Showerheads</td> <td data-bbox="1516 1000 1904 1040">No Cost to Customer</td> </tr> <tr> <td data-bbox="541 1040 951 1081">Heating and Cooling</td> <td data-bbox="951 1040 1516 1081">Programmable Thermostats</td> <td data-bbox="1516 1040 1904 1081">No Cost to Customer</td> </tr> <tr> <td data-bbox="541 1081 951 1122">Weatherization</td> <td data-bbox="951 1081 1516 1122">Air Sealing</td> <td data-bbox="1516 1081 1904 1122">No Cost to Customer</td> </tr> <tr> <td data-bbox="541 1122 951 1162">DHW Insulation</td> <td data-bbox="951 1122 1516 1162">Pipe Insulation</td> <td data-bbox="1516 1122 1904 1162">No Cost to Customer</td> </tr> <tr> <td data-bbox="541 1162 951 1203">Electricity Conservation</td> <td data-bbox="951 1162 1516 1203">Smart Strips</td> <td data-bbox="1516 1162 1904 1203">No Cost to Customer</td> </tr> <tr> <td data-bbox="541 1203 951 1243">In Unit Lighting</td> <td data-bbox="951 1203 1516 1243">Night Lights</td> <td data-bbox="1516 1203 1904 1243">No Cost to Customer</td> </tr> <tr> <td data-bbox="541 1243 951 1284">Insulation</td> <td data-bbox="951 1243 1516 1284">Attic Insulation</td> <td data-bbox="1516 1243 1904 1284">75% Incentive</td> </tr> <tr> <td data-bbox="541 1284 951 1325">Insulation</td> <td data-bbox="951 1284 1516 1325">Wall Insulation</td> <td data-bbox="1516 1284 1904 1325">75% Incentive</td> </tr> <tr> <td data-bbox="541 1325 951 1365">Insulation</td> <td data-bbox="951 1325 1516 1365">Basement/ Crawl Space Insulation</td> <td data-bbox="1516 1325 1904 1365">75% Incentive</td> </tr> <tr> <td data-bbox="541 1365 951 1416">Insulation</td> <td data-bbox="951 1365 1516 1416">Rim Joist Insulation</td> <td data-bbox="1516 1365 1904 1416">75% Incentive</td> </tr> </tbody> </table>	Targeted End Use	Technology	Incentive	In Unit Lighting	Compact Fluorescent Light Bulbs	No Cost to Customer	In Unit Lighting	ENERGY STAR [®] Rated Light Fixtures (in unit)	No Cost to Customer	In Unit Lighting	LED technology	Copayment to be determined based on cost-effectiveness screening	Water Conservation	Faucet Aerators and Showerheads	No Cost to Customer	Heating and Cooling	Programmable Thermostats	No Cost to Customer	Weatherization	Air Sealing	No Cost to Customer	DHW Insulation	Pipe Insulation	No Cost to Customer	Electricity Conservation	Smart Strips	No Cost to Customer	In Unit Lighting	Night Lights	No Cost to Customer	Insulation	Attic Insulation	75% Incentive	Insulation	Wall Insulation	75% Incentive	Insulation	Basement/ Crawl Space Insulation	75% Incentive	Insulation	Rim Joist Insulation	75% Incentive
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	Common Space Lighting	ENERGY STAR [®] Light Fixtures for Common Areas	\$10 Co-Payment per fixture
	Common Space Lighting	Metal Halide Pulse Start Lighting	\$10 Co-Payment per fixture
	Common Space Lighting	Daylight Dimming	\$10 Co-Payment per fixture
	Common Space Lighting	Occupancy Sensors: Remote Mount	\$10 Co-Payment per fixture
	Common Space Lighting	Occupancy Sensors: Wall Mount	\$10 Co-Payment per fixture
	Common Space Lighting	HIF and HID: Wall Mount	\$10 Co-Payment per fixture
	Common Space Lighting	HIF and HID: Ceiling Mount	\$10 Co-Payment per fixture
	Safety and Lighting	Exit Signs	\$10 Co-Payment per fixture
	Common Space Lighting	LED technology	Copayment to be determined based on cost-effectiveness screening
	Appliances	ENERGY STAR [®] Rated Refrigerator	\$150 For Qualified Replacements
	Future Technologies under consideration:		
	Domestic Hot Water	Demand Control Circulators	Copayment determined on a custom basis after cost-effectiveness screening
	Controls	WiFi Thermostats	Incentive to be determined
Indoor Air Quality	Improved ventilation systems	Custom incentive, based on cost-effectiveness	
<p>Additionally, the PAs will work with the MTAC to include new measures or technologies as appropriate.</p> <p>Commercially metered projects are eligible for the same instant savings measures and will be referred to the C&I program measures list for any applicable custom improvements.</p> <p>The multi-family core initiative will extend the residential 0% HEAT Loan to residentially metered condominium owners residing in facilities with five or more dwelling units.</p>			
Delivery Mechanism	The initiative will be administered cooperatively by the gas and electric Program Administrators. Each PA is represented in the Multi-Family Working Group which will continue to be responsible for oversight		

	<p>of the initiative and promoting continuous improvement/best practices with regard to the multi-family market.</p> <p>The MMI role will be a key to the delivery of this fully integrated statewide Multi-Family Retrofit Core Initiative. The MMI creates a seamless customer experience for participants regardless of the fuels, rates and service territories involved in a project. The MMI will be responsible for facilitating the delivery of the initiative’s services as well as acting as the conduit through which participant questions and concerns are directed to ensure that participants are not required to directly contact multiple parties during the project lifecycle.</p> <p>Provisions will be made within the delivery process to allow for participants to use their own staff or contractors to install the measures, provided that they have PA approval which will involve providing documentation of their qualifications prior to the installation.</p>
<p>Three-Year Deployment Strategy/Roadmap</p>	<p>The PAs will continue to coordinate efforts through the MMI and other PA initiatives to ensure consistent implementation across the Commonwealth for the next three years. The PAs will accomplish training by working with industry stakeholders, implementation vendors and the MMI. The Multi-Family Working Group will continually review and evaluate new, applicable measures and technologies. Through marketing efforts the PAs plan to broaden participation and incorporate deeper savings opportunities using a comprehensive, whole facility approach.</p> <p>The Multi-Family Working Group will continue to coordinate with the Residential and C&I Management Committees and the Low Income Best Practices group to ensure consistency and support for an integrated initiative.</p>
<p>Special Notes</p>	

RESIDENTIAL PRODUCTS

Description:

The Residential Products Program is designed to optimize the efficiency of lighting, heating and cooling equipment used by residential customers served by the Program Administrators. In the 2013-15 Plan, the Program Administrators are proposing to include all the product-focused core initiatives (*i.e.*, Residential Heating, Water Heating, Cooling, and ENERGY STAR[®] Lighting and Consumer Products) within the broader Residential Products Program. In this Program, the Program Administrators partner with retailers, manufacturers, distributors, and trade allies to ensure the highest quality, energy efficient products are introduced and promoted to the residential consumer market. The core initiatives offer incentives, for a variety of cost-effective, qualified lighting products, ENERGY STAR[®] qualified appliances, high efficiency heating and water heating equipment, programmable thermostats and controls, all within the Residential Products Core Initiatives.

<u>SECTOR</u>	<u>PROGRAM</u>	<u>CORE INITIATIVE</u>	<u>ADMINISTERED BY</u>	
RESIDENTIAL	PRODUCTS	RESIDENTIAL LIGHTING	ELECTRIC PAs	<ul style="list-style-type: none"> • JOINT PA – SPECIFIC
Core Initiative Overview	Key Objectives: To increase consumer awareness of the importance and benefits of purchasing ENERGY STAR® qualified lighting products and expand the availability, consumer acceptance, and use of high-quality energy-efficient lighting technologies and controls. The initiative utilizes upstream incentives and an online catalog channel, which dramatically increased sales and lowered costs of product for the customer. Additionally, lighting technology has extended past basic compact fluorescent spirals to more specialty products and light emitting diodes (“LEDs”). Expansion of customer education to promote understanding of the impacts of the Energy Independence and Security Act (“EISA”) on product selection and the rapidly expanding market for LED products.			
	New Enhancements: Further expansion and focus on introducing LED bulbs and fixtures into the marketplace. <ul style="list-style-type: none"> • The PAs will continue to explore ways to mitigate declining savings issues, such as new EISA standards, including market lift and other strategies. • The PAs will also explore lighting controls as a possible measure for initiative expansion. 			
Core Initiative Design	The ongoing collection of data on overall market conditions, product availability, market share, and pricing keeps PAs up-to-date on changes in the residential lighting market. That awareness, in turn, enables PAs to adapt initiative offerings as needed to maintain momentum in increasing the market share of energy-efficient lighting products.			

	<p>The Residential Lighting Core Initiative includes several components designed to educate consumers about the benefits of ENERGY STAR[®] qualified lighting products and to make these products more affordable:</p> <ul style="list-style-type: none"> • The internet/mail-order sales channel offers education, rebates, and introductions to new products that may not be available at most retailers, and access to a variety of the hard-to-find replacement bulbs. Internet sales account for a high percentage of this component’s sales. Recognizing the importance of Internet sales, the PAs are working to improve the internet/mail-order website as an educational tool for consumers. • Upstream incentives/negotiated promotions provide instant price relief to the consumer for qualified products. By leveraging prices at that level, it has a magnifying effect to the consumer, as well as assurance that the product will be available at a wider variety of retail outlets. • “Pop-up” retail allows the PAs to offer efficient lighting products to consumers in temporary retail locations, such as mall kiosks, corporate and public events, basically bringing both the technology and education about it to the consumer. • School fundraising offers the opportunity for the PAs to educate students on the benefits of energy efficiency, while allowing the schools to raise funds through the sale of lighting products.
<p>Marketing Overview</p>	<p>Target Market:</p> <p>All residential electric customers.</p> <hr/> <p>Strategy:</p> <p>The focus for Residential Lighting initiative over the next three years will be to strategically leverage the market impact of the Energy and Security Act of 2007 to drive increased participation.</p> <p>Two key, strategic approaches will be employed, including:</p> <ol style="list-style-type: none"> 1. Maintain and build market share for bare spiral and specialty ENERGY STAR[®] qualified CFLs, and 2. Building demand and purchase of select ENERGY STAR[®] LED replacement bulbs.

	<p>To continue promotion of CFLs, several tactics will be utilized, including retail promotions, community outreach, and consumer education, all designed to protect and build market share from the introduction of EISA compliant incandescent and halogen products.</p> <p>As LED replacement bulbs and fixtures are increasingly introduced into the market, marketing initiatives will be geared towards encouraging consumer trial of these new technologies with the use of discounted products and special manufacturer/retailer promotions. Key to growing market share for LEDs will be to shift consumer perception of lighting from a commodity product to a more considered purchase and educating customers about the product's benefits, which will be accomplished through educational advertising, in-store displays, social media outreach, and other point-of-sale communications.</p> <p>In addition, consumers will be educated on the benefits of lighting controls through in-store displays, community outreach, and retail point-of-purchase materials to highlight the ease of use and their energy savings potential. A key consideration for this overarching lighting strategy is a classic Consumer Packaged Good (“CPG”) “Good, Better, Best” strategy, which can help to unite these diverse product offerings as a robust, energy-efficient lighting portfolio.</p>																		
<p>Technologies/Incentives</p>	<p>The following is a list of targeted end uses, recommended technologies, and incentives offered:</p> <table border="1" data-bbox="541 898 1908 1182"> <thead> <tr> <th data-bbox="541 898 951 954">Targeted End Use</th> <th data-bbox="951 898 1518 954">Technology</th> <th data-bbox="1518 898 1908 954">Incentive</th> </tr> </thead> <tbody> <tr> <td data-bbox="541 954 951 1027">Residential lighting</td> <td data-bbox="951 954 1518 1027">Standard spiral Compact Fluorescent Bulbs (CFL)</td> <td data-bbox="1518 954 1908 1027">Maximum \$1.50</td> </tr> <tr> <td data-bbox="541 1027 951 1068"></td> <td data-bbox="951 1027 1518 1068">“Specialty” CFL</td> <td data-bbox="1518 1027 1908 1068">Maximum \$4.00</td> </tr> <tr> <td data-bbox="541 1068 951 1109"></td> <td data-bbox="951 1068 1518 1109">Compact Fluorescent Fixtures</td> <td data-bbox="1518 1068 1908 1109">Maximum \$15.00</td> </tr> <tr> <td data-bbox="541 1109 951 1149"></td> <td data-bbox="951 1109 1518 1149">Light Emitting Diode Bulbs (LED)</td> <td data-bbox="1518 1109 1908 1149">Maximum \$20.00</td> </tr> <tr> <td data-bbox="541 1149 951 1182"></td> <td data-bbox="951 1149 1518 1182">LED Fixtures</td> <td data-bbox="1518 1149 1908 1182">Maximum \$20.00</td> </tr> </tbody> </table>	Targeted End Use	Technology	Incentive	Residential lighting	Standard spiral Compact Fluorescent Bulbs (CFL)	Maximum \$1.50		“Specialty” CFL	Maximum \$4.00		Compact Fluorescent Fixtures	Maximum \$15.00		Light Emitting Diode Bulbs (LED)	Maximum \$20.00		LED Fixtures	Maximum \$20.00
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	LED Fixtures	Maximum \$20.00																	
<p>Delivery Mechanism</p>	<p>A manufacturer/retailer outreach contractor will recruit and train retailers, including discount retail outlets, to participate in the program; place point-of-purchase materials in participating retail stores; oversee the Negotiated Cooperative Promotions (“NCP”) process; and act as a liaison for PAs, manufacturers, and retailers.</p>																		

	<p>A rebate fulfillment contractor will collect data and payment requests from manufacturers, retailers, and consumers; process reimbursement requests from NCP partners and provide documentation to the Program Administrators for program tracking and evaluation purposes.</p> <p>An internet/mail-order sales channel contractor will purchase and stock products offered through the catalog and the Mass Save website; staff a toll-free line for customers; and process catalog and website purchases.</p> <p>PAs may employ temporary retail kiosks at key events and locations.</p>
<p>Three-Year Deployment Strategy/Roadmap</p>	<p>The Residential Lighting Core Initiative faces some unknowns in the upcoming three-year period. First, the per-unit savings may see a decrease due to on-going discussions surrounding net to gross ratios and how to evaluate lighting program savings. Second, federal lighting efficiency standards will begin to phase in beginning in 2012. At this time, it is unclear how industry will respond to this federal mandate. The standard may accelerate the adoption of CFLs for many applications, or industry may promote a less efficient technology such as infrared halogen. Finally, the proposed lighting program also assumes uncertainty with regards to savings from LEDs based on estimates of future product availability and price. However, this technology is evolving very rapidly and cost competitive screw-in replacement lamps may become readily available within the three-year implementation timeframe.</p> <p>For the three-year deployment, the PAs will focus on:</p> <ul style="list-style-type: none"> • Expansion of the mix of products available in retail • Increased focus on specialty products to reach “deeper” savings for each customer with more options for each socket • Expansion of retailers and other channels for the sale and distribution of efficient lighting, such as online retailers • Continuous offerings over longer horizon periods at retail to assure year-round product availability to consumers • Innovative approaches to community and corporate events (including hard-to-reach communities) • Phasing in of qualified products for new technologies that require new entrants and implementation

	strategies.
Special Notes	

<u>SECTOR</u>	<u>PROGRAM</u>	<u>CORE INITIATIVE</u>	<u>ADMINISTERED BY</u>	
RESIDENTIAL	PRODUCTS	CONSUMER PRODUCTS	ELECTRIC PAs	<ul style="list-style-type: none"> • JOINT PA – SPECIFIC
Core Initiative Overview	<p>Key Objectives:</p> <p>To increase consumer awareness of the importance and benefits of purchasing or recycling ENERGY STAR[®] qualified appliances and electronic products and expand the availability, consumer acceptance, and use of high-quality energy-efficient technologies. The initiative utilizes upstream incentives and mail-in rebates, which dramatically increases sales and lowers the costs of product for the customer.</p>			
	<p>New Enhancements:</p> <p>The PAs are exploring various methods to streamline incentive delivery methods to the consumer (<i>e.g.</i>, midstream/upstream) and to address rapidly changing electronics marketplace.</p> <p>The PAs also plan to work with retailers to explore the potential for streamlining the rebate process via online purchases.</p>			
Core Initiative Design	<p>The Consumer Products Core Initiative educates consumers about the benefits of ENERGY STAR[®] qualified products to increase consumer acceptance of products and to encourage them to look for and purchase ENERGY STAR[®] qualified models when they shop.</p> <p>The initiative promotes select ENERGY STAR[®] qualified consumer products at the point-of-sale by providing promotional literature and displays to retailers, working with sales staffs to ensure they understand and can accurately market the benefits of these products, and providing labels to identify models that meet ENERGY STAR[®] standards. As ENERGY STAR[®] qualified products achieve a high share of market sales, the PAs and other interested parties are in a good position to advocate for higher</p>			

	<p>minimum federal and ENERGY STAR[®] standards.</p> <p>The initiative actively participates in national ENERGY STAR[®] awareness campaigns and in efforts to keep ENERGY STAR[®] specifications up to date and relevant. Similarly, the PAs will also work with the Consortium for Energy Efficiency (“CEE”) to develop efficiency tiers above ENERGY STAR[®] for many products.</p> <p>As standards become more stringent, the PAs look into promoting more efficient products to consumers, using such categories as the higher CEE Tiers, and the newer ENERGY STAR[®] “Most Efficient” and “Top Ten” categories.</p>
<p>Marketing Overview</p>	<p>Target Market:</p> <p>All residential electric customers</p> <hr/> <p>Strategy:</p> <p>In the appliance and electronics category, marketing initiatives will be designed to leverage new product specifications being rolled out in several product categories, the emergence of high efficiency initiatives. Key marketing strategies will aim to build awareness of and demand for new, high efficiency products, and consumer education to help customers take advantage of these new technologies.</p> <p>Consumer education tactics will continue to employ retail point-of-purchase materials and sales promotions, consumer engagement events, social media, and other best practice marketing tactics to drive sales of qualified energy-efficient appliances and electronics.</p> <p>Efforts will also continue in monitoring smart metering and the market for energy-efficient "smart" technologies in appliances and consumer electronics to inform future program planning and marketing opportunities. Go-to-market strategies will be developed to introduce new "connected" smart appliances and plug load controlling electronics into the marketplace.</p> <p>Tactics to support these efforts will include consumer education via social media channels, consumer events, and retail promotions and point-of-sale materials to educate and motivate consumers to use these</p>

	new technologies. It is the PAs intention to be prepared for these technologies, as they become more prevalent toward the third year of this plan.																														
Technologies/Incentives	<p>The following is a list of current targeted end uses, recommended technologies, and incentives offered:</p> <table border="1"> <thead> <tr> <th>Targeted End Use</th> <th>Technology</th> <th>Incentive</th> </tr> </thead> <tbody> <tr> <td>Consumer products</td> <td>Room Air Cleaners</td> <td>\$20.00</td> </tr> <tr> <td>Consumer products</td> <td>Advanced Power Strips</td> <td>\$10.00</td> </tr> <tr> <td>Consumer products</td> <td>Televisions</td> <td>\$20.00</td> </tr> <tr> <td>Consumer products</td> <td>Desktop Computers</td> <td>\$10.00</td> </tr> <tr> <td>Consumer products</td> <td>Computer Monitors</td> <td>\$20.00</td> </tr> <tr> <td>Consumer products</td> <td>Pool pumps</td> <td>\$250.00</td> </tr> <tr> <td>Consumer products</td> <td>Refrigerator/Freezer Recycling</td> <td>\$50.00</td> </tr> <tr> <td>Consumer products</td> <td>Refrigerators/Freezers</td> <td>\$50.00</td> </tr> <tr> <td>Consumer products</td> <td>Room Air Conditioners</td> <td>\$25.00</td> </tr> </tbody> </table> <p>Additionally, PAs will explore:</p> <ul style="list-style-type: none"> • “Tiered” approach for possible expansion of the technology list, utilizing CEE Tiers, “Top Ten” or “ENERGY STAR Most Efficient.” • Market lift approach for products such as Clothes Washers, etc. as possible offerings. 	Targeted End Use	Technology	Incentive	Consumer products	Room Air Cleaners	\$20.00	Consumer products	Advanced Power Strips	\$10.00	Consumer products	Televisions	\$20.00	Consumer products	Desktop Computers	\$10.00	Consumer products	Computer Monitors	\$20.00	Consumer products	Pool pumps	\$250.00	Consumer products	Refrigerator/Freezer Recycling	\$50.00	Consumer products	Refrigerators/Freezers	\$50.00	Consumer products	Room Air Conditioners	\$25.00
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Delivery Mechanism	<p>A manufacturer/retailer outreach contractor will recruit and train retailers to participate in the program; place point-of-purchase materials and rebate applications in participating retail stores; oversee the NCP process; and act as a liaison for PAs, manufacturers, and retailers.</p> <p>A rebate fulfillment contractor will collect data and payment requests from manufacturers, retailers, and consumers; process rebate applications and NCPs; and provide documentation to the PAs for program tracking and evaluation purposes.</p>																														
Three-Year Deployment	For consumer products, efforts to broaden categories as well as allow consumers the opportunity to increase the savings in their homes with new technologies provide unique challenges for the PAs. For																														

<p>Strategy/Roadmap</p>	<p>2013-2015 planning, increasing standards will continue to decrease kWh savings for some energy efficient products, forcing the PAs to explore avenues of program deployment that are new and possibly untested.</p> <p>The PAs began to expand their upstream efforts in 2010 from just advanced power strips to ENERGY STAR[®] TVs and Room Air Conditioners, in efforts to maximize the effect of lower incentive dollars, with some success. Over the next three years, the PAs will continue to explore expanding the products included in upstream efforts, in an attempt to duplicate the successes with lighting.</p> <p>The PAs will also explore tactics to support deeper savings by supporting programs such as ENERGY STAR[®] Most Efficient and Top Ten, through education, promotion, and possibly higher incentive offerings, if appropriate.</p> <p>The PAs would like to explore the Lighting “Market Lift” model for use with products that have similar acceptance histories to CFLs, such as clothes washers.</p>
<p>Special Notes</p>	

<u>SECTOR</u>	<u>PROGRAM</u>	<u>CORE INITIATIVE</u>	<u>ADMINISTERED BY</u>	
RESIDENTIAL	RESIDENTIAL PRODUCTS	RESIDENTIAL HEATING AND COOLING - HVAC	ELECTRIC PAs	<ul style="list-style-type: none"> • JOINT
Core Initiative Overview	<p>Key Objectives:</p> <p>The Residential Heating and Cooling core initiative (“CoolSmart”) is designed to increase consumer awareness, sales, and market share of ENERGY STAR[®] qualified central air conditioning units, air source heat pumps, and electronically commutated motor (“ECM”) furnace fan systems by offering customer rebates and contractor incentives. The initiative also promotes best installation practices and quality installations, as promulgated by the Air Conditioning Contractors of America (“ACCA”) and the Environmental Protection Agency’s ENERGY STAR[®] Quality Installation (“QIV”) Program.</p>			
	<p>New Enhancements:</p> <p>The PAs will explore the following proposed enhancements:</p> <ul style="list-style-type: none"> • An early replacement package offer, which provides ECM Furnace with Central Air Conditioning • Expanding the Heat Pump Water Heater (“HPWH”) incentives to include oil and propane fuel retrofits • Partnering with HPWH leasing companies to increase participation and savings • An HPWH early retirement program component; coordinate with the PAs whole home initiatives • Emerging technologies such as residential climate controls, geothermal heat pumps and drain water heat recovery systems will be reviewed and considered for implementation • Continue to investigate opportunities for resistance heat to cold climate heat pump conversions 			

	<ul style="list-style-type: none"> • An upstream program model to increase overall participation levels • Modify existing equipment rebates subject to review of market conditions, equipment qualifying for the new ENERGY STAR[®] Most Efficient or Top Ten rating, combined with incremental costs of high efficiency equipment • Review and adjust contractor incentives with emphasis on achieving program savings from improved equipment specification and installation • Expanded training programs to greatly increase contractor capabilities related to HVAC system efficiencies and quality installation practices • Work with Residential Heating and Water Heating Core Initiative to further coordinate implementation, marketing and training activities and to develop and implement joint program offerings whenever feasible and cost-effective • Simplification for enhanced customer and contractor transactions, such as online rebate fulfillment <p>Continue focus on curriculum of contractor training and look for opportunities for vocational training.</p>
<p>Core Initiative Design</p>	<p>This initiative provides customer rebates for the installation of ENERGY STAR[®] qualified HVAC equipment, as well as a “voluntary” QIV incentive for those customers who work with a residential heating and cooling trained contractor to install and properly test their rebate eligible equipment. Contractors also earn an incentive for doing the proper testing to check and adjust system air flow and refrigerant charge using third-party verification. Other incentivized measures include duct testing and sealing, and downsizing of replacement equipment.</p> <p>PAs use a third-party verification process for its quality installation verification offerings for all residential HVAC installations and tune-ups, including existing systems, retrofit and new installations.</p> <p>The Residential Heating and Cooling core initiative will continue to work with the Residential Heating and Water Heating core initiative (“GasNetworks[®]”) on joint offerings; marketing, contractor training and trade ally outreach, including circuit rider, and strive toward creating a seamless integration of the gas and electric energy efficiency programs. The PAs will continue their work with HVAC distributors, and where possible, develop upstream opportunities.</p>

	<p>In addition, the PAs will continue to work with the following industry partners to promote best installation practices, awareness, education, and training for HVAC contractors:</p> <ul style="list-style-type: none"> • ENERGY STAR[®] HVAC Quality Installation Program (EPA) • Consortium for Energy Efficiency (CEE) • Air Conditioning Contractors of America (ACCA) • Northeast Energy Efficiency Partnerships (NEEP) <p>The Residential Heating and Cooling core initiative will also continue to promote the North American Technician Excellence (“NATE”) in HVAC contractor and customer educational materials. This strategy is designed to promote the value of NATE certification in the HVAC community and support best installation practices, education, and training for HVAC technicians and contractors</p>
<p>Marketing Overview</p>	<p>Target Market:</p> <p>The Residential Heating and Cooling core initiative provides an opportunity for HVAC professionals to achieve a measure of success that might not otherwise be available to them. Effectively marketing the advantages of this initiative will help enable the PAs to achieve their energy saving goals. Consumers will benefit from having lower energy costs than they would otherwise have, during the cooling and heating seasons.</p> <p>Marketing activities will continue to align the elements of this initiative with that of the EPA’s ENERGY STAR[®] QI standard, and will emphasize outreach to HVAC professionals (contractors and distributors, including gas contractors). The PAs will work in collaboration to build an integrated marketing and branding approach incorporating key elements such as contractor and distributor outreach and training, the CoolSmart portion of the Mass Save website, collateral updates, e-mail blasts, bill inserts, as well as other activities. In 2013-2015 the marketing strategy will utilize effective contractor and customer education messaging to meet the initiative goals and provide essential opportunities for HVAC professionals in coordination with all Residential Whole House Core Initiatives. The marketing activities described above aim to reach several target markets:</p> <ul style="list-style-type: none"> • New systems in existing and new homes (new systems)

- Replacement systems in existing homes (new equipment/old systems), including the early retirement of existing equipment.
- Improvements in operational systems in existing homes (new equipment/old systems)

The Residential Heating and Cooling core initiative targets the following market actors:

- Residential customers in the market to purchase HVAC equipment
- HVAC contractors and technicians
- Manufacturers, distributors, and suppliers of HVAC equipment
- New-home builders and remodeling contractors
- Big-box stores

Strategy:

The Residential Heating and Cooling core initiative is designed to promote the purchase and proper installation of ENERGY STAR[®] residential central air conditioning and air source heat pump systems at multiple levels. In addition, it will increasingly emphasize the importance of proper installation and sizing practices as well as the promotion of duct sealing and enhanced air distribution system efficiency. The Residential Heating and Cooling core initiative will collaborate with the Residential Heating and Hot Water core initiative to develop and implement joint marketing activities whenever feasible. The planned marketing effort include:

- A joint circuit rider provides outreach services, education, and support in the field through visits and calls to HVAC distributors, supply houses, and contractors. The circuit rider also participates in training, trade shows and related industry events.
- Development of cooperative (“upstream”) promotions with the HVAC industry, in coordination with C&I where feasible.
- Sponsorship of contractor competitions and awards programs for rebates and QIV services, and an annual recognition celebration for contractors in a venue that helps recruit more contractors
- Periodic COOL Talk meetings with QIV-listed HVAC contractors and distributors

	<ul style="list-style-type: none"> • Targeted outreach to large HVAC contractors previously inactive in the program. • Development of consumer testimonials affirming the benefits of program measures. • Customer certificates when a quality installation is performed • Print and media advertising targeting consumers, contractors, and distributors (including bill inserts, information on the website, participation at trades shows, articles in trade publications, mailings to distributors, contractor, and non participants). These will be in conjunction with the Residential Heating and Hot Water core initiative, where possible. • Promote program education and awareness utilizing manufacturer/distributor level marketing and training infrastructure as a platform to educate contractors and wholesalers at a regional level. These will be in conjunction with the Residential Heating and Hot Water core initiative, where possible. • PAs will market and leverage all available federal tax credits where applicable as well as all supplemental consumer incentives (<i>e.g.</i>, equipment manufacturers) as a means to increase consumer adoption of purchases of high efficiency central air conditioning and heat pump systems. • PAs will work with the ENERGY STAR[®] HVAC Quality Installation Program team, the CEE HVAC Committee, and other industry partners to promote best installation practices, awareness, education, and training for HVAC contractors. 												
Technologies/Incentives	<p>The following is a list of targeted end uses, recommended technologies, and incentives offered:</p> <table border="1" data-bbox="541 1060 1902 1404"> <thead> <tr> <th data-bbox="541 1060 947 1117">Targeted End Use</th> <th data-bbox="947 1060 1516 1117">Technology</th> <th data-bbox="1516 1060 1902 1117">Incentive</th> </tr> </thead> <tbody> <tr> <td data-bbox="541 1117 947 1208">Cooling</td> <td data-bbox="947 1117 1516 1208">Central Air Conditioning SEER\geq14.5 EER\geq12</td> <td data-bbox="1516 1117 1902 1208">\$150</td> </tr> <tr> <td data-bbox="541 1208 947 1299">Heating and Cooling</td> <td data-bbox="947 1208 1516 1299">Air Source Heat Pump SEER\geq14.5 EER\geq12 HSPF \geq 8.2</td> <td data-bbox="1516 1208 1902 1299">\$150</td> </tr> <tr> <td data-bbox="541 1299 947 1404">Cooling</td> <td data-bbox="947 1299 1516 1404">Central Air Conditioning SEER\geq15 EER\geq12.5</td> <td data-bbox="1516 1299 1902 1404">\$300</td> </tr> </tbody> </table>	Targeted End Use	Technology	Incentive	Cooling	Central Air Conditioning SEER \geq 14.5 EER \geq 12	\$150	Heating and Cooling	Air Source Heat Pump SEER \geq 14.5 EER \geq 12 HSPF \geq 8.2	\$150	Cooling	Central Air Conditioning SEER \geq 15 EER \geq 12.5	\$300
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Heating and Cooling	Air Source Heat Pump SEER \geq 15 EER \geq 12.5 HSPF \geq 8.5	\$300
Cooling	Central Air Conditioning SEER \geq 16 EER \geq 13	\$500
Heating and Cooling	Ductless Minisplit Heat Pump: SEER >14.5 EER \geq 12 HSPF \geq 8.2	\$150
Heating and Cooling	Ductless Minisplit Heat Pump: SEER >19 EER \geq 12.8 HSPF \geq 10	\$300
Heating and Cooling	Ductless Minisplit Heat Pump: SEER >23 EER \geq 13 HSPF \geq 10.6	\$500
Heating and Cooling	Quality Installation Verification (QIV)	\$175
Heating and Cooling	Quality Installation Verification (QIV)	\$175
Heating and Cooling	Promotes best installation practices, as promulgated by the Air Conditioning Contractors of America (“ACCA”) and the Environmental Protection Agency’s ENERGY STAR [®] Quality Installation Program (“QIV”).	\$125 (\$75 airflow testing + \$50 CO Monitor installed)
Heating and Cooling	Promotes best installation practices, as promulgated by the Air Conditioning Contractors of America (“ACCA”) and the Environmental Protection Agency’s ENERGY STAR [®] Quality Installation Program (“QIV”).	\$525 (\$75 airflow testing + \$50 CO monitor installed + duct sealing repairs)
Heating and Cooling	Duct Sealing in spaces outside the building envelope that have air conditioning and heat in connected	\$2.00 per cfm reduction up to \$600 maximum.

		ductwork.	
Cooling		Down Sizing per ½ ton reduction	\$ 250.00 per ½ ton
Heating and Cooling		Early Replacement of central equipment	\$850
Heating		ECM Furnace – 95% and 97%	\$100
Heating and Cooling		Brushless Fan Motor	\$450 placeholder – pending evaluation
Water Heating		Heat Pump Water Heater – 50 gallon; must replace existing electric storage tank water heater	\$1,000
Water Heating		Heat Pump Water Heater – 80 gallon; must replace existing electric storage tank water heater - *subject to change in 2015	\$1,000*
Water Heating		Heat Pump Water Heater – 50 gallon; must replace existing oil storage tank water heater	\$750 (proposed)
Water Heating		Heat Pump Water Heater – 80 gallon; must replace existing oil water heater	\$750 (proposed)
Water Heating		Heat Pump Water Heater – Lease HPWH through a nationally recognized leasing company	Incentive to be determined.
Heating and Cooling		Air Source Heat Pump SEER _≥ 16 EER _≥ 13 HSPF _≥ 8.5	\$500 (proposed)
<p>Additionally, customers may now utilize the 0% HEAT loan to finance eligible HVAC equipment purchases.</p>			
Delivery Mechanism	The Residential Heating and Cooling core initiative will be administered by the PAs in each service		

	<p>territory. Delivery is through a common vendor selected through a common RFP. Whenever possible, there is coordination with the Residential Heating and Hot Water core initiative. These initiatives will continue to use a single, joint circuit rider in the field. The Residential Heating and Cooling initiative leverages the Residential New Construction, HES, and Multi-Family Retrofit Core Initiatives:</p> <ul style="list-style-type: none"> • Participating residential new construction builders and their HVAC contractors are referred to the Residential Heating and Cooling for training and QIV. Whenever appropriate, these training will be provided jointly with the Residential Heating and Hot Water core initiative. • HES and qualifying Multi-Family Retrofit participants are referred to residential heating and cooling for HVAC measures using residential heating and cooling literature, which is part of the standard HES information package. <p>Quality control/follow-up inspections are performed by independent inspectors on up to 10 percent of installations to verify equipment installation and performance.</p> <p>The initiative continues to use equipment distributors to sell high-efficiency equipment and QIV-related technology, and to provide indoor training labs for HVAC contractors.</p>
<p>Three-Year Deployment Strategy/Roadmap</p>	<p>The PAs believe that an adjustment in equipment incentive levels may be required to address market barriers and achieve higher levels of participation and savings goals during 2013-2015. Rebate levels approaching full system incremental cost may be required to address two fundamental market barriers in the state.</p> <ul style="list-style-type: none"> • In Massachusetts, a low dollar savings compared to incremental costs associated with high efficiency air conditioning investments represents a significant program barrier to increasing the market share of high SEER/EER equipment. • In Massachusetts, another barrier to improved efficiency is the common practice in which HVAC contractors install “efficient” outdoor condensing equipment but fail to replace the existing indoor equipment with a high efficiency indoor evaporator coil. Additionally, other cases involve use of non matched non-AHRI rated indoor coils, which do not reach the ENERGY STAR® standards. At each stage, customers are not well informed of the consequences and also do not benefit directly from the demand savings that are important to the

	<p>program and the region.</p> <p>The PAs plan to:</p> <ul style="list-style-type: none"> • Host strategic discussions to promote the expanded HVAC program which may include a significant number of new and emerging technologies and quality installation practices. • Strive to identify and support gas and electric integration opportunities where appropriate as a means to increase consumer participation, gain economies of scale, create consumer-focused transparency across programs, and achieve broader and deeper energy savings.
Special Notes	

<u>SECTOR</u>	<u>PROGRAM</u>	<u>CORE INITIATIVE</u>	<u>ADMINISTERED BY</u>	
RESIDENTIAL	RESIDENTIAL PRODUCTS	RESIDENTIAL HEATING & HOT WATER	GAS PAs	• JOINT
				PA - SPECIFIC
Core Initiative Overview	<p>Key Objectives:</p> <p>The primary objective of the Residential Heating and Water Heating core initiative is to increase market awareness and penetration of high efficiency gas heating (forced hot water boilers, electrically efficient gas warm air furnaces) water heating equipment and associated controls. The initiative provides ongoing support to enhance and maintain Program Administrators’ strategic partnerships with equipment manufacturers and distributors who assist in conducting aggressive outreach, education and training of our trade allies and contractors on the latest technologies, high efficiency equipment and installation techniques.</p>			
	<p>New Enhancements:</p> <p>The PAs anticipate the following initiative enhancements for the three year planning period of 2013-2015:</p> <ul style="list-style-type: none"> • Expanding trade ally awareness and strengthening existing partnerships by implementing seasonal or year-round contractor incentive promotions and new technology training initiatives. • PAs will closely monitor the results the 2012 seasonal initiative - Replacement of Old Boilers - and implement successes based on evaluated results. Gas PAs will consider expanding early replacement promotion to furnaces, in conjunction with the Residential Heating and Cooling Core Initiative. • Enhance integration efforts with Residential Heating and Cooling Heating, Ventilation and Air Conditioning (“HVAC”) training. This will allow the ability to develop “packaged” incentive offerings to drive consumer participation, allow for deeper energy savings and the adoption of new 			

	<p>high efficiency technologies.</p> <ul style="list-style-type: none"> • Implement cross promotions with HES core initiative (<i>e.g.</i>, messaging on rebate checks). • PAs will also consider adopting new measures and strategies (<i>e.g.</i>, WiFi thermostat technologies) and exploring the feasibility of targeted upstream promotions on new heating, hot water or controls equipment. • Provide further opportunities on joint-trainings for trade allies on gas and electric HVAC and high efficiency equipment, including brushless fan retrofits.
<p>Core Initiative Design</p>	<p>Description:</p> <p>The GasNetworks[®] high efficiency heating and water heating core initiative is designed to offer customer rebates to offset the higher cost of purchasing qualifying gas heating, hot water equipment and controls in the new construction and replacement market. In collaboration with the CoolSmart electric efficiency core initiative, GasNetworks also offers a dual electric/natural gas rebate incentive for high-efficiency furnaces equipped with Electronically Commutated Motor (“ECM”) or equivalent advanced furnace fan systems. The high efficiency water heating core initiative offers customer incentives for energy efficient indirect, on-demand, and stand-alone water heating equipment</p> <p>In addition to heating and water heating equipment, customer incentives are also offered for select heating controls, such as programmable thermostats, boiler reset controls and heat recovery ventilator units.</p> <p>In 2012, the initiative introduced a pilot program integrated with the HES core initiative to offer an early replacement boiler promotion that provides an incentive to target old, inefficient, but still operating, heating equipment for replacement with high efficiency equipment.</p> <p>Gas PAs consistently monitor this initiative and evaluate free-ridership in order to drive customers to go deeper and achieve the highest level of efficiency available.</p>
<p>Marketing Overview</p>	<p>Target Market:</p> <p>Residential Target Market includes all 1-4 family residential non-low income and residentially metered</p>

condominiums

- New construction
- Existing homes

Residential Market Actors include :

- Plumbing and HVAC contractors and technicians
- Suppliers of high efficiency heating and water heating equipment and related parts/accessories
- Manufacturers and distributors of high efficiency heating and water heating equipment
- New home builders and remodeling contractors
- Residential home owners with natural gas heating and water heating equipment
- Multi-Family property owners (residentially metered)
- Home designers and architects
- Massachusetts Building Inspectors, *i.e.*, Southeastern Massachusetts Building Officials Association (“SEMBOA”)
- Plumbing, Heating and Cooling Contractors of MA (“PHCC of MA”)
- International Association of Plumbing and Mechanical Officials (“IAPMO”)
- Engineers

Strategy:

The initiative will be promoted through a variety of marketing and educational campaigns including, but not limited to: upstream outreach, direct mail, bill inserts, sponsorships and trade ally circuit-rider visits and other training events. The initiative has been particularly successful utilizing a direct vendor outreach marketing approach to gas equipment suppliers and installation contractors and the PAs will continue to implement this approach in 2013-2015. The PAs will continue to enhance their outreach to customers in collaboration with the Mass Save working groups. PAs will also enhance awareness through successful targeted techniques involving website and email. For example, PAs have approximately fifteen hundred trade allies and recipients signed up to receive the GasNetworks e-newsletter on a quarterly basis since its launch in 2007.

In addition to direct rebate offers to customers, PAs will evaluate and offer strategic seasonal or year-round

	<p>incentives to contractors to further encourage the installation of high efficiency heating equipment.</p> <p>PAs will also market and leverage all available federal tax credits where applicable and other consumer incentives as a means to increase consumer adoption of high efficiency heating and water heating equipment.</p>																																													
<p>Technologies/ Incentives</p>	<p>The following is a detailed list of targeted end uses, recommended technologies, and incentives offered within the Residential Heating and Water Heating core initiative:</p> <table border="1" data-bbox="527 560 1925 1187"> <thead> <tr> <th data-bbox="527 560 989 613">Targeted End Use</th> <th data-bbox="989 560 1608 613">Technology</th> <th data-bbox="1608 560 1925 613">Incentive</th> </tr> </thead> <tbody> <tr> <td data-bbox="527 613 989 695">Heating</td> <td data-bbox="989 613 1608 695">>= 95% Furnace w/Electronically Commutated Motor (ECM) or equivalent</td> <td data-bbox="1608 613 1925 695">\$200 (+\$100 Electric)</td> </tr> <tr> <td data-bbox="527 695 989 732">Heating</td> <td data-bbox="989 695 1608 732">>= 97% Furnace w/ECM or equivalent</td> <td data-bbox="1608 695 1925 732">\$350 (+\$100 Electric)</td> </tr> <tr> <td data-bbox="527 732 989 769">Heating</td> <td data-bbox="989 732 1608 769">>= 90% Forced Hot Water Boiler</td> <td data-bbox="1608 732 1925 769">\$1000</td> </tr> <tr> <td data-bbox="527 769 989 807">Heating</td> <td data-bbox="989 769 1608 807">>= 96% Forced Hot Water Boiler</td> <td data-bbox="1608 769 1925 807">\$1500</td> </tr> <tr> <td data-bbox="527 807 989 844">Heating</td> <td data-bbox="989 807 1608 844">Heat Recovery Ventilator</td> <td data-bbox="1608 807 1925 844">\$500</td> </tr> <tr> <td data-bbox="527 844 989 881">Heating/Water Heating</td> <td data-bbox="989 844 1608 881">Integrated water heater/condensing boiler</td> <td data-bbox="1608 844 1925 881">\$1200</td> </tr> <tr> <td data-bbox="527 881 989 919">Water Heating</td> <td data-bbox="989 881 1608 919">Indirect Water Heater</td> <td data-bbox="1608 881 1925 919">\$400</td> </tr> <tr> <td data-bbox="527 919 989 956">Water Heating</td> <td data-bbox="989 919 1608 956">Condensing Gas Water Heater (T.E*. 95)</td> <td data-bbox="1608 919 1925 956">\$500</td> </tr> <tr> <td data-bbox="527 956 989 993">Water Heating</td> <td data-bbox="989 956 1608 993">On-demand Water Heaters (.94)</td> <td data-bbox="1608 956 1925 993">\$800</td> </tr> <tr> <td data-bbox="527 993 989 1031">Water Heating</td> <td data-bbox="989 993 1608 1031">On-demand Water Heaters (.82)</td> <td data-bbox="1608 993 1925 1031">\$500</td> </tr> <tr> <td data-bbox="527 1031 989 1068">Water Heating</td> <td data-bbox="989 1031 1608 1068">Stand Alone Storage Water Heaters (.67)**</td> <td data-bbox="1608 1031 1925 1068">\$100</td> </tr> <tr> <td data-bbox="527 1068 989 1105">Controls</td> <td data-bbox="989 1068 1608 1105">After Market Boiler Reset Controls</td> <td data-bbox="1608 1068 1925 1105">\$225</td> </tr> <tr> <td data-bbox="527 1105 989 1143">Controls</td> <td data-bbox="989 1105 1608 1143">Programmable Thermostats</td> <td data-bbox="1608 1105 1925 1143">\$25</td> </tr> <tr> <td data-bbox="527 1143 989 1180">Controls</td> <td data-bbox="989 1143 1608 1180">Smart Thermostats</td> <td data-bbox="1608 1143 1925 1180">TBD</td> </tr> </tbody> </table> <p data-bbox="527 1226 798 1263">*Thermal Efficiency</p> <p data-bbox="527 1263 835 1300">** 2013 and 2014 only</p> <p data-bbox="527 1336 1806 1406">Additionally, PAs will continue to explore cost-effective offerings, such as seasonal incentives to contractors or special promotion resources to trade allies and other market actors that assist with the</p>	Targeted End Use	Technology	Incentive	Heating	>= 95% Furnace w/Electronically Commutated Motor (ECM) or equivalent	\$200 (+\$100 Electric)	Heating	>= 97% Furnace w/ECM or equivalent	\$350 (+\$100 Electric)	Heating	>= 90% Forced Hot Water Boiler	\$1000	Heating	>= 96% Forced Hot Water Boiler	\$1500	Heating	Heat Recovery Ventilator	\$500	Heating/Water Heating	Integrated water heater/condensing boiler	\$1200	Water Heating	Indirect Water Heater	\$400	Water Heating	Condensing Gas Water Heater (T.E*. 95)	\$500	Water Heating	On-demand Water Heaters (.94)	\$800	Water Heating	On-demand Water Heaters (.82)	\$500	Water Heating	Stand Alone Storage Water Heaters (.67)**	\$100	Controls	After Market Boiler Reset Controls	\$225	Controls	Programmable Thermostats	\$25	Controls	Smart Thermostats	TBD
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	<p>stocking, sales and installation of high efficiency heating and water heating equipment.</p> <p>In addition to the incentives listed above, gas customers who have participated in the HES core initiative and purchase and install select high efficiency heating equipment may be eligible for 0% financing through participating lenders.</p>
<p>Delivery Mechanism</p>	<p>The initiative is administered by each gas PA and strategically coordinated regionally through the GasNetworks collaborative. The PAs utilize three vendors secured through a competitive bid process to assist in implementation of the initiative to its customers:</p> <ul style="list-style-type: none"> • Administrative – Integrated with Residential Heating & Cooling Equipment, Residential Lighting and Consumer Products core initiatives, this vendor is secured to review, process, and deliver valid rebate claims to customers. This vendor is also responsible for tracking and reporting program activity to gas and electric PAs as well as providing verification of a percentage of installed qualified equipment across PAs. • Outreach – Integrated with Residential Lighting and Consumer Products core initiatives, this vendor is secured to provide field visits and sales training through the distribution of point-of-purchase rebate materials to big box stores and other applicable retail outlets. • Outreach/Training – Integrated in part with Residential Heating & Cooling Equipment core initiative, this third-party vendor is responsible for direct communication and education of all key trade allies, in particular manufacturers, distributors, supply houses, heating and water heating contractors and vocational school faculty members. <p>In 2012, the PAs have collaborated with the HES core initiative to deliver a seasonal Early Boiler Replacement (enhanced) rebate initiative to qualifying participants in order to encourage the proactive replacement of aging and inefficient steam and forced hot water boilers. This “whole house” approach will allow for “packaged” incentive opportunities for qualifying participants and allow for broader and deeper energy savings.</p>
<p>Three-Year Deployment</p>	<p>The PAs will review the lessons from the Early Boiler Replacement rebate offer for inclusion into the 2013-2015 Plan. The PAs will work to enhance integration and cross-promotion efforts with the Residential</p>

Strategy/Roadmap	Heating & Cooling Equipment and the HES Core Initiatives. In addition, PAs will review emerging technologies for cost-effectiveness and will continue to explore the upstream program model.
Special Notes	

<u>SECTOR</u>	<u>STATEWIDE MARKETING</u>	<u>ADMINISTERED BY</u>
ALL	SUMMARY OVERVIEW	ELECTRIC & GAS PAs
Key Objectives	<p>The overarching goal of Statewide Marketing is educating customers about the PA-sponsored programs available under the umbrella of the Mass Save mark. Please also see Section III.H.1 for additional information regarding PA marketing activities.</p> <p>The PAs’ priority is creating powerful, engaging, and motivating strategies that will increase Massachusetts’ consumer and business awareness of the benefits of energy efficiency and will also increase their subsequent actions to reduce usage, primarily through the PAs available energy efficiency programs. These efforts will build on the awareness of the energy efficiency programs that are offered to Massachusetts customers by the PAs under the Mass Save® umbrella and establish the PAs as the recognized, reliable sources for all things about energy efficiency in the Commonwealth.</p>	
Strategies	<p>The strategies will take into account the unique motivational differences between residential and the various subsets of non-residential customers. While these actions may include commonly recognized multi-channel campaigns for residential customers, it is expected that the campaign strategy will identify the most effective touch points for residential and non-residential customer targets, sectors and motivations in order to move consumers from awareness to action. In addition, the different tactics used for these sectors will be measurable so that feedback will inform changes to deployment of the marketing and communication campaigns.</p> <p>The core goals of any campaign put forth by the PAs will attempt to: reach the maximum level of residential and business customers possible; provide messages that are not overly technical and that clearly describe the benefits of energy efficiency; utilize diverse media (<i>e.g.</i>, internet, bill inserts, television, radio, billboards, public transit) to disseminate consistent and clear messages; ensure that the various strategies work together to ultimately achieve deeper and broader savings.</p> <p>In order to realize their public education, community outreach, and marketing potential, the PAs have</p>	

identified the following goals to guide strategy and campaign planning:

- Prioritize public education.
- Broaden awareness of available resources and actions to all potential audiences, including residential and business customers.
- Identify and understanding the barriers to action, and developing potential motivators to bridge the gap between awareness and action.
- Communicate with the general public and with targeted audiences in the most effective ways possible to reach those audiences.
- Provide an good mechanism for customers to respond to marketing and outreach strategies (*e.g.*, website)
- Maximize the number of individuals, organizations, and businesses that take action to reduce their energy consumption.
- Encourage behavioral change to conserve energy, save money, and reduce greenhouse gas emissions.

In creating energy efficiency messages, both high level and targeted, the ultimate goal is to have customers understand the many benefits of energy efficiency and then take action. Further, to engage customers who have already implemented energy efficiency measures, the message will include and highlight the additional benefits and importance of going “deeper” by implementing additional energy efficiency measures, such as case studies. In addition to the overall message, the PAs will also develop messaging at the program level in order to engage varied customers and other important market actors (contractors, equipment suppliers, opinion leaders) with differing motivations. The strategies and messages developed for statewide energy efficiency education, outreach and marketing will augment the efforts thus far across the Commonwealth and will attempt complement and leverage program-specific marketing and individual PA efforts wherever possible.

Further, the PAs will apply evaluation results and findings from the Statewide EM&V framework to better understand the unique drivers, demographics, economic parameters, and behavioral differences among residential customers and among various key subsectors of non-residential customers, then design and

	<p>deliver messaging accordingly.</p> <p>The ultimate goal of these educational, outreach, and marketing efforts is to develop a broad system of communication with Massachusetts citizens and businesses and deliver comprehensive energy efficiency programs. Through an array of effective messages and valuable information resources, the PAs will engage with a large portion of the population to assist in delivering value to residential and business customers and achieving the aggressive energy efficiency goals set forth in this Plan.</p>
Special Notes	<p>Please also see Section III.H.1 for additional information regarding PA marketing activities.</p>

b. Residential General Initiatives

i. Efficient Neighborhoods+

Overview

Building on the successful Community Engagement efforts and Low-Income programs, the Efficient Neighborhoods+ initiative will target lower to moderate-income consumers in designated communities and neighborhoods. As an extension of the Mass Save[®] HES initiative, this initiative is intended to provide significant energy saving benefits to customers who live in urban neighborhoods with older housing stock and are often financially constrained from making energy efficiency investments. In addition to the benefits provided by the HES initiative, Efficient Neighborhoods+ will include an enhanced incentive structure designed to make energy efficient improvements more affordable for consumers living in these sometimes harder to reach neighborhoods. Further, given the predisposition of pre-weatherization barriers in this housing stock, it is important to consider limited pre-weatherization incentive offers into the overall initiative design.

Key Strategies

1. Eligibility

While the specifics of eligibility have yet to be determined, the premise is to target neighborhood/community “areas” that meet certain demographic criteria versus individual consumers, thus these areas would be designated as “Target Communities”. The following is the minimum guidelines proposed for eligibility:

- All customers in the target areas will be offered the incentives thus eliminating the arduous individual income verification screening process
- All low-income customers will be referred to the applicable low-income program
- Only 1– 4 unit existing buildings are eligible for the enhanced incentives.
- 5 + units will be referred to the Mass Save Multi-Family Retrofit core initiative.

2. Target Areas

Determining specific target areas based on pre-determined demographic and housing stock criteria is a key component as well as a key challenge of this effort. Prospective areas of focus may include but are not limited to Green Communities that have also been designated as Gateway Communities or Environmental Justice communities with a focus on best addressing low- to moderate- income consumers. Although the best methodology for employing eligibility identification has yet to be determined, one potential for consideration is using the 2010 census to identify those census tracts that met the following criteria:

1. Lower to moderate income customers based on the state’s median income
2. Greater than 70% penetration of 1-4 unit existing buildings (those eligible for HES)

3. Target census tracts may then be ‘fitted’ to Zip +4 groups based on some or all of the Zip +4 being in the tract. The Zip +4 residences might then be able to link to PA customer data to develop lists of eligible customers
4. These customers/addresses may then be fed into mapping software to generate a map of the target neighborhoods.

Only people in the designated areas will be eligible for the Efficient Neighborhoods+ initiative.

3. Marketing-Outreach Strategies

As previously mentioned, the overall goal of this effort is to identify and target selective neighborhood areas where consumers meet a certain demographic criteria. Once the areas have been identified, the PAs will deploy a variety of marketing outreach efforts that includes using traditional marketing methods and market segmentation activities in combination with coordinated outreach activities. Examples of this include:

- **Community Engagement** (refer to Section III.H.2) – this marketing outreach initiative provides a great opportunity to engage local community leaders as well as community-based advocate organizations committed to aiding in the delivery of energy efficiency services. As such, Efficient Neighborhoods+ serves to be a logical extension of our future Community Engagement plan where a “pay for performance” approach for local organizations is expected to deliver results.
- **Low-Income** - Coordination with the low-income programs and the community agencies that deliver them is another key component. It is very important that we maximize opportunities for weatherization and energy efficiency upgrades for existing low-income customers as well as those who may be low-income but have not been identified as such and are not receiving services under existing low-income utility rates or public programs.

Procedures for handling low-income customers will be coordinated with the CAP agencies. Low-income discount rate customers will be screened out of initial targeted efforts, such as direct mail, to avoid large numbers of customers being directed to an initiative that may not be the optimum vehicle for meeting their needs. A joint strategy will be developed with local agencies to insure that customers get the appropriate level of service.

- **Cross-Promotion Outreach** - As a direct sub-component of the HES core initiative, the PAs plan to utilize existing marketing tools and opportunities to create awareness and educate consumers about this initiative. However, due to the community-based nature of this initiative, it also affords the PAs the opportunity to cross promote electric and gas initiatives as a means to drive deeper savings and participation diversity.

Projected Milestones

1. PAs intend to define target neighborhoods and finalize initiative design (including incentive structure) by the end of Q1 2013.

2. PAs plan to test this initiative in May-August, 2013. This timeline will serve the secondary goal of maintaining a steady work flow for IICs and HPCs.
3. Monthly reporting of the uptake will be submitted by the Lead Vendors to the PAs.
4. PAs will assess results and report to EEAC in Q1 2014.

c. *Low-Income Program Descriptions*

<u>SECTOR</u>	<u>PROGRAM</u>	<u>CORE INITIATIVE</u>	<u>ADMINISTERED BY</u>	
LOW-INCOME	WHOLE HOUSE	LOW-INCOME NEW CONSTRUCTION	ELECTRIC PAs	<ul style="list-style-type: none"> • JOINT PA - SPECIFIC
Core Initiative Overview	<p>Key Objectives:</p> <p>The Low-Income New Construction (“LINC”) Core Initiative strives to increase the efficiency of low-income homes at the time of construction. To address the challenges of rising energy codes and more competition for funding for low-income housing, the Program Administrators will look to incorporate the lessons learned from the past three years to increase participation and energy savings. The PAs will continue working with HERS infrastructure and provide ongoing training to the construction industry. The initiative is a proud participant of the national ENERGY STAR[®] Homes Program and benefits from the regional, as well as national, advertising efforts that ENERGY STAR[®] Homes implements. This also dovetails with many of the requirements of funding agencies and foundations that also support low-income new construction.</p>			
	<p>New Enhancements:</p> <p>Beginning in 2013, the initiative will transition to prescriptive offerings for homes exceeding the Massachusetts User Defined Reference Home (“UDRH”). These additional initiative enhancements will build on the current initiative structure to increase participation and energy savings. The prescriptive offerings are detailed in the “Core Initiative Design” section below.</p>			
Core Initiative Design	<p>The PAs continue their strong commitment to a whole-house approach for low-income new construction. The initiative is committed to achieving both a broader market penetration of energy-efficient homes as well as moving builders toward deeper energy savings where possible. The PAs will strive to both retain</p>			

existing participating builders and recruit additional homebuilders and contractors. The PAs will train builders on EPA ENERGY STAR® Version 3 in support of the 2012 Massachusetts Stretch Energy Code.

The initiative will provide incentives for projects exceeding 2012 Massachusetts UDRH:

- Prescriptive Option 1 – a bundle of prescriptive measures that address heating, cooling, and hot water equipment, lighting, water use reduction, and efficient appliances
- Prescriptive Option 2 - a bundle of prescriptive measures that include all Option 1 measures as well as enhanced envelope air tightness and duct tightness
- Prescriptive Option 3 - a bundle of prescriptive measures that include all Option 1 & 2 measures as well as enhanced envelope thermal performance
- Prescriptive Option 4 - a bundle of prescriptive measures that include all Option 1, 2, 3 measures as well as Passive House Certification or EPA ENERGY STAR® Version 3 certification

Builders are encouraged to improve a building’s energy usage through enhanced envelope measures, energy efficient space and water heating, appropriately sized cooling equipment, programmable thermostats, ENERGY STAR® qualified appliances, Water Sense® plumbing fixtures, efficient lighting and controls, and proper ventilation. Builders are also encouraged to properly orient homes to take advantage of passive heating and cooling.

All homes participating in the initiative are required to install efficient lighting products in appropriate hard wired sockets and pass a final verification inspection. As energy codes become more stringent, the PAs will continue to encourage proper lighting design and the installation of new, cutting edge, lighting products and controls. A single-family home is defined as a single family detached house, while a multi-family home is defined as two or more attached units. All low-income new construction projects in the Commonwealth are encouraged to participate in the initiative. Mixed-use and large buildings are addressed on a custom basis in cooperation with the commercial initiatives.

The Multi-family New Construction (“MFNC”) core initiative offers incentives to eligible 4+ story multi-family facilities that are located in participating PA territories. The goal of the MFNC core initiative is to provide a seamless transition from the current multifamily pilot to a fully integrated initiative. This initiative will take the lessons learned from the three year pilot and continue to provide a single point of contact for the participants and service for all fuel sources and meter configurations. A suite of offerings

	will include a comprehensive list of measures to maximize energy savings above Massachusetts energy code.						
Marketing Overview	<p>Target Market:</p> <ul style="list-style-type: none"> • Homebuilders/Developers • Contractors • Architects/Designers • Trade allies • HERS raters • Homebuyers • Realtors • Code Officials • Appraisers/Mortgage bankers <p>Strategy:</p> <p>The initiative will use a combination of the following to reach the target markets: trade shows, builder training (on-site and lecture), lumber yard outreach, strategic partnerships (HBAs), geo-specific targeting based on construction activity.</p>						
Technologies/Incentives	<p>The following is a list of targeted end uses, recommended technologies, and incentives offered:</p> <p>The PAs are currently modeling prescriptive bundle options and have not yet finalized specific measures or incentive levels.</p> <table border="1" data-bbox="541 1127 1902 1256"> <thead> <tr> <th data-bbox="541 1127 949 1182">Targeted End Use</th> <th data-bbox="949 1127 1520 1182">Technology</th> <th data-bbox="1520 1127 1902 1182">Incentive</th> </tr> </thead> <tbody> <tr> <td data-bbox="541 1182 949 1256">Residential Products</td> <td data-bbox="949 1182 1520 1256">ENERGY STAR[®] qualified dishwasher and refrigerator*</td> <td data-bbox="1520 1182 1902 1256">\$100.00</td> </tr> </tbody> </table> <p>*Participant must install both appliances to qualify for incentive. This is specific to low-income new construction.</p> <p>The PAs will work with the MTAC to include new measures or technologies as appropriate.</p>	Targeted End Use	Technology	Incentive	Residential Products	ENERGY STAR [®] qualified dishwasher and refrigerator*	\$100.00
Targeted End Use	Technology	Incentive					
Residential Products	ENERGY STAR [®] qualified dishwasher and refrigerator*	\$100.00					

<p>Delivery Mechanism</p>	<p>The initiative is administered statewide by the PAs (both gas and electric). Through a competitive bid process, the PAs chose a statewide implementation vendor to oversee the day-to-day operations. The vendor is responsible for tracking and reporting program activity to each PA. Throughout the planned timeframe, the PAs will continue to work with the market-based network of trained raters who offer energy-efficiency and rating services to homebuilders.</p> <p>The PAs will deliver in-depth trainings to the target market in the fundamentals of building science, energy codes, and the latest emerging technologies to promote the initiative, as well as support workforce development efforts through the Green Jobs Act.</p>
<p>Three-Year Deployment Strategy/Roadmap</p>	<p>For low-income new construction, the efforts to achieve both deeper savings and gain broader market penetration will continue through multiple channels of participation, each of which continues to push homes closer to net zero energy. The initiative is dedicated to promoting energy efficient new construction by supporting the target market.</p> <p>For the three-year deployment, the PAs will focus on the following:</p> <ul style="list-style-type: none"> • Streamline and simplify initiative offerings to reduce complexity and increase participation • Support target market in achieving deeper levels of energy savings with relevant trainings • Expansion of the base of participating low-income builders/homeowners • Continued coordination with existing and new market allies • Continue to promote consumer awareness through statewide marketing
<p>Special Notes</p>	<p>Homes enrolled in the 2012 performance incentive tiers that do not complete in 2012, will be served under the 2012 incentive level until November 1, 2013.</p> <p>The PAs will include preliminary incentives amounts and prescriptive option details in the September version of the Plan.</p>

<u>SECTOR</u>	<u>PROGRAM</u>	<u>CORE INITIATIVE</u>	<u>ADMINISTERED BY</u>	
LOW-INCOME	WHOLE HOUSE	LOW-INCOME SINGLE FAMILY	ELECTRIC & GAS PAs	<ul style="list-style-type: none"> JOINT PA - SPECIFIC
Core Initiative Overview	<p>Key Objectives:</p> <p>The Low-Income Single Family Core Initiative implements cost-effective, energy efficiency products and services directly for residential customers living in 1 to 4 unit dwellings in which at least 50 percent of the occupants are at or below 60 percent of the state median income level. The initiative leverages all applicable revenue streams and piggybacks on the current Department of Housing and Community Development (“DHCD”) Weatherization Assistance Program (“WAP”), consistent with a comprehensive, whole house approach generally with no co-payment required from participating customers.</p>			
	<p>New Enhancements:</p> <ul style="list-style-type: none"> The PAs will continue to work with the Best Practices Working Group to identify new cost-effective energy efficiency services, measures and technologies that are appropriate to offer to income-eligible customers. LED lighting is one of the primary new measures that has been and will continue to be examined as the technology evolves and pricing declines. The Heat Pump Water Heater (50 gallon and 80 gallon tank) is also a new measure for the initiative as it was deemed cost-effective for use when replacing an electric water heater of equivalent size. While this measure provides excellent savings potential, installations are required to meet manufacturer recommended temperature and space specifications as well as condensation removal criteria. PAs will work with the Low-Income Energy Affordability Network (“LEAN”), state organizations such as the DHCD, lead vendor, and Community Action Program (“CAP”) agencies to increase qualified contractor participation in the initiative through training and workforce development. The PAs also plan to continue to support contractor and auditor training as needed. 			

<p>Core Initiative Design</p>	<p>The PAs will work in collaboration with the Best Practices Working Group, including LEAN, DHCD, lead vendor (where applicable), and CAP agencies to coordinate statewide on all aspects of the Low-Income Single Family Core Initiative, including but not limited to planning, delivery, implementation, education, marketing, training, cost-effectiveness, evaluation, and quality assurance.</p> <p>Once customers are deemed eligible, they will receive an in-home energy assessment from their local CAP agency. The assessment evaluates the building shell, efficiency and appliance conditions (for electric PAs only), as well as home health and safety. The CAP agency will then arrange for all applicable measures and services to be installed by a qualified contractor. Savings will be deepened by installing additional efficiency measures; to the extent the overall initiative remains cost-effective.</p> <p>The initiative piggybacks on the current DHCD WAP. All applicable revenue streams available are leveraged to enhance services consistent with a whole-house approach. PA funding will primarily be used to address more items on the cost-effective priority list. Federal money will primarily be used to address health and safety issues, as well as repairs, to allow for cost-effective energy efficient measures to be installed.</p> <p>As mandated by DHCD for all projects that receive Department of Energy (“DOE”) funding, the CAP agencies perform 100 percent post-installation quality assurance inspection of projects to ensure that all work is performed to the program guidelines. The CAP agencies also perform a minimum of 50 percent in-process inspection of projects. Because the PA initiative piggybacks on the DHCD program, many jobs are multi-funded therefore, quality control is completed for both DOE and PA funded projects at the same time. DHCD performs another level of visual inspection for 20 percent of all DOE-funded projects. During these inspections, DHCD reviews both DOE and PA funded work. Additionally, the PAs have an independent third-party vendor perform quality assurance inspections for an additional level of quality control. PAs require a specified percentage of all jobs exclusively funded by the PAs to be inspected.</p> <p>Energy efficiency education and information is provided to all participating customers. The primary form of energy education is verbal communication between the auditor and the client along with leave-behind materials. The Low-Income Single Family Core Initiative plans to review the opportunity of developing common education materials with the Best Practices Working Group.</p>
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<p>Marketing Overview</p>	<p>Target Market:</p> <p>Residential customers living in 1 to 4 unit dwellings who are at 60 percent of the state median income level and who are qualified to receive fuel assistance and/or utility (or municipal aggregator) discount rates. For 2 to 4 unit dwellings, 50 percent of the occupants must qualify as low-income in order to be served by the Low-Income Single Family Core Initiative.</p> <p>Any changes to eligibility criteria will be addressed collectively between the PAs, LEAN, DHCD, lead vendor (where applicable) and CAP agencies.</p> <hr/> <p>Strategy:</p> <p>Marketing outreach designed to reach more income-eligible customers and maximize energy savings opportunities will continue to expand through the 2013 – 2015 Low-Income Single Family Core Initiative (where applicable). PAs, in collaboration with lead vendor (where applicable) and CAP agencies, will continue to engage in targeted, localized outreach efforts to notify customers of the availability and value of energy efficiency services. Marketing consists of contacting qualified income-eligible customers subscribing to the discount rate who have not received prior energy efficiency services. Telemarketing, direct mail, bill inserts, and literature distributed through social services agencies, government offices, and other networks are also used to market the initiative. In addition, PAs are participating in statewide marketing efforts to encourage all customers to participate in energy efficiency initiatives. Those efforts will assist in driving income-eligible customers to take advantage of not only energy efficiency programs but also discount rates, fuel assistance and other social programs. Awareness of the initiative is also gained through participation in local community events such as job fairs, senior centers, and employee presentations, which may include case studies.</p> <p>Outreach and marketing efforts as well as PA collaboration will be expanded as needed. Approaches may include building relationships with unemployment centers, medical service providers, and other venues that could reach potential income-eligible customers. PAs will continue to examine other potential service providers and venues such as community-based outreach that could reach income-eligible customers.</p>
<p>Technologies/Incentives</p>	<p>The following is a list of targeted end uses, recommended technologies, and incentives (not meant to be limiting) offered where qualified:</p>

	Targeted End Use	Technology	Incentive
	Building Shell	Insulation (Attic, Wall, Pipe, & Duct)	No cost to customer with established caps (where applicable)
	Building Shell	Air Sealing / Duct Sealing	
	Heating	Heating System Repair & Replacement	
	Domestic Water Heating	DHW Measures (Low Flow Showerhead, Faucet Aerator, & Pipe Wrap)	
	Domestic Water Heating	50 and 80 gallon Heat Pump Water Heater (Electric)	
	Comprehensive, Whole House Approach	Weatherization Repairs (electrical repairs, roofs, etc.)	
	Comprehensive, Whole House Approach	Health and Safety	
	Lighting and Appliances	LEDs	
	Lighting and Appliances	CFLs	
	Lighting and Appliances	Lighting Fixtures	
	Lighting and Appliances	Torchiere	
	Lighting and Appliances	Refrigerator Replacement	
	Lighting and Appliances	2 nd Refrigerator Removal	
	Lighting and Appliances	Freezer Replacement	
	Lighting and Appliances	“Smart” power strips	
HVAC/Mechanical Systems	Window Air Conditioner Replacement		
	The PAs will work with the MTAC to include new measures or technologies as appropriate and in coordination with LEAN’s other efforts.		
Delivery Mechanism	PAs, when appropriate, use a lead vendor to administer the initiative. The PAs work closely with their lead vendor and/or respective CAP agencies on all aspects of the initiative design and implementation. The lead vendor/CAP agencies are responsible for providing coordination of energy efficiency services to the customer. The lead vendor/CAP agencies work with installation contractors to ensure that the proper initiative guidelines are enforced. These agencies are also responsible for ensuring that the customer		

	meets the eligibility requirements for initiative participation and providing the lead vendor and/or PA with the required documentation of all work performed. Quality assurance is completed by the CAP agencies, DHCD, as well as by a PA funded independent third party vendor.
Three-Year Deployment Strategy/Roadmap	The PAs will coordinate efforts through the existing low-income weatherization and fuel assistance program via the LEAN network to ensure consistent implementation throughout the state and retain the advantages of the existing infrastructure of central coordination while avoiding the creation of a new or central entity. Training and workforce development will be accomplished by the PAs working with LEAN, DHCD, lead vendors and CAP agencies to increase the number of qualified contractors, energy auditors, and administrative staff. The PAs in conjunction with LEAN, the lead vendors and the CAP agencies will continually review and evaluate new measures and technologies. All applicable revenue streams available will be leveraged to enhance services. Through marketing and outreach efforts, the PAs will attempt to broaden initiative participation. PAs will attempt to deepen efficiency penetration consistent with a comprehensive, whole house approach.
Special Notes	

<u>SECTOR</u>	<u>PROGRAM</u>	<u>CORE INITIATIVE</u>	<u>ADMINISTERED BY</u>	
LOW-INCOME	WHOLE HOUSE	LOW-INCOME MULTI-FAMILY	ELECTRIC & GAS PAs	<ul style="list-style-type: none"> • JOINT PA - SPECIFIC
Core Initiative Overview	<p>Key Objectives:</p> <p>The Low-Income Multi-Family Retrofit Core Initiative leverages all applicable revenue streams and provides cost-effective, residential energy efficiency improvements that benefit income-eligible occupants and owners of multi-family buildings. Energy efficiency products and services are implemented directly in the dwellings of residential, income eligible customers living in multi-family facilities (with 5 or more attached units), in which at least 50 percent of the occupants are at or below 60 percent of the state median income level. The Program Administrators will provide up to 100 percent of the cost-effective project with established caps based on projected savings.</p>			
	<p>New Enhancements:</p> <ul style="list-style-type: none"> • In 2012, the funding of the Low-Income Multi-Family Core Initiative and Low-Income Single Family Core Initiative was proposed to be combined. The PAs continue to combine funding for the Low-Income Multi-Family and Single Family Core Initiatives in 2013-2015 to offer more flexibility in servicing the greatest potential number of income-eligible customers if demand for one initiative surpasses the other. • The PAs will continue to work with the Best Practices Working Group to identify new cost-effective energy efficiency services, measures and technologies that are appropriate to offer to income-eligible customers. Common area lighting controls provide an excellent opportunity to reduce wasted lighting energy in common-area applications such as stairwells and hallways when the area is unoccupied. All PAs will include best practices within the 2013-2015 Low-Income Multi-Family Core Initiative. LED lighting is a new measure that has been and will continue to be 			

	<p>examined as the technology evolves and pricing declines. The Heat Pump Water Heater (50 gallon and 80 gallon tank) is another new measure for the initiative as it was deemed cost-effective for use when replacing an electric water heater of equivalent size. While this measure provides excellent savings potential, installations are required to meet manufacturer recommended temperature and space specifications as well as condensation removal criteria.</p> <ul style="list-style-type: none"> • As a new initiative in 2010, the Low-Income Multi-Family Core Initiative focused on multi-family properties that were non-institutional dwellings owned or operated by non-profit entities or public housing authorities. In 2012, based upon available funding, some PAs also served “for profit” properties under the same guidelines in which at least 50 percent of the occupants were at or below 60 percent of the state median income level. With better data and more experience in this sector, the Low-Income Multi-Family Core Initiative for 2013 – 2015 will broaden participation and plans to serve “for profit” multi-family properties in addition to “non-profit” multi-family properties based upon an individual PA’s budget constraints with prioritization for the “non-profit” properties. • PAs will work with the Low-Income Energy Affordability Network (“LEAN”), the Low-Income Multi-Family Advisory Committee, state organizations such as the Department of Housing and Community Development (“DHCD”), and Community Action Program (“CAP”) agencies to increase qualified contractor participation in the initiative through training and workforce development. The PAs also plan to continue to support contractor and auditor training as needed. • Currently, the Low-Income Multi-Family Core Initiative serves properties that are heated by gas and electricity; however, facilities heated by deliverable fuels are excluded from participating in all of the available energy efficiency measures that are offered within the initiative, specifically weatherization improvements and heating system repairs and replacements. The 2013-2015 Multi-Family Core Initiative plans to explore the potential of offering all available measures and incentives to any eligible multi-family facility regardless of fuel type.
Core Initiative Design	<p>The Low-Income Multi-Family Core Initiative services properties that have five or more units in which at least 50 percent of the occupants are at or below 60 percent of the state median income level. Eligibility for the initiative measures and services will be based on the established cost-effectiveness test, which</p>

includes agreed upon non-energy benefits, and will not be restricted, to the greatest extent possible, by rate class associated with the meter(s) for the facility. Eligible projects involve efficiency upgrades for buildings with currently high energy consumption and require that applicants participate in benchmarking their building's energy usage post-improvements.

The PAs will work in collaboration with the Best Practices Working Group including LEAN, the Multi-Family Advisory Committee, DHCD, lead vendors, and CAP agencies to collaborate and coordinate statewide on all aspects of the Low-Income Multi-Family Core Initiative, including but not limited to planning, delivery, implementation, education, marketing, training, cost-effectiveness, evaluation, and quality assurance. When topics to be discussed apply to both market-rate customers and low-income customers, PAs will further coordinate between initiatives as needed.

The initiative will be structured to ensure that participants are provided with a “whole building”; fully integrated offering that targets both gas and electric end users. Once a property is deemed eligible, it will receive an energy assessment through a lead vendor or local CAP agency. The assessment evaluates the building shell, efficiency and appliance conditions (for electric PAs only), as well as home health and safety. The CAP agency will then arrange for all applicable measures and services to be installed by a qualified contractor. Savings will be deepened by installing additional efficiency measures; to the extent the overall project remains cost-effective.

The initiative piggybacks on the current DHCD low-income energy efficiency programs and all other eligible funding sources (*i.e.*, federal and state) to enhance services consistent with a whole-building approach. PAs will use a lead vendor or local CAP agency to administer the initiative. Sub-contracting will be appropriate to the complexity of the work required and will be based on a similar audit tool as in the Multi-Family Retrofit Core Initiative. Low-income customer inquiries will be referred to the lead vendor/CAP agency, the Multi-Family Advisory Committee, or PA by the Multi-Family Market Integrator (“MMI”), as defined in the Multi-Family Retrofit Core Initiative. Low-income customers may also apply directly to the initiative via their PA and/or local CAP agency. An essential element of this initiative is that interested customers also have the option, at their discretion; of electing to participate in the Multi-Family Retrofit Core Initiative. This approach helps ensure that there are multiple paths to participation in energy efficiency initiatives in this unique market sector that has also been served over many years by skilled contractors and engineering firms. These firms will continue to be eligible to provide services in this sector, both through the Multi-Family Retrofit Core Initiative (and its terms and conditions) and,

	<p>where qualified, as providers for the Low-Income Multi-Family Core Initiative under the terms and conditions of this initiative.</p> <p><u>Customer Education</u> Energy efficiency education and information are included in all PAs’ energy efficiency initiatives. The primary forms of energy education are benchmarking building inventories and verbal communication between the auditor and the participants. The Low-Income Multi-Family Core Initiative plans to develop/improve education materials and material distribution which will include education for landlords, property managers, building occupants, and property management personnel as well as development of case studies.</p>
<p>Marketing Overview</p>	<p>Target Market:</p> <p>Residential customers on the discount rate and/or customers living in multi-family facilities with five or more dwelling units in which at least 50 percent of the occupants are at or below 60 percent of the state median income level in addition to the landlords and property managers of these buildings.</p> <p>Any changes to eligibility criteria will be addressed collectively between the PAs, LEAN, lead agencies and CAP agencies.</p> <hr/> <p>Strategy:</p> <p>Demand for the Low-Income Multi-Family Core Initiative will be managed jointly by the PAs and the Multi-Family Advisory Committee.</p> <p>The PAs will engage in outreach efforts to notify customers of the availability and value of energy efficiency services to stimulate interest in the initiative and operate within budgets. Marketing will consist of contacting landlords or property managers of income-eligible tenants. Direct mail, bill inserts, case studies and literature distributed through social service agencies, housing funders, government offices, community outreach, and other networks are also used to market the initiative. PAs will use their relationship with PHAs, CDCs, community based outreach and other income-eligible property managers to market the benefits of the initiative.</p>

	<p>In addition, PAs are participating in statewide marketing efforts to encourage all customers to participate in energy efficiency initiatives. Those efforts will assist in driving income-eligible customers to take advantage of not only energy efficiency programs but also discount rates, fuel assistance, and other social programs when appropriate.</p>		
<p>Technologies/Incentives</p>	<p>The following is a list of targeted end uses, recommended technologies, and incentives (not meant to be limited) offered:</p>		
	<p>Targeted End Use</p>	<p>Technology</p>	<p>Incentive</p> <p>PAs will pay up to 100 percent of the project cost with established dollar caps where applicable. Larger capital investment projects will be screened for cost-effectiveness (with the Multi-Family Advisory Group).</p>
<p>Building Shell</p>	<p>Insulation (Attic, Wall, Pipe, & Duct)</p>		
<p>Building Shell</p>	<p>Air Sealing</p>		
<p>Heating</p>	<p>Heating System Repair & Replacement</p>		
<p>General Waste Heat</p>	<p>Programmable Thermostat</p>		
<p>Domestic Water Heating</p>	<p>DHW Measures (Low Flow Showerhead, Faucet Aerator, Pipe Wrap, & Tank Wrap)</p>		
<p>Domestic Water Heating</p>	<p>Water Heating Equipment</p>		
<p>Domestic Water Heating</p>	<p>Heat Pump Water Heater (Electric)</p>		
<p>Lighting and Appliances</p>	<p>LEDs</p>		
<p>Lighting and Appliances</p>	<p>CFLs</p>		
<p>Lighting and Appliances</p>	<p>Lighting Fixtures</p>		
<p>Lighting and Appliances</p>	<p>Common Area (Interior & Exterior) Lighting Upgrades & Controls</p>		
<p>Lighting and Appliances</p>	<p>Torchieres</p>		
<p>Lighting and Appliances</p>	<p>Refrigerator Replacement</p>		
<p>Lighting and Appliances</p>	<p>Freezer Replacement</p>		
<p>Lighting and Appliances</p>	<p>ENERGY STAR[®] Clothes Washer</p>		
<p>Lighting and Appliances</p>	<p>Power Smart Strips</p>		
<p>HVAC/Mechanical Systems</p>	<p>Window Air Conditioner Replacement</p>		
<p>HVAC/Mechanical Systems</p>	<p>Energy Management System (EMS)</p>		
<p>HVAC/Mechanical Systems</p>	<p>Motors and drives</p>		
<p>HVAC/Mechanical Systems</p>	<p>Chillers</p>		

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Comprehensive, Whole House Approach	Health and Safety															
Delivery Mechanism	<p>The PAs will work with the MTAC to include new measures or technologies, as appropriate, and in coordination with LEAN’s other efforts.</p> <p>The initiative will be administered cooperatively by the gas and the electric PAs in conjunction with interested stakeholders.</p> <p><u>Enrollment</u> Participants for this initiative may enroll through a local CAP agency, statewide website, the multi-family statewide toll free number, PA(s), the Low-Income Multi-Family website or other venue.</p> <p><u>Participant Screening</u> Currently, the Multi-Family Advisory Committee comprised of LEAN, Community Development Corporations (CDCs), other non-profit owners of low-income non-institutional multi-family housing, and Public Housing Authorities (PHAs) are tasked with prioritizing low-income multi-family projects for each PA. The Advisory Committee integrates flexibility into their planning to handle unique needs of PAs and their customers or potential participants.</p> <p>Due to the nature of this market segment, most leads will be generated through the Multi-Family Advisory Committee; however, leads coming in via other venues will be screened by the MMI and forwarded to the</p>															

Multi-Family Advisory Committee for eligibility confirmation.

Upon confirmation of a project, the lead vendor or CAP agency is responsible for coordinating the appropriate parties to address the project needs based on protocols agreed to by the specific PA(s) and in consultation with the specific PA(s) to move the project forward.

Whole Building Assessment

Based on the outcome of the screening process, the appropriate technical resources will be assigned to conduct a whole building, (fuel blind) assessment. The lead vendor or local CAP agency will attempt, through the screening process, to identify all resources required for the assessment; however, there may be instances where additional expertise is required and therefore more than one site visit is necessary. Technical assessments and engineering studies will be conducted as needed. At the time of the assessment, education will be provided to participants and instant saving measures will be installed, as appropriate and authorized by the customer.

Integrated Proposal for Energy Efficiency Services

Using the findings from the site-specific assessment, the appropriate parties will draft a project proposal that will include gas and electric cost-effective measure opportunities and other available services where applicable. The project proposal will be forwarded to the appropriate PA(s) for approval. Once the comprehensive offer has received PA approval, it will be presented to the participant by the parties required to help the customer fully understand the offering.

Delivery of Measures and Services

The lead vendor or CAP agency will coordinate the delivery of the measures and services. The installation contractors will strive to have all dwelling unit measures installed in a single visit to minimize disruption for the tenants; however, multiple visits may be required for the installation of common area measures. All installations are coordinated with the owners, property managers and the tenants.

Quality Assurance/Quality Control

Quality assurance will be performed in support of this initiative. Quality assurance is completed by the CAP agencies, as well as by a PA funded independent third party vendor.

The delivery mechanism serves to minimize lost opportunities and encourage deeper savings in the

	<p>following ways:</p> <ul style="list-style-type: none"> • The increased incentive amounts may allow for achieving energy savings that would not be possible if this population had to provide a significant co-payment. • Having the PHAs and CDCs and other owners of non-institutional low-income multi-family housing involved in the process helps facilitate access to the tenant spaces, which has been traditionally cited as a potential barrier in the multi-family market.
<p>Three-Year Deployment Strategy/Roadmap</p>	<p>The PAs will coordinate efforts via the LEAN Network to ensure consistent implementation throughout the state and retain the advantages of the existing infrastructure of central coordination while avoiding the creation of a new or central entity. Participants may inquire for enrollment through a CAP agency, statewide website, low-income multi-family website, multi-family statewide toll free number, PAs or other venue. Many leads will be generated through the Multi-Family Advisory Committee; however, leads coming in via other venues will be screened by the MMI and/or the PAs and forwarded to the lead vendor/CAP agency for eligibility confirmation. Once eligibility has been confirmed, the Multi-Family Advisory Committee prioritizes the low-income multi-family projects for each PA. Training and workforce development will be accomplished by the PAs working with LEAN, DHCD, and CAP agencies to increase the number of qualified contractors, energy auditors, and administrative staff. The PAs in conjunction with LEAN and the CAP agencies will continually review and evaluate new measures and technologies. All applicable revenue streams available will be leveraged to enhance services. Through marketing and outreach efforts, the PAs will attempt to broaden participation. PAs will attempt to deepen efficiency penetration consistent with a comprehensive, whole building approach.</p>
<p>Special Notes</p>	

d. C&I Program Descriptions

Overview of C&I Efforts

Lessons Learned

Over the past three-year program ramp up, success was achieved from both organic growth of existing programs, along with targeting new program areas and strategies. Items of mention include moving incentives upstream to achieve broader adoption of new construction/equipment replacement opportunities, incorporating LED technologies specifically in socket and street lighting applications, creating multi-year agreements with the PAs' largest customers and leveraging ARRA funds with municipalities.

Although ARRA funding created a time-specific stimulus, there are expected to be some continuing effects of this program. The collaborative working relationship established during the ARRA stimulus with state and federal agencies (such as Mass Energy Leaders, DOER, DCAM, DEP, Green Communities Division and EPA) has created alignments and processes benefiting multiple stakeholders. These efforts will continue to be enhanced and leveraged going forward.

Areas that have had more challenges have been where the PAs have tested community-based campaigns where the focus is non-residential customers. While the largest of these recent field campaigns is still being evaluated, results to date point to such efforts often being most successful at generating increased awareness and engagement, rather than increased measurable energy savings. The PAs intend to work internally and with external partners to refine efforts during 2013-2015 utilizing PA driven delivery models so as to carefully ensure quality control, consistent messaging, and greater alignment with mandated savings goals.

Financing was also a focus over the past several years as it was identified as a barrier to participation. An offering was developed in collaboration with the Massachusetts Bankers Association ("MBA") providing a streamlined process and low interest rates for customers. There has been limited uptake on this offering. In speaking more closely with customers, a common response has been that access to capital is not the barrier but rather that energy efficiency has to compete with other internal investment opportunities. This was validated through some of the interviews conducted by Synapse. Additional concepts of "off-balance sheet" financing have been discussed; however, these concepts challenge GAAP (Generally Accepted Accounting Principles).¹⁹ Efforts moving forward will continue to highlight the favorable investment attributes of efficiency and promotion of both the MBA offering, as well as Performance Contracting and other financing vehicles. In addition, the PAs will develop tools providing customers with additional financial perspectives to evaluate efficiency investments.

One of the benefits of having multiple Program Administrators is the ability to test different models and to share best practices. Two key examples include NSTAR's Municipal Program to test a direct-install model specific to municipal customers. In addition, National Grid

¹⁹ National Grid will continue to offer on-bill repayment to small businesses and other non-residential electric customers as a tool for addressing this barrier to participation. A portion of National Grid's budget includes funding for this purpose.

is testing a comprehensiveness initiative that increases their multiple measure bonus from 10% to 25% in the summer of 2012. This enhanced incentive is intended to encourage greater comprehensiveness and to smooth out participation during the year. National Grid will share the lessons learned from this effort with the C&I Management Committee in the fourth quarter of 2012. Depending on the success of this effort, the other PAs may adopt a similar approach in 2013.

There has been significant success in moving from separate electric and gas delivery to an integrated gas/electric delivery model. Cross training has been conducted for both internal and external personnel. In the Direct Install initiative, post audits have been conducted to confirm DI vendor compliance and customer satisfaction. For large customers, multiple-PA multi-year agreements have been signed, and co-funded TA studies and projects have been implemented. The marketplace has also responded with vendors hiring new technical staff, and partnering and merging in order to acquire integrated delivery capabilities. The PA management committees and working groups all include representatives from both electric and gas PAs and they all continue to focus on opportunities to further streamline efforts for customers, enhance comprehensiveness, and to move forward with enhancements in the integration effort. Sub-committees are also represented for both electric and gas, resulting in coordinated development of new strategies as evidenced by the recently-launched upstream model. In addition the PAs continue to focus on creating an expanded pool of technical assistance vendors and program expeditors (“PEXes”) who have the ability to pursue comprehensive electric and gas opportunities for the participating customer.

Structural Changes

PAs will be consolidating the former Direct Install program into an initiative under the Retrofit program. The purpose of this change is to create improved clarity for customers. Post-consolidation, non-residential customers will have the option to participate in either the Retrofit or New Construction Programs. In addition, this clarification also helps to distinguish for stakeholders the different characteristics (*e.g.*, incentive basis, decision makers, barriers, market actors, and project timeframes) of these two large programs and direct go-to-market strategies for each.

Moving Forward

In order to both sustain current program activity levels, and ramp up to new levels of savings, PAs will continue to expand current efforts while focusing on several initiatives that are described in detail below. The intent is not to add programs to increase participation, but instead to identify, understand and look for ways to overcome barriers to participation. The PA strategy is to promote the adoption of appropriate efficiency services and solutions, not specific programs.

<u>SECTOR</u>	<u>PROGRAM</u>	<u>ADMINISTERED BY</u>	
COMMERCIAL & INDUSTRIAL	RETROFIT	ELECTRIC & GAS PAs	• JOINT
			PA - SPECIFIC
Program Overview	<p>Key Objectives:</p> <p>This program increasingly will focus on comprehensive gas and electric energy efficiency opportunities associated with mechanical, electrical, and thermal systems in existing commercial, industrial, governmental and institutional buildings. The Retrofit program provides technical assistance and incentives to encourage the retrofitting of equipment that continues to function, but is outdated and inefficient, and can be replaced with a premium efficient product. The program includes both prescriptive and custom measures.</p> <p>The program provides technical assistance (to identify and quantify opportunities) and financial incentives based on a percentage of project costs (both material and labor) to make equipment removal and replacement attractive to building and business owners in terms of conventional business payback requirements. Given the current low cost of gas, this will likely require an increase in incentives currently offered for gas energy efficiency measures.</p> <p>The program can also help participants identify specific peak load management opportunities that enable participants to maximize other time-based incentives – such as those available from the ISO – to manage their electric and thermal loads, and assists occupants in improving their ongoing operation and maintenance practices. While the primary focus of efforts is on energy savings opportunities, the PAs recognize the value of creating demand savings that can be bid into the FCM, providing enhanced funding for efforts.</p> <p>New Enhancements:</p> <p>Program Definition - Movement of the Small Business Retrofit Program (Direct Install (“DI”)) into the overall C&I Retrofit Program, as a sub-program/initiative targeted toward smaller C&I customers with combined peak demand of 300kW or less</p>		

Financing/Energy Efficiency Investment: Additional financial tools, for use starting in Q1 2013 for improved customer evaluation of financial benefits. Additional opportunities to address competition for internal customer resources for energy efficiency investments will also be explored in 2013 – 2015.

Municipalities: Review and adoption as appropriate of the dedicated turn-key Municipal Track model currently being used by NSTAR in 2013.

Expanded Service Offerings: Improving customer experience and broadening service offerings by exploring new delivery pathways for both small and medium sized customers, as well as for larger customers who choose a more limited engagement in energy efficiency. The new delivery pathways may include:

- A web based portal to provide one-stop-shopping for customer efficiency opportunities
- Self-assessment through the internet portal to provide a more interactive with the customer
- Personal assistance via conduits such as web-based (chat) or telephone support services that would screen potential customers/facilities to best target services to customers that address their specific needs.
- Fee-Based On-site assessment will be developed to evaluate energy efficiency opportunities when savings potential appears limited and/or customer commitment to implementation is uncertain.

Community Based Implementation Campaigns: Overcoming challenges to delivery realized by some of the smallest customers by targeting geographical areas with high densities of small customers in order to achieve economies of scale in implementation cost.

LED Street Lighting: Continuation or launching of major retrofit initiatives for municipally-owned streetlights by several PAs, and evaluation by others. New PA working group to focus on addressing regulatory and technical issues surrounding the implementation of efficiency options for utility-owned street lighting.

Market Segmentation: Consideration of industry-segmented marketing approaches, delivery systems, value propositions and offerings to better meet the needs and interests of those segments. Examples include Healthcare and Commercial Real Estate which have been described above.

<p>Program Design</p>	<p>Key strategies of the Retrofit Program as planned for 2013-2015 include:</p> <p><u>Technical Assistance Services:</u></p> <p>Solid, professional, unbiased, and independent technical advisory services provide the foundation for the achievement of deep and broad savings in existing buildings. The Technical Assistance (“TA”) Services component of the program will continue to provide technical support matched to the specific needs and capabilities of each commercial or industrial customer. Services include walk-through audits, detailed energy-efficiency studies for buildings or building components, and specialized technical studies, such as studies of industrial process improvements and compressed air projects.</p> <p>Study proposals are typically assigned to and performed by TA consultants who have been selected as preferred vendors through a competitive procurement process by the PAs. TA consultants will be assigned based on an assessment of their expertise with the technology area under consideration. Customers can also elect to use a TA provider of their own choosing as long as the co-funding PA approves the firm’s qualifications and cost-estimate. Non-preferred vendors must comply with the same level of detail and quality as preferred vendors.</p> <p>In many instances, commercial and industrial customers may have both gas and electric equipment options for a particular end-use. In order to (a) encourage more comprehensive, integrated, and balanced consideration of all the energy efficiency options available, and (b) ensure that customers have open choices, the gas and electric PAs delivering the statewide program will continue to provide coordinated TA studies. In addition, starting in 2013, PAs will <i>require</i> the consideration of both gas and electric opportunities in order for customers to be eligible for TA funds. In general, as previously, the study costs will be shared between gas and electric PAs according to the proportionate share of the analysis and/or opportunities found through the analysis. Study opportunities are likely to appear in larger complex buildings and industrial facilities.</p> <p><u>Municipalities:</u> Municipalities often have unique barriers, which the Municipal Initiative is designed to help overcome. These barriers can include capital and staff limitations and procurement processes, which were not designed to easily accommodate the vendor-driven process of energy efficiency. Municipalities may</p>

lack the technical resources to become familiar with complex efficiency options, and requirements for governing body approval of all capital budget items can make it difficult for municipal officials to act on opportunities to reduce energy costs. Also, many cities and towns have very old public facilities with old systems. Local government structures also delegate responsibility for energy upgrades to the individual department level, while payment of bills often resides at a central finance office. Thus, there is little incentive for departments to upgrade the energy efficiency of their buildings because the reward for reduced energy bills may simply be a reduced operating budget in the subsequent year.

The cumulative consequence is that municipal customers often have very outdated and inefficient energy systems. Because savings per building may be low and the transaction costs of public procurements are high, energy service companies have little or no incentive to market to these customers.

The Green Communities Act provides a new streamlined contracting process that allows cities and towns to sole-source efficiency projects to a PA, or the PA's delivery contractors, if the total work is less than \$100,000. By providing upfront competitive bidding, enhanced financial incentives, and PA financing options, including on-bill payment, some PAs have been able to provide a turnkey service with incentives structured to create positive cash flow and to encourage comprehensive projects. This addresses many of the implementation barriers cited above.

The Program Administrators will use direct, targeted outreach to municipalities to ensure that they are aware of all energy services and customized assistance available to facilitate participation, and will make every effort to simplify transaction and administrative burdens for this key customer segment. Based on a sharing of best practices, both National Grid and Western Massachusetts Electric Company will adopt the dedicated Municipal Track model currently being used by NSTAR. The remaining PAs will review this model in order to determine the appropriateness of broader adoption by second quarter of 2013.

Compressed Air: Significant energy savings can be achieved from optimizing compressed air systems in industrial facilities (over 100 HP). The focus is on the efficiency of the compressor system elements and recovery of waste heat generated by these systems.

Industrial: Small and large industrial customers will be targeted with a combined gas and electric delivery model. Industrial energy savings opportunities will be viewed comprehensively and all the potential cost and savings streams will be quantified. To support deeper savings with industrial processes, the PAs will

develop specific TA vendors with expertise in certain target industrial processes and customer segments commonly found within PA service territories. The approach will incorporate measures like heat recovery and process improvements, as well as the DOE Steam Assessment and Savings program. Non-gas/electric energy benefits or additional costs related to improvements will be quantified to the extent possible. Examples of additional benefits will include but will not be limited to: raw material, scrap and increased thru-put. The PAs will target industrial opportunities aggressively and will endeavor to more routinely quantify the non-energy benefits of efficiency measures and educate customers about them. This effort will also take into account best practices experience from other PAs across the country.

Retro-Commissioning: Deferred maintenance, piecemeal upgrades, “sensor drift” and other factors affect, and degrade, building operation over time. Retro-commissioning allows a thorough evaluation of all building systems to ensure they are operating as designed. Remedial actions resulting from these studies are usually low cost or no cost and have an immediate impact on the energy use and quality of the building’s operation. Typically, these studies require a significant time investment by a higher level engineer and are may not be not cost-effective. In order to look for ways to reduce such study costs, PAs will examine best practice approaches of other utilities in the US and consider adoption of more cost-effective approaches in Massachusetts in the first quarter of 2014.

Lighting Retrofit Redesign: Many spaces have lighting that was installed without benefit of a customized lighting design matched to the work requirements in the space or with limited or no consideration for comprehensive energy performance. By combining better fixtures, lamps and controls, and altering layout where cost-effective, there is often significant opportunity for both greater energy savings and an improved visual and working environment. Although providing deeper savings, the costs to achieve are currently several orders of magnitude greater than other efficiency measures. The PAs will consider new delivery models that match lighting design expertise with lighting retrofit opportunities to identify lower cost delivery models in this area that would allow this opportunity to be scaled. This will be offered on a limited basis to begin in Q4 2013, and projects will be evaluated through the custom path to determine the potential for a broader customer application and cost effectiveness in 2014.

CHP: The Program Administrators have built on the Combined Heat and Power (“CHP”) experiences in the first Three-Year Plan to identify where CHP is an appropriate opportunity for customers and to actively advocate its implementation. CHP presents the unique challenge of balancing the reduction of metered electric loads with an increased use of fossil fuel required to power the CHP system; other challenges are

long project lead times and a significant capital investment even after incentives are applied. The PAs educate customers that the first step to take prior to considering a CHP installation is to implement all electric and thermal energy efficiency measures as the first priority. This is a specific program requirement as efficiency is by far the most cost effective opportunity and has the potential to reduce the required size of the CHP system.

The PAs survey customers for CHP potential and offer significant technical assistance where appropriate. This begins with an initial scoping assessment of electric and thermal loads, and where this initial scoping indicates that a reasonable potential exists, an offer is made to co-fund an in depth engineering analysis. PAs provide continuous active assistance with the objective of providing customers an unbiased partner in evaluating their CHP potential. This includes clearly communicating about CHP incentive eligibility requirements very early in the process, identifying qualified consulting engineers for the customer to select for the analysis, reviewing the analysis for accuracy, and providing a professional opinion of the feasibility of the CHP opportunity indicated by the analysis. A specific target will be to identify opportunities for back pressure turbines which are particularly cost effective; however back pressure turbines require a specific set of site conditions which occur at a very limited number of customer sites.

Street Lighting: A key component of the PA role for street lighting is to provide stakeholders with knowledge and guidance on the appropriate replacement of older street lighting technologies with more efficient street lighting technology. The Program Administrators will continue to promote efficient street lighting technologies to private and municipal entities. Program Administrators will expand the current collaboration with all stakeholders to address barriers such as regulatory tariffs, which impede implementation of efficient LED and induction street lighting technology.

For customer-owned street lights, the current program offers efficiency services which include technical assistance and both custom and prescriptive incentive options. While the first cost of LED technology was a barrier to achieving cost-effective incentive eligibility in the initial period of the first Three Year Plan, the price of LED street light technology has fallen dramatically in 2012, making broader application of this technology more feasible. Several PAs have embarked on major retrofit initiatives for municipalities in their territories and others are evaluating similar efforts. (See the recent status report by EEAC consultants on this topic.)

The 2nd part of the street lighting initiative will place specific focus on developing efficiency options for

utility-owned street lighting. Implementation of efficiency upgrades for utility owned street lights has the specific challenge of addressing regulated street lighting rate tariffs. A PA street lighting efficiency working group will be convened in Q3 2012 with PA-specific follow up with relevant parts of the organization taking place to collaboratively address regulatory and technical issues. The PAs will provide a status update to the Council in Q4 2012.

Expanded Service Offerings: Building on the experience gained through the first Three-Year Plan, the Program Administrators desire to bring offerings to customers that are timely, easy, cost-effective, and consistent. The Program Administrators currently provide dedicated customer account management for their largest customers and direct install services for small businesses where the opportunities are cost effective. The intent of expanded service offerings is to improve the customer experience and broaden service offerings by exploring new delivery pathways for both small and medium sized customers, as well as for larger customers who choose a more limited engagement in energy efficiency. The hope is that this will lead to greater program participation, while managing costs. The new delivery pathways may include:

- A web based portal to provide one-stop-shopping for customer efficiency opportunities including information on energy efficiency measures targeted to specific segments. A requirements document will be developed by the fourth quarter of 2012, with initial implementation targeted for the end of the second quarter of 2013.
- Self-assessment through the internet portal to provide a more interactive experience where a customer, on their own, may assess their individual operation, benchmark themselves against similar businesses, and learn about energy efficiency opportunities without requiring a site visit. A requirements document is planned for Q2 2013 with rollout anticipated for Q1 2014.
- Personal assistance via conduits such as web-based (chat) or telephone support services that would screen potential customers/facilities to best target services to customers that address their specific needs. This effort may refer back to the self-service portal or lead to more interaction in advance of scheduling additional services. This additional level of service will benefit from experiential learning from the customer portal. Writing of a requirements document is targeted to commence by the Q3 2014 with an anticipated roll out in 2015.
- Fee-Based On-site assessment will be developed to evaluate energy efficiency opportunities when savings potential appears limited and/or customer commitment to implementation is uncertain. The fee structure will be designed to ensure that it is not a barrier to participation, but engages the customer to

encourage implementation. This on-site assessment may lead to a DI vendor visit or the provision of other services available through the C&I Retrofit Program. Development of the fee structure will commence in the fourth quarter of 2012 with roll out anticipated for the first quarter of 2013.

Community-Based Implementation Campaigns: For the smallest customers, challenges exist for both the customer and the Program Administrators given limited incremental savings opportunities. For the customer, there is often insufficient economic motivation to take part in available energy efficiency services. For the Program Administrators, the implementation costs are relatively large compared to the potential savings. Although the intent is to serve a broad base of customers through the self-service portal, there are opportunities to scale efforts through a version of the tested Main Streets or community-based campaign model. This model targets geographical areas with high densities of small customers in order to achieve economies of scale in implementation cost. Typically such models include roll-out for a predetermined campaign period, during which customers in the defined area are offered a limited suite of services at little or no charge. These measures might include lamp and ballast retrofit, spray valves, exit sign retrofits and other energy efficiency measures that lend themselves to blitz delivery in a small to medium retail corridor. Larger opportunities are identified and referred to the traditional DI initiative for follow-up. Customers not able to participate during the promotion are also referred back to the traditional program offerings for later participation.

Several field tests have been conducted using this model with variations in delivery and demographic location. To date, when using third-party promotion and delivery, these field tests have shown dramatically lower participation and customer satisfaction rates than traditional PA-based delivery models. Given these results, the PAs intend to pursue the PA-driven model for the next phase of community-based campaigns undertaken. It should also be noted that although streamlined delivery in these field tests did reduce the impacts of a higher incentive, costs were approximately 15% higher than the traditional Direct Install program. Fully scaled, expectations are that this effort would have about a 5% increase in savings for the customer class serviced under DI.

By Q1 of 2013, a list of suitable geographical areas will be identified for each PA service territory for community-based campaign delivery. Sequencing will be determined based on several factors including soft roll-out, ramp up and integration into overall marketing/promotional activities. Milestones and success indicators will also be established and included in the plan. In Q2 of 2013, an RFP for services will be created and released. Rollout is targeted for Q4 of 2013 and continuing through 2015. Although this effort

has been field tested, measurements of customer satisfaction, customer acquisition rates, costs and other program impacts will be reviewed at various milestones and appropriate corrections will be implemented.

Market Segmentation: In order to achieve greater participation and savings, the Program Administrators will increasingly use market segmentation to inform go-to-market strategies. Customers will be divided into meaningful segments according to a variety of characteristics including usage and demand and industry classification. Based on the specific characteristics of defined segments, marketing approaches, delivery systems, value propositions and offerings can be customized to better meet the needs and interests of individual companies in those segments. As a start for the healthcare sector, MTAC has engaged a research and development firm and has begun discussions on a scope of work to identify efficiency opportunities in the healthcare industry specifically with a focus on large medical equipment. A contract is expected in the third quarter of 2012.

Segmentation by size, as measured by energy usage and/or demand, plays a dominant role in determining the appropriate delivery model, with the largest customers supported by dedicated account executives while smaller customers are supported by a network of direct install vendors. An increasingly important tool available to account executives managing the largest C&I customers is the Memorandum of Understanding (“MOU”)/Strategic Energy Management Plan (SEMP). An MOU offers a way to document a commitment between the customer and PA to work together to achieve mutually stated goals through specific actions that are tailored to the customer’s facilities over a multi-year planning horizon. As such, an MOU can set the stage for achieving deeper and more comprehensive energy efficiency savings, and is more likely to succeed than a “one measure” or “one year” approach. Typically, MOUs include participation by upper management, the establishment of specific, very aggressive energy efficiency saving targets, and measurement and verification strategies to document savings throughout the target facilities.

Segmentation by industry classification, which enables greater insight into the mix of end uses, energy intensity and decision making criteria is invaluable for developing value propositions and offerings and creating marketing materials and messaging. For example, hospital customers have much different operating characteristics and business drivers than grocery customers. Urban hospital customers tend to be large campus-like operations with large energy loads and a wide range of end uses, have a relatively high level of in-house energy and engineering expertise, and longer-term planning horizons. By comparison, grocery customers are considerably smaller, operate in a single building, their energy usage is dominated by refrigeration and lighting, have little or no on-site energy and engineering expertise, and they operate in an

industry with very small margins and thus have much shorter planning horizons and tighter requirements for making financial investments in energy efficiency. As a result, approaching hospital and grocery customers in the same way, with the same message and the same offer is less likely to lead to equally successful results in terms of the willingness to proceed with energy efficiency projects.

Some of the PAs are exploring strategic outreach to segments of their customer base in collaboration with industry partners who have demonstrated success in the identification of comprehensive energy efficiency opportunities that lead to greater comprehensiveness in the segment. Lessons learned from these efforts continue to be shared with view toward identifying best practices that can be adopted by the broader PA team.

Property Management/Real Estate Segmentation: The PAs have identified several barriers that have limited full participation in energy efficiency opportunities in the property management/real estate segment. These barriers include but are not limited to:

- Customer focus on Simple Payback
- Increased complexity of deeper savings measures
- Segmented service providers that focus on only one fuel or only “simple” measures.
- Lack of knowledge of how to acquire deep savings measures.

The PAs are exploring tactics to overcome these barriers, working within the C&I Management Committee in development of a project plan to be presented to the EEAC in Q2 of 2013.

Gas Savings: Given historically low natural gas prices, currently 30 percent below 2011 levels and 80 percent below 2008 levels, the motivation of customers to reduce natural gas usage has diminished significantly since the beginning of the previous three-year plan. As a result, the PAs are focusing on identifying new strategies that will support the achievement of savings goals proposed in this Plan that can overcome this barrier to participation. In July of 2012, the Gas Subcommittee of the C&I Management Committee is convening a strategy session to explore new and improved approaches to increasing gas savings both in the near-term and over the course of the next three years. In addition to the ongoing efforts to improve and streamline cross-PA collaboration in overlapping service territories, the planned addition of gas technologies to the upstream delivery model in late 2012/early 2013, the possible inclusion of additional

	<p>gas measures in the DI program, and the proposal to restrict access to technical assistance funding unless gas technologies are considered, the Gas Subcommittee will be developing additional recommendations for PA-wide consideration and implementation that may include but will not be limited to the introduction of enhanced incentives for customers to make gas energy efficiency investments a more attractive investment for customers.</p> <p>Program Consistency and Best Practice Sharing: The Program Administrators recognize statewide consistency to be an important priority. Likewise, it is important that Best Practice approaches be shared among PAs, whether based on cost, results, program evaluation, or customer feedback, and adopted statewide as practicable. The C& I Management Committee serves as a key forum for sharing of C&I best practices and reviewing of approaches for consistency. The C&I Management Committee is dynamic and regularly reviews its processes and operations in order to continuously optimize effectiveness and will continue these efforts over 2013-2015.</p>
<p>Marketing Overview</p>	<p>Target Market:</p> <p>The target market is all non-residential customers - commercial, industrial, governmental, and institutional. Multi-Family (residential) customers will be channeled through the separate residential Retrofit program described separately in this filing.</p> <p>Strategy:</p> <p>While a variety of marketing approaches will be employed, experience has established that the most successful avenue is through one-on-one communication with customers through account executives, in partnership with trade allies, who can initially identify gas and electric opportunities and gauge customer interest in pursuing an efficiency upgrade, or a comprehensive plan of upgrades. Account managers can leverage their intimate, long-term relationships with customers and their knowledge and analysis of customer data (energy use, demand, sector analysis, etc.). Trade allies such as equipment vendors, consulting engineers and energy service companies, or “channel partners” are key actors in promoting, identifying, and delivering services to customers. Account managers conduct dual sales calls, open houses, training, and new product and service demos with trade allies. All Program Administrator programs are “open” and allow significant flexibility to vendors and customers in determining the optimal implementation strategy and partners for their particular project. The Program Administrator experience with non-residential</p>

	<p>customers has established that this kind of one-on-one “relationship marketing” is most successful in moving businesspeople and institutional/government customers to action.</p> <p>In addition to channel partners, Program Administrators will also leverage closer alliances with turnkey installation contractors. These are firms that have been chosen through a formal bid solicitation and act as agents to the Program Administrators in performing specific program functions. Program Administrators use these firms to strategically market to specific customers, sectors and/or technologies. While channel partners provide widespread marketing and maintain customer flexibility, turnkey installation contractors allow for targeted, coordinated sales along with pre-approved turn-key solutions to customers.</p> <p>In 2013 the Program Administrators will continue working to expand the statewide website and statewide media marketing. Additional marketing approaches may be used by one or more Program Administrators to increase participation and capture deeper, broader savings with their customers. These could include: direct mail; seminars and training sessions; power breakfasts; webinars; participation in trade shows and conferences; co-marketing through trade industry, public interest and civic groups that represent the target market and have extensive outreach capabilities; and informational meetings with energy service companies (“ESCos”) and other contractors and potential trade allies.</p> <p>In addition, Program Administrators expect to supplement these strategies with broad-based radio, printed matter and email-blast outreach. Email alerts and other low-cost means to reach customers will also be adopted to advance customer participation. Program Administrators are currently using on-line communications to bring new and emerging technologies to the attention of their customers. Other social marketing techniques will be used to increase customer awareness of program services and the means to access these services. All these strategies will be integrated into a common marketing plan that will identify key drivers, objectives, strategies, and tactics to increase customer participation.</p>						
<p>Technologies/Incentives</p>	<p>The following is a list of targeted end uses, recommended technologies, and incentives offered:</p> <table border="1" data-bbox="550 1226 1906 1396"> <thead> <tr> <th data-bbox="550 1226 831 1284">Targeted End Use</th> <th data-bbox="831 1226 1205 1284">Technology</th> <th data-bbox="1205 1226 1906 1284">Incentive</th> </tr> </thead> <tbody> <tr> <td data-bbox="550 1284 831 1396">Lighting & Lighting Controls</td> <td data-bbox="831 1284 1205 1396">Efficient lamp technologies</td> <td data-bbox="1205 1284 1906 1396">Financial incentives cover a portion of the total installed project costs, typically by providing up to 50% of labor and equipment costs, or by</td> </tr> </tbody> </table>	Targeted End Use	Technology	Incentive	Lighting & Lighting Controls	Efficient lamp technologies	Financial incentives cover a portion of the total installed project costs, typically by providing up to 50% of labor and equipment costs, or by
Targeted End Use	Technology	Incentive					
Lighting & Lighting Controls	Efficient lamp technologies	Financial incentives cover a portion of the total installed project costs, typically by providing up to 50% of labor and equipment costs, or by					

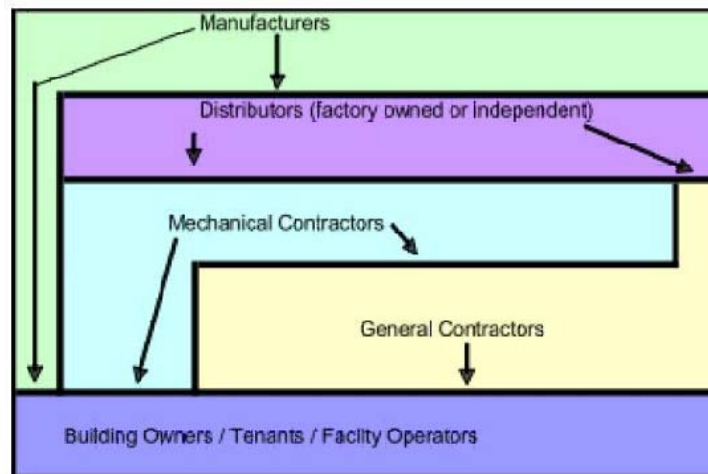
Lighting & Lighting Controls	Efficient Lighting Fixtures	<p>incentivizing the installed costs down to the equivalent of a fixed payback period. Financial incentives may also include co-funded engineering and commissioning studies and/or design incentives covering a portion of incremental architectural and design costs for efficiency improvements. Each PA retains the ability to adjust incentives to address unique barriers encountered when working with customers.</p> <p>Smaller non-residential customers (up to 300 kW) will continue to be served through the DI initiative where turnkey services are available for the identification and installation of cost-effective measures, primarily lighting, refrigeration, spray valves, faucet aerators, thermostats, shower heads and some pipe insulation. Incentives for DI participant tend to be higher than for other Retrofit participants, typically 70% of installed cost on average.</p>
Lighting & Lighting Controls	Lighting Controls	
Motors & Drives	Efficient Motor Drive Systems	
HVAC Equipment	Efficient HVAC systems	
Energy Management Systems	Energy Management Systems	
Compressed Air & Unique Industrial Processes	Compressed Air systems	
Furnaces & Boilers	Advanced Gas Technologies	
CHP	CHP	
Site Specific Custom Measures	Energy Recovery Ventilation Units (ERV's)	
Site Specific Custom Measures	Dehumidification and Humidification	
<p>Additionally:</p> <p>Additional custom measures are supported after evaluation through MTAC and internal PA engineering analysis. The Program Administrators anticipate that some incentives will be adjusted higher to support emerging or underutilized technologies in order to accelerate market acceptance and sales volume. Over time, this strategy is intended to bring down the cost of these measures, and thus the incentive requirements.</p>		

	Incentives for more accepted efficient electric and gas end use technologies may also be increased when they are used in combination with other measures to promote broader and deeper savings. This is the so-called “Multi-Measure Incentive.”
Delivery Mechanism	Program Administrator staff, trade allies and project administrators perform most sales, marketing, program administration, and implementation functions. In some cases, internal staff is supplemented by external trade allies. In addition, outside contractors are retained for technical review of applications, on-site energy analysis, technical and design assistance for comprehensive projects, project commissioning services, and the actual installation of measures and, where appropriate, turn-key services.
Special Notes	

<u>SECTOR</u>	<u>PROGRAM</u>	<u>ADMINISTERED BY</u>	
COMMERCIAL & INDUSTRIAL	NEW CONSTRUCTION	ELECTRIC & GAS PAs	• JOINT
			PA - SPECIFIC
Program Overview	<p>The C&I New Construction program is designed to optimize the efficiency of new equipment, building design and systems in new construction and major renovation of commercial, industrial, institutional and government facilities. Other “lost opportunities” are also addressed through this program, including the initial purchase of equipment and equipment replacement upon failure. This program focuses on offering a comprehensive set of electric and gas efficiency options that are specific to the needs of each unique facility. The program also addresses the limited window of opportunity available to install premium grade replacements when equipment fails or is near the end of its useful life. The Program Administrators partner with advocates, building scientists, and regulators to ensure that the best practices in building design and equipment specifications are introduced and used, resulting in the beneficial evolution of building requirements.</p>		
	<p>New Enhancements:</p> <p>Expanding Upstream Initiatives: The upstream model leverages existing distributor networks and infrastructure to influence thousands of customers and contractors, cost-effectively accelerating the introduction and sale of more efficient equipment, helping to transform markets. This streamlined approach accelerates the adoption of more efficient technologies by removing or reducing the initial cost hurdle at the point of sale without the need for the end user to submit paperwork or rebate forms. It complements the traditional downstream approach in which Program Administrators work directly with customers and installers but, importantly, is able to reach a broader pool of savings opportunities at a much lower cost than would be possible through the traditional downstream approach.</p> <p>Additionally, influencing the replacement-on-failure market through traditional marketing approaches can be very costly. Using an upstream approach in which marketing is focused primarily on distributors can be a much less costly alternative in cases where deemed savings can be applied to discrete equipment purchases. In addition, it virtually eliminates the need for educating downstream market actors.</p>		

The Program Administrators began the new upstream approach in November 2011, focused specifically on LED screw-in and both compact and linear fluorescent lamps. Using this model, the PAs have partnered with electrical distributors and lighting manufacturers to offer LED and reduced wattage linear fluorescent lamps to Massachusetts non-residential facilities. The goal is to transform the market from less efficient standard lighting technology to more efficient technologies such as reduced wattage linear fluorescent and LEDs.

The Program Administrators plan to expand this model with other technologies within the replacement-on-failure market. Current plans call for an assessment of appropriate gas technologies to offer through an upstream approach that will be undertaken during the summer of 2012. Additionally, the selection of a partner to provide support in gas upstream efforts will take place in the fall of 2012, with program rollout in Q1 2013.



Property Management/Real Estate Segmentation: The Program Administrators are developing a comprehensive “go-to-market” strategy for the commercial office market with the goal of achieving higher savings in this segment.

Program Design

In 2013-2015, the Program Administrators will continue to expand and improve upon current suite of

services offered within the New Construction Program:

Technical Assistance (“TA”) Services: The provision of timely, high-quality, independent technical advisory services to design teams is central to the achievement of comprehensive savings in new construction. The TA Services component of the program provides technical support matched to the specific requirements of each project and the needs of each design team. Services may include detailed energy modeling of the performance of the proposed building using various configurations of design and equipment, targeted studies and recommendations for specific building components or systems, or specialized technical studies, such as proposed industrial process improvements and compressed air projects.

In general, study proposals will be assigned to, and performed by TA consultants who have been selected as preferred vendors through a competitive procurement process by the Program Administrators. TA consultants will be assigned by the PA based on an assessment of their expertise with the technology under consideration. Customers can also elect to use a TA provider of their own choosing, as long as the co-funding Program Administrator approves the firm’s qualifications and cost-estimate. Non-preferred vendors must comply with the same level of detail and quality as preferred vendors.

In many instances, customers may have both gas and electric equipment options for a particular end-use. In order to (a) encourage more comprehensive, integrated, and balanced consideration of all the energy efficiency options available, and (b) ensure that customers have open choices, the gas and electric Program Administrators delivering the statewide program will provide coordinated TA studies. In general, the incented study costs will be cost-shared between the gas and electric Program Administrators according to the proportionate share of the analysis and/or opportunities found through the analysis.

Advanced Buildings Core Performance is a comprehensive, prescriptive program for small commercial new construction built around delivering the New Building Institute’s national Advanced Buildings Program.

The Advanced Buildings *Core Performance Guide* applies proven and available energy efficient technology and building science to the design of commercial and institutional buildings in the 10,000–100,000 square foot range. The Core Performance criteria address better performance characteristics in the building envelope, dedicated mechanical heating, cooling and lighting systems, multiple demand control ventilation practices, indoor air quality improvements, and domestic hot water system efficiency. These criteria are

based on the results of 30,000 energy modeling evaluations of three major building prototypes (retail, office, school), with four high-efficiency thermal and HVAC system permutations for each prototype. That analysis identified a package of consistent strategies (the “core” in Core Performance) that lead to predictable energy savings across all climate zones. In Massachusetts, application of all Core Performance criteria will result in buildings with energy savings that exceed the Massachusetts Energy Code by 20-30 percent. In addition, peak energy reduction techniques will be employed to allow participants with either third-party energy supplier time sensitive rate offerings or those enrolled in the ISO-NE Price Response Program additional savings opportunities. Core Performance is accepted by the US Green Buildings Council as an alternative pathway to achieve the energy and environment points required to qualify a smaller building for Leadership in Energy and Environmental Design (“LEED”) certification.

Program Administrators may provide: technical assistance consultants to assist customer design teams to incorporate all the Core Performance features in their buildings, incentives (presented to the customer in easy-to-comprehend \$ per square foot (sqft) terms), independent third party verification of Core Performance compliance, and recognition via certification of the building as an “Advanced Building” as well as ancillary publicity as jointly agreed to by the Program Administrator and the client.

The Core Performance model is best applied in small office, retail, public assembly, and school/preschool applications. (The benefits diminish in lodging, large multi-family and assisted living circumstances.) The economics are based on buildings with central mechanical cooling systems. Building owners and their design teams must agree to comply with all of the essential requirements of the program (the “core”) in order to participate, and they may select other features (“Enhanced Performance Strategies”) to exceed the base savings potential.

In the second half of 2012 the cost-effectiveness of the New Buildings Institute program brand will be reviewed and compared to alternatives. By the end of 2012 a recommendation for best practice will be presented to the C&IMC for implementation in 2013.

Performance Lighting: The Programs Administrators promote high performance lighting technologies and design practices that are either more efficient than standard practice and/or the requirements of the Massachusetts Building Code through incentives for better lighting design. The Performance Lighting option promotes the thoughtful combinations of energy efficient lighting fixtures and lighting controls in

	<p>site-specific lighting designs that produce quality lighting using lower watts per square foot than the current commercial Massachusetts building code.</p> <p><u>Gas Technology and Application:</u> The Program Administrators will continue to jointly deliver state-wide initiatives that target high efficiency heating, water heating, and kitchen equipment and control systems. Program Administrators will continue to identify and evaluate high efficiency gas technologies, as well as energy saving electric technologies, as joint offerings to customers.</p> <p><u>Property Management/Real Estate Segmentation:</u> The Program Administrators are developing a comprehensive “go-to-market” strategy for the commercial office market with the goal of achieving higher savings in this segment. This effort includes working with leading real estate consulting firms to understand building stock, key industry actors, and market characteristics, in order to better sub-segment the market and identify strategies to target these sub-segments with offerings that address specific needs. These efforts are being targeted comprehensively through an MOU strategy. In order to achieve persistence, multi-year corporate engagement is critical. NSTAR and National Grid have been working with several large commercial property owners/operators and are currently testing some of these concepts. By second quarter of 2013, progress will be reviewed and actions adjusted in response to lessons learned.</p> <p>In parallel, National Grid and NSTAR are also progressing on the Office of the Future effort. National collaboration has provided several initial technical projects focused on system integration techniques to provide deeper savings. Although cost effective, these projects were several orders of magnitude more costly than traditional approaches. Opportunities to fine tune the balance between budgets and savings exist. NSTAR and National Grid are in talks with several commercial property owners to implement up to 12 projects which will guide efforts forward. An external project manager and consultant team has been retained. With buy-in from property owners, implementation will be targeted for 2013 and results available for review and presentation to the council in 2014.</p>
<p>Marketing Overview</p>	<p>Target Market:</p> <p>The target market is all time-dependent gas and electric energy efficiency opportunities in the C&I sector – commercial, industrial, institutional, and government customers. Key market actors are architects, engineers, commissioning agents and owners/ developers of new buildings, and manufacturers and</p>

distributors of energy efficiency gas and electric technologies.

Strategy:

Projects involving new construction have significantly different dynamics than retrofit projects. New construction typically requires longer lead-times and involves more decision makers and influencers than retrofit projects. In addition, while retrofit projects typically involve turn-key vendors selling a project specifically on efficiency attributes, a parallel market actor does not exist in new construction. Products are usually specified, not sold.

While the customer is still a key decision maker, it is critical that all stakeholders are included and are informed and influenced toward a common goal of energy efficiency. Although this process starts with the customer and the architect, the final design/product may be changed (value-engineered/alternate specification) by the design engineer or general contractor. To address these dynamics, specific outreach strategies are designed for each of these stakeholder groups. Extensive one-on-one communication is the primary outreach strategy – building relationships by partnering on successful projects and adding value ensures commitment to energy efficiency. This direct marketing is supported through other channels including brown bag educational seminars, formal training such as Labs21, newsletters, and open houses. Direct marketing pieces have been developed to pursue new construction leads identified through such publications as the REED Construction Database and New England Construction News. Additional marketing approaches used by one or more Program Administrators include direct contact with customers identified through trade publications and advertising in local trade publications, seminars and training sessions. The statewide website and statewide media marketing will continue to build overall awareness of the program.

For time-dependent projects involving replacement of failed or end-of-life equipment, marketing efforts focus on customers and equipment vendors rather than on developers and designers. Program Administrators market the equipment replacement track to customers and vendors through extensive one-on-one communication. Supplemental marketing efforts include distribution of promotional material (such as case studies), attendance at trade shows and conferences, breakfast meetings, and other customer and vendor focused training seminars. Program Administrators are exploring innovative ways to work with equipment distributors and installers to help them in promoting energy-efficient equipment and systems to their

customers.

Technologies/Incentives

The following is a list of targeted end uses, recommended technologies, and incentives offered:

Targeted End Use	Technology	Incentive
Lighting Equipment & Lighting Controls	Efficient Lamp Technologies	All Program Administrators' financial incentives structures will be consistent. Both prescriptive incentives (fixed amounts for specific measures) and custom incentives (based on the unique energy savings criteria of a project) are available. Financial incentives typically cover up to 75 percent of incremental labor and equipment costs. Prescriptive financial incentives are offered for selected lighting, motor, variable frequency drive, HVAC measures, heating and water heating, controls and commercial kitchen equipment. Other cost effective measures are promoted with custom incentives based on the incremental equipment and installation labor costs of installing high efficiency equipment compared to standard efficiency equipment, or brought down to an equivalent of a fixed payback period.
Lighting Equipment & Lighting Controls	Direct/Indirect Lighting Fixtures	
Lighting Equipment & Lighting Controls	Lighting Controls	
Motors & Variable Speed Drives	Efficient Motors and Motor Drive Systems	
HVAC Equipment	Efficient Cooling Systems	
HVAC Equipment	Efficient Chillers and Controls	
HVAC Equipment	Dehumidification	
HVAC Equipment	ERVs	
HVAC Equipment	Refrigeration Systems	
Energy Management Systems	Energy Management Systems	
Compressed Air & Unique Industrial Processes	Compressed Air	
Compressed Air & Unique Industrial Processes	Process Improvements	

	<table border="1"> <tr> <td data-bbox="535 188 835 284">Furnaces & Boilers</td> <td data-bbox="835 188 1218 284">Advanced Gas Technologies</td> <td data-bbox="1218 188 1837 284"></td> </tr> <tr> <td data-bbox="535 284 835 357">Building Envelope</td> <td data-bbox="835 284 1218 357">Building Envelope Measures</td> <td data-bbox="1218 284 1837 357"></td> </tr> </table>	Furnaces & Boilers	Advanced Gas Technologies		Building Envelope	Building Envelope Measures	
Furnaces & Boilers	Advanced Gas Technologies						
Building Envelope	Building Envelope Measures						
	<p>Additionally:</p> <p>Additional custom measures are supported only after evaluation through MTAC and internal PA engineering analysis. Design incentives covering a significant portion of incremental architectural and design costs associated with comprehensive energy efficient designs are promoted to encourage comprehensive participation. Program Administrators also combine efforts and co-fund targeted engineering and commissioning studies.</p>						
Delivery Mechanism	<p>Program Administrators will work together to market and implement the program through a unified and cohesive statewide effort to maximize the acquisition of potential energy savings (gas and electric) in the ongoing market for new facilities and replacement equipment in the Commonwealth.</p>						
Special Notes							

e. Codes and Standards

As described by the Program administrators in their June 12, 2012 presentation to the Council, as well as during the EM&V webinar of June 25, 2012, the Program Administrators are actively reviewing the possibility of implementing a codes and standards initiative in Massachusetts during 2013-2015. At this time, the Program Administrators are finishing important background research and studies that are essential to determine if this effort is viable, and if so, the specific focus that will be taken. If sufficient information is available to support this effort in time to assist the Program Administrators with program design and to inform projected savings, a codes and standards proposal will be included in this Plan in the October 31, 2012 filing with the Department.

In overview, the Program Administrators are considering cost-effective approaches to assist in encouraging the adoption of and compliance with more stringent building energy codes and appliance efficiency standards. The intent is to claim the additional savings generated through the unique efforts attributable to PA actions.

The theory behind a codes and standards effort is to capture efficiency opportunities that can be lost if projects are not 100 percent in compliance with the applicable base or stretch code. As codes become increasingly stringent, the construction community is struggling to interpret requirements and to comply with codes. In addition, code enforcement officials may be challenged to fully enforce the energy use provisions of the code, where their focus is more on health and safety related aspects of the code. The gap in the support of energy codes and the research and advocacy efforts required for advancing appliance standards provides a unique opportunity for the PAs. The PAs have established programs that have a successful history of promoting, educating, and delivering energy efficient products. The PAs are in an advantageous position to support code compliance and code enhancement as they work closely with policy makers as well as with vendors, builders, and upstream manufacturers. The pathways and infrastructure that have already been developed over the years can be leveraged by the PAs to successfully deliver and complement existing energy codes with respect to training and education. Existing infrastructure can also be leveraged to provide the research and advocacy required to promote efficiency standards. The PAs, through codes and standards initiatives, will be the conduit to influence and recommend increases and improvements in existing code. Through their relationship with contractors and builders, the PAs will be able to support the implementation of those improvements.

Codes and standards efforts have been cost-effective in other states including California, where codes and standards account for approximately 20 percent of energy efficiency savings. While experience in other states is not necessarily directly applicable to Massachusetts, it serves as an indication that a codes and standards program might be effective in Massachusetts. Ongoing EM&V research, highlighted during the June 25 webinar, also supports this likelihood.

The Program Administrators are engaged in a thorough and organized process to develop codes and standards initiatives and have been working collaboratively with DOER and BBRS on these efforts. Work completed and in progress includes:

- Collaborative PA efforts, both in the residential and C&I areas.

- Hiring of an expert consulting team responsible for codes and standards initiative development.
- Identification of stakeholders and experts (*e.g.*, DOER, BBRs, NEEP etc) and working in collaboration with them.
- Ongoing research to support development of this initiative and to support savings potential.

The potential paths to achieving savings through codes and standards efforts that the PAs are reviewing include:

1. Compliance Support for Base and Stretch Code: Within this initiative, the PAs will work with local builders, building enforcement officials and others to increase the number of buildings complying with the locally applicable energy code, generally either the version of the IECC adopted statewide, or the Stretch Code. Activities may include targeted trainings, outreach and technical support in the form of code ambassadors and circuit riders, compliance documentation tool development, and review support.
2. Stretch Code Development Support: The stretch code initiative will support the DOER's development of a stretch code that exceeds statewide minimum requirements and is adopted by local governments. A coordinated development approach by the PAs will provide technical support for the DOER's development of the stretch code to avoid wasted energy and costs from duplicated efforts, while also providing leverage for local governments to encourage adoption, and increase the likelihood of adoption and compliance.
3. Appliance Standards Advocacy: This initiative's objective would be to accelerate the development and adoption of selected new appliance standards as the target appliances and their advanced levels of efficiency start to become established as current good practice in the marketplace. PAs would provide support including the technical resources necessary for assessment of potential appliance standards and advocacy either at state or regional/federal level.
4. Base Energy Code Advocacy: The objective would be to accelerate the development and adoption of new energy code requirements as the target measures and their advanced levels of efficiency start to become established as current industry good practice.

The Program Administrators are in the process of assessing the anticipated benefits and costs associated with codes and standards efforts. If projections support moving forward, the PAs will seek to claim savings for codes and standards efficiencies directly attributable to their efforts. In order to ensure this result, the EMC is reviewing potential rigorous approaches for EM&V work specifically tailored to potential Massachusetts codes and standards efforts.

The Program Administrators will continue to keep the Council advised with respect to their ongoing codes and standards initiative development activities and the likelihood that a codes and standards proposal will be cost-effective in Massachusetts. The PAs expect to have a definitive decision with respect to 2013-2015 codes and standards initiative planning on or before August 1, 2012. Because no decision has been reached at this time with respect to a codes and standards initiative, there are no costs or savings attributable to such an effort in this Plan.

G. Pilots & Hard-to-Measure Efforts

1. Pilots

The Program Administrators will continue to explore new efforts during the 2013-2015 Plan to determine if a pilot would be a useful tool for studying a new effort. A key goal of any pilot is that pilots yield data that assist in determining if the approach explored in the pilot should be implemented on a larger, statewide scale, as a full program, or an element of a program.

2. Hard-to-Measure Efforts

a. Residential Research and Development (“R&D”)

In the continued efforts to explore new technologies and measures through the MTAC, as well as proactive research and development into areas of interest, the PAs propose a consolidated R&D effort to (a) support the work of the MTAC, and (b) pursue technologies of interest in order to remain at the top of the “innovation curve”.

From 2013-2015, the PAs have an interest in supporting the following as well as new technologies that may present themselves during the three-year cycle:

- Residential Lighting Controls – Although many evaluations have affirmed the value of lighting controls in commercial settings (including multi-family), there is a national interest in assessing the level of savings in lighting controls. The National Electric Manufacturers Association (“NEMA”) in association with the Consortium for Energy Efficiency (“CEE”) has started to explore this work. This effort provides PAs the opportunity to test measures such as dimmers, occupancy sensors, and vacancy sensors in an effort to include this technology in the residential programs. This effort will also assist with compatibility issues of lighting controls with efficient lighting such as CFLs and LEDs.
- Clothes Dryers – Residential “white goods” have historically provided consumers and PAs significant opportunities for energy savings. These savings are directly attributed to the technological advancements and testing procedures introduced into the appliance marketplace, such as refrigerators and clothes washers, over the last decade. Yet, during this same time period clothes dryer energy usage testing procedures remained inadequate and outdated. However, the Department of Energy has recently introduced new clothes dryer testing procedures affording the PAs a new opportunity to test the potential energy savings in residential electric and gas clothes dryers. While the Energy Factor (“EF”)²⁰ has been developed for different tier levels by technology (including heat pumps), the PAs would like to affirm the level of savings as well as applicability in the market in a limited number of homes before launching the Residential Consumer Products Initiative.

²⁰ Energy Factor is a measure of the overall energy efficiency of an appliance or equipment.

- Smart Thermostats – Home controls such as smart thermostats have recently been highlighted in the news and technology publications. Some of these home controls can be accessed through smart phones and other mobile devices, thus enabling end-users greater control of their major appliances and the potential of achieving energy savings while away from their home. While some efforts have taken place on specific products, there are new entrants into the market such as the “Nest” that have been lauded with great public interest. Determining criteria as well as testing multiple models may help the PAs to garner more savings while engaging with consumers at a new level.

H. Public Education and Marketing Activities

The Program Administrators plan to focus on creating a culture of sustainability within the Commonwealth using public education and marketing as key tools in this effort. The focus will be to create powerful, engaging, and motivating education and marketing strategies that will increase awareness of the benefits of energy efficiency and drive increased participation in the available energy efficiency programs and services. Proposed public education and marketing strategies will take into account the unique motivational differences between residential and non-residential customers.

The strategies and messages developed for statewide energy efficiency education, outreach and marketing will augment the efforts already in use and will attempt to complement and leverage program-specific marketing and individual PA efforts across the Commonwealth.

1. Marketing Plan Overview

Introduction

In order to achieve the aggressive goals set forth in this Plan, the Program Administrators will continue to undertake a comprehensive energy efficiency public education and awareness outreach campaign. The core goals of the Program Administrators in any public

“Tap Into Savings” Flash Mob



We leveraged the success and popularity of the “flash mob” concept to raise awareness of- and interest in- ENERGY STAR products. On Saturday, August 20, 2011, we arranged for the Boston Tap Company to do a surprise pop dance performance outside Sears at Square One Mall in Saugus, Massachusetts. The flow of the dance showed that, while we all want to plug in our electronic gadgets, we can also be energy efficient and buy ENERGY STAR products to save energy, money and protect the environment.

education and promotion campaign include: reaching the maximum level of residential and business customers possible; providing messages that are not overly technical and that clearly describe the benefits of energy efficiency; exploring targeted marketing to unique or specific communities throughout the state (including communities where English is not the primary language); utilizing diverse media (*e.g.*, internet, bill inserts, television, radio, billboards, public transit) to disseminate consistent and clear messages; and ensuring that the various strategies work together to ultimately achieve deeper and broader savings.

The key elements of the Program Administrators' marketing plan for 2013 -2015 are set forth below. As part of this discussion, the Program Administrators also note efforts that they undertook during 2010-2012. It is worthwhile to remember that as the first plan kicked off there was no statewide PA brand or integrated PA statewide website in existence. Reviewing the marketing activities for 2010-2012 illustrates how rapidly the marketing of energy efficiency programs has expanded in a short time and provides a basis for comparison and possible improvement by understanding what marketing efforts have worked well.

The ultimate goal of these educational, community outreach, and marketing efforts is to develop a broad system of communication with Massachusetts citizens and businesses and deliver comprehensive energy efficiency programs. Through an array of effective messages and valuable information resources, the Program Administrators commit to engaging with a large portion of the population to assist in delivering value to residential and business customers and to assist in obtaining the aggressive energy efficiency goals set forth in this Plan.

Mass Save[®]

In 2010, the PAs joined together to bring energy efficiency programs to the Commonwealth through a statewide PA brand. As sponsors of the Mass Save[®] service mark, the intent of the PAs was to complement their individual PA brands when communicating with residential and C&I customers about energy efficiency programs.

The Program Administrators are the owners of the Mass Save[®] word service mark. The purpose of a trademark or service mark is to identify goods and services as originating from a single source. Trademarks, in effect, represent the goodwill that a business has built up through its history of offering quality goods and services. A word mark is the most common form of trademark and simply consists of a word or group of words. The Program Administrators have rights to the word mark Mass Save, having obtained federal registration of it on August 29, 2006.

In addition, the PAs developed and registered a design mark. A design mark consists of a pictorial or geometric representation that is used to identify goods or services. It can also be combined with words or phrases. In the PAs' design mark, the words "Mass Save" appear under an image of buildings with the sun in the background. The PAs obtained two separate federal trademark registrations for the new design in 2011. One registration was obtained for the design mark with a tagline "Savings through Energy Efficiency." The other registration was for the design mark without this tagline. For examples of these marks, please refer to the cover page of this Plan.

Under trademark law, the PAs must monitor and control the use of their marks in order to maintain them and to prevent inferior energy efficiency services from diminishing them. Throughout the three-year period of the initial plan, the PAs' have overseen significant monitoring efforts with respect to the Mass Save mark to identify unauthorized uses of the service mark. Legal measures have been successful to stop such unauthorized uses and thus the integrity of the mark has been protected.

Highlights from 2010-2012

During the initial three-year plan, the PAs made great strides forward in statewide marketing and consistency. In 2010, the PAs joined together to market energy efficiency services on a statewide basis through use of the Mass Save mark. Since 2010, the PAs have been educating and communicating with their customers as to: (1) who and what Mass Save is; and (2) what it means for the customer.

In addition, a single website was created as a central repository to educate customers and provide access to energy efficiency program information and participation. The launch of this statewide website devoted to the PAs' energy efficiency efforts is almost easily taken for granted now, but it was a major and unprecedented undertaking and satisfied a core Council priority. The existence and operation of this website demonstrates the commitment of the PAs to working together for the benefit of customers throughout the Commonwealth. A marketing contractor was also hired to prepare communications through creative material development, media planning and buying as well as execution, to educate customers about energy efficiency and to help the PAs successfully convey who and what Mass Save is.

- The Statewide Marketing Working Group, which is discussed in Section III.A.4.b above, leveraged the information learned from independent research to create effective communications for the launch of the first Mass Save campaign.
- The communications plan included Red Sox Radio-WEEI and HGTV Green Home in Plymouth in addition to various statewide media outlets. The WEEI Mass Savers contest was launched with winners selected based on how they implemented energy saving measures in their home. A separate web portal was also developed in support of the Mass Savers contest through WEEI.
- The Mass Savers contest was also extended to the business community with each PA selecting customers who achieved energy savings. These businesses were honored at an awards event at Fenway Park. These case studies were later showcases of PA efforts.
- Public Relations included: Mass Saver stories, which were circulated through various local papers, and community outreach at a number of local events throughout Massachusetts.
- The 2010 Campaign was a 2011 AESP Winner for Outstanding Marketing and Communications.
- C&I Sector Sheets were created and posted on MassSave.com following the identification of some key target markets.

- C&I Case Studies were created and posted on MassSave.com showing true collaboration among the PAs, in that no matter which PA generated the case study, all PAs brands were included in the piece.
- C&I advertising was added to the marketing mix featuring selected customer testimonials from the 2011 Mass Savers Awards.
- E-Source Award Winner for C&I advertising.
- Multi-language communications were in the market for the first time under this initiative in Portuguese.
- Social Media efforts were implemented for both sectors including: a dedicated LinkedIn page targeted at businesses and a Facebook page.
- Google paid search to refine key words in communications.
- Online campaign activities included paid search and online banner advertising.
- Creative for Residential and C&I had a consistent look, feel and messaging to optimize the PAs' exposure and media dollars in the market.
- Through the EM&V team, and with councilors, the PAs executed a Pre-Campaign Awareness study in January/February/March with a post campaign study scheduled for August when the campaign concludes so the PAs can benchmark and evaluate the effectiveness of their messaging and media planning. Initial findings show that the PAs are beginning to have an impact and it suggests that consistent use of the PA and Mass Save marks add clarity to the customers' understanding of the Mass Save mark. In the Statewide Marketing Campaign, the PAs and Mass Save marks consistently appear together throughout the Commonwealth regardless of service territory. This EM&V effort demonstrates the PAs' commitment to using EM&V as a tool – at appropriate intervals and with independent expert assistance – to hone and enhance marketing efforts.

Mass Save® & Program Administrators' Logos Appeared Throughout Massachusetts Regardless of Service Territory



In 2012, the Program Administrators executed a statewide awareness campaign to educate customers about the many ways they can save.



- MassSave.com has been refreshed to include elements from the advertising campaign to provide consistent messaging for the customer and increase the positive experience they will have when entering the website. The Appreciative Inquiry Summit content is posted and will be updated periodically and new case studies will continue to be added. The PAs plan to re-energize the C&I portion of the website this year and will address other enhancements after the RFP is completed.
- Mass Save Style Guidelines were created and executed in an effort to create consistency and control of the mark's use in the market, to support our objective to educate customers about who and what Mass Save is and to protect against unauthorized/deceptive use of the PAs' intellectual property and brands.

For additional marketing information, see Appendix I, including a Campaign Calendar and creative material.

Marketing for 2013-2015

The key themes for the Statewide Marketing efforts for the 2013-2015 planning cycle are as follows:

- Statewide Marketing's role is to define who and what Mass Save is and what it means to the customer.
- Statewide Marketing will take a strategic approach to message and graphically tie in the PA Brand Logos with the Mass Save mark to create a strong association and clarity of message.
- Statewide Marketing will utilize the segmentation work identified by the RMC and C&IMC so we can better and more consistently target customers from a program and statewide awareness level.

2013-2015 Planning:

After selecting an advertising agency for the next two years, the PAs will undergo a complete review of how they intend to meet their objectives, which include:

- Educate customers as to who/what Mass Save is and what it means for them.
- Create awareness and understanding of Mass Save as a statewide resource for all customers' energy efficiency needs, *e.g.* trusted source.
- Educate customers about the opportunities to save energy and motivate them to take action.

For 2013-2015, the PAs expect the following:

- An RFP will be issued in July for 2013-2015, which was driven by the Statewide Subcommittee and executed by one PA on behalf of the team. A document outlining the PAs' needs/requirements, agency list and schedule was developed and approved by the team, with the evaluation kick-off slated for August with a decision in September. The

goal is to hire an advertising agency that can manage all aspects of the communications plans.

- Key deliverable date: lead agency hired in Q4 2012.
- The Statewide Marketing Committee will continue to meet monthly.
- The PAs' communications strategy by sector will be more diverse and targeted and yield an improvement in awareness.
- From a market research perspective, the PAs will work with the EM&V team to do a pre/post campaign study. Through the PAs' advertising agency, they will implement copy testing for all advertising materials before going into market to ensure that their messaging is meaningful to the target and that the channels the PAs elect to use are appropriate. There are applicable EM&V studies underway. The Phase II Umbrella Marketing study, which was conducted in 2012, will be included in the 2011 Annual Report. A follow-up study, which will include post-campaign analysis, is planned for 2012. For additional discussion see Section I.G.3.
- Mass Save Style Guidelines will be re-evaluated by the PAs with the agency to determine their effectiveness and usability and will be re-issued following this refinement.
- MassSave.com will be evaluated for content and usability and improvements made and a team established to maintain its integrity.
- The PAs will continue to feature all the PAs' brands in conjunction with the Mass Save mark per the findings from the Umbrella study and consistent with their goal to convey who and what Mass Save is.
- The PAs will continue to track their campaign effectiveness in terms of driving customers to the website and refreshing content.

Maintenance of Complementary Individual Efforts

While working diligently on the statewide public education efforts, the Program Administrators will also continue to maintain customer awareness, satisfaction, and participation goals and accordingly the Program Administrators will also continue outreach efforts utilizing customer representatives and account executives (who enjoy one-on-one/person-to-person relationships that are especially important in the C&I sector) and company-specific efforts that complement and are consistent with statewide efforts.

2. Community Engagement

Over the course of the 2010-2012 Three-Year Plan, the Program Administrators worked on a variety of community-based outreach and marketing initiatives throughout the Commonwealth. These efforts were primarily driven by local community advocates and leaders from various communities, in collaboration with PAs, who provided project management and technical support. While the overall results and successes of these outreach activities varied, it became evident that community engagement is an important component to enhancing the PAs' ability to achieve greater program participation and energy savings. Additionally, community engagement may help the PAs reach hard-to-reach and hard-to-serve customers, as well as

additional multi-family customers. The PAs express their appreciation of the efforts of their dedicated colleagues in community engagement initiatives and of their commitment to working together to find the best ways to serve harder to serve constituencies.

The PAs also recognized over the last three years there is no “one size fits all” outreach model, but rather there is a need to employ a variety of creative engagement mechanisms. Some examples of these include:

- development of customized engagement plans with consideration of actual demographic and sector mixes unique to that particular community/municipality
- inclusion of performance based savings goals
- more holistic approaches that include city or town governing officials being the voice and driver for municipal buildings, local business, and residential participation
- engaging community-based organizations committed to aiding in the delivery of energy efficiency services in what might be considered traditionally harder to serve and/or ethnically diverse neighborhoods
- continued focus on addressing barriers to participation that have been identified by community-based organizations
- multi-lingual outreach strategies

While there are still many details and challenges that lie ahead in rolling out specific engagement plans over the course of the next three years, the PAs are committed to the evolution of community-based engagement activities as an integrated component of our overall marketing and outreach strategies.

Successful community-based engagement is based on development of key strategies to address the specific needs and goals of a particular community and/or community outreach group. Ideally, these strategies should include an outreach model whereby all sectors of the community are included and a holistic “A to Z” approach is taken. An “A to Z” approach encompasses the entire city or town whereby partnerships are established with various governing officials and community groups to promote broad-based participation including local businesses, municipal buildings, and residential consumers. Examples of this approach include:

- Establishing energy saving goals and priorities specifically tailored for an individual community that includes measurable and achievable results.
- Partnering with community-based organizations to develop effective outreach and program delivery strategies that incorporate a performance-based incentive mechanism.
- Using existing PA educational and schools programs to support community messaging to parents, local businesses, and city/town officials.
- Partnering with local officials to identify/target high-use municipal buildings and schools for energy efficiency upgrades as well as to showcase completed projects.

- Partnering with local businesses, equipment suppliers, and industry related contractors to promote program participation and energy savings opportunities including use of local workforce when and where appropriate.
- Partnering with local city/town media outlets as a vehicle for messaging and maintaining community relations.

However, the PAs recognize that while engaging the entire community would be ideal, there are other opportunities to engage at a smaller scale based on the particular needs of a local city/town. This may involve working with local community outreach advocates to target specific areas of opportunity. Examples of this include demographically based efforts related to the following characteristics: known hard to serve customers, ethnically diverse neighborhoods that may be at a disadvantage for participation due to housing stock, predisposition to having pre-weatherization barriers, income constrained customers, and renter status. Recent partnerships with organizations such as the Green Justice Coalition, the City of Boston aka Renew Boston, Chelsea Collaborative, Chinese Progressive Association, and the Marion Institute & P.O.W.E.R of New Bedford proved to be an effective means of engaging ethnically diverse populations.

Community-based pilots developed during the last three-year plan provided valuable lessons and were instrumental in profiling outreach challenges and barriers to participation that exist in certain communities. Over the course of the next three years, the PAs plan to continue working closely with community organizations and advocates to enhance outreach experiences as a means to increase program participation levels. These efforts will include developing creative solutions to aid in minimizing known barriers. Some examples of these may include but are not limited to pre-weatherization incentives, equity based incentive structures, non-owner occupied multi-unit building incentives, and measure packaging incentives to promote deeper savings.

While the PAs acknowledge there are varying sizes and scopes for community-based engagement efforts, there is also acknowledgement that there are basic core components necessary to be effective and successful for any community outreach endeavor. The following is an outline of these various components.

- Partnerships – establishing partnerships with key community-based organizations, advocates, and city/town officials is one of the most important components to any community engagement effort. Though there were many lessons learned with previous community pilots, the one thing that did stand out was that without strong partnerships there cannot be successful community-based campaigns. It is the “boots on the ground” approach by community advocates that is essential to building the necessary relationships within a community to encourage and support program participation.
- Market Segmentation – although not widely used for marketing and outreach efforts during the last three-year plan, market segmentation will be a critical component for future marketing and outreach efforts. Identifying and defining customer segments

provides significant opportunities to target consumers/communities based on key analytical and demographic data. Once defined, market segmentation can be used as both a marketing and outreach tool to help identify and target based on certain criteria, such as traditionally hard-to-serve/diverse neighborhoods, housing type, property/ownership type, and energy use.

- Participation Barriers – one of the key lessons from previous community-based pilots was that, while there are common barriers across all sectors and market segments, there tends to be a greater concentration of barriers in urban areas. Some examples of these barriers include:
 - housing stock - pre-weatherization based barriers
 - income based
 - language
 - renter/landlord

Over the course of the next three years, the PAs plan to develop and implement key strategies to help minimize these barriers with a common goal of increasing program participation and achieving greater energy savings for our consumers.

- Performance-Based Goal Setting - is also an important component of future organized community-based outreach efforts. It is common practice to gauge the success of any marketing or outreach campaign based on actual participation rates and attributed energy savings. Therefore, setting priorities and savings/measure goals for these community-based efforts is one of the best ways to achieve and measure overall success. The PAs plan to develop and implement a performance-based goal structure as a driver for successful community-based outreach efforts.

In summary, the PAs consider community engagement an integral component of our various program delivery models over the course of the next three years. The PAs recognize the value that community-based outreach plays in driving program participation and helping our consumers achieve deeper savings. The PAs also recognize, as noted, there is no “one size that fits all” community engagement model. However, despite differences in size and scope the PAs are committed to working with various community organizations and partners over the course of the next three years to further these marketing and outreach endeavors. Ultimately, the success of these community-based activities will be measured on delivered energy savings. Thus the PAs believe incorporating a performance-based incentive mechanism is one of the best ways to achieve and measure success.

3. Schools/Education Program

Although residential education efforts have varied by Program Administrators over the years, as the next Three-Year Plan is implemented, the PAs believe that a more collaborative approach on education would enhance all of our efforts in increasing consumer awareness of the importance of energy efficiency as the next Three-Year Plan is implemented. The key objective

of the Residential Education initiative will be to offer an array of school-aged education programs and enhanced consumer education.

Efforts for consumer education will focus on educating customers on the benefits of investing in energy efficiency products and services and the multitude of energy efficiency initiatives available to them. The PAs plan to work with DOER, educational institutions, the statewide marketing working group, and PA marketing departments to develop educational and promotional strategies. Efforts for school-aged education will initially focus on expansion of existing PA, and in many cases, award winning school programs. As PAs have the opportunity to review the recommendations from the Appreciative Inquiry Summit, those recommendations will help shape the residential education initiative.

A literature review of K-12 and post-secondary energy efficiency education programs will be performed during July 2012 to identify education programs where energy savings impacts have been assessed. The goal of the literature review is to provide an understanding of energy savings that can be realized from education programs. The results of the literature review will be incorporated into the September 2012 draft of the three-year plan.

Strategies

While some of the PAs have established educational initiatives, the following provides examples where the PAs may collaborate in delivering educational outreach strategies including, but not limited to:

- Sponsor energy efficiency related classroom presentations and activities to schools K-12.
- Direct educators and children to educational resources available online to help educate children about energy safety and conservation.
- Participate in the youth awards programs and sponsor science fairs and other elementary and secondary educational curriculum in collaboration with DOER, Massachusetts Department of Education, and schools throughout the Commonwealth. These efforts could include teacher and community workshops such as the National Energy Education Development (“NEED”) Project.
- Encourage school administrators and parent/teacher organizations to participate in available fundraising activities such as the “Change a Light, Change the World” fundraiser – an educational program where students learn the benefits of efficient lighting and other technologies and are encouraged to sell these products as a way to raise funds for their school.
- Explore the development of programs for youth group summer camps promoting energy conservation and behavioral change
- Partner with community-based organizations to educate and promote energy efficiency through energy fairs, sponsorships, and community specific outreach.
- Participate in various external energy efficiency employee awareness events.
- Direct customers to on-line calculators and web tools to learn more about home energy

usage and to offer energy saving recommendations including information on available initiative incentive offers.

Targeted Marketing

The Program Administrators will work to develop energy efficiency marketing messages aimed at residential customers, educators, students, parent/teacher organizations and community groups. Proposed collateral will highlight the many benefits of investing in energy efficiency, savings that can be generated by individual efficiency measure upgrades, behavioral changes, and testimonials from past program participants. The PAs will employ a variety of media sources for messaging such as bill inserts, bill messages, customer newsletters, www.masssave.com, direct mail, employee and business partnerships, newspapers, social media outlets and educator workshops.

The Residential Education Initiative will also focus on developing curriculums that encourages students to work within their communities on energy conservation issues. The PAs believe educating school-aged children about energy saving benefits is paramount in making today's students the responsible citizens of tomorrow.

I. Evaluation, Monitoring & Verification

1. Introduction

This section proposes a framework for evaluation and monitoring for the three-year plan period, 2013-2015. The section begins by outlining the enhancements from the initial three-year plan and then discusses the EM&V regulatory framework and research areas, the PAs' valuation and monitoring strategies, and high-level evaluation budget levels. Finally, there is a discussion of the Program Administrators' specific evaluation and monitoring priorities and activities planned for each research area.

2. EM&V Enhancements

For the 2013-2015 Plans, the Program Administrators and the Council's Consultants have identified several enhancements to the current EM&V framework. These enhancements are intended to improve the framework and make evaluation efforts more streamlined and transparent with the goal of improving the precision and usefulness of the studies.

The Program Administrators and the Council's Consultants agree that these enhancements to the evaluation framework will help streamline the EM&V process and increase administrative efficiencies, while also creating added flexibility to better address stakeholder research priorities and resource constraints in a timely manner. The specific enhancements proposed include:

- **Evaluation Management Committee:** In 2012, the Program Administrators and the Council's Consultants created an Evaluation Management Committee ("EMC") similar to the C&I and Residential Management Committees. The EMC serves as a steering committee for statewide evaluation issues, providing guidance and direction

to each of the evaluation research areas. The EMC will also help plan, prioritize and delineate the research studies to be undertaken over the three-year plan period. For additional information on the EMC, see Section III.A.4.b.

- **Research Areas:** The PAs, Council Consultants and the EMC worked collaboratively to determine that the range of evaluation activities for 2013-2105 should be divided into three statewide research areas as follows: (1) Residential; (2) Commercial & Industrial (“C&I”); and (3) Special and Cross Cutting. This change collapses the current six research areas into three broader categories. The research areas will continue to be organized primarily by target markets, which will help to maximize the statewide effectiveness of EM&V while at the same time presenting minimal overlap among research areas.
- **Contracting:** The Program Administrators propose that the contracts in any research area may be awarded to one or more evaluation contractor, depending on the needs of the Program Administrators and the expertise and qualifications of the evaluation contractors available. This structure will maintain both a continuity of evaluation contractor presence in each research area, where appropriate, while still fostering creativity and competition among evaluation contractors.

3. EM&V Resolution

On September 8, 2009, the Council approved its EM&V Resolution, which is quoted in full below:

The Energy Efficiency Advisory Council recognizes that the deployment of the energy efficiency programs by the electric and gas Program Administrators (“PAs”), in support of the mandates of the Green Communities Act, is expected to produce energy savings and related benefits to the Commonwealth that involve the expenditures of unprecedented levels of customer and public monies. It is therefore critical that the programs be evaluated, measured, and verified in a way that provides confidence to the public at large that the savings are real and in a way that enables the Program Administrators to report those savings to the Department of Public Utilities with full confidence. There is a need to ensure both the reality and the perception of the independence and objectivity of EM&V activities, as well as the need to help ensure consistency, timeliness, and credibility of the results.

The Council also recognizes that the evolution of more uniform statewide programs necessarily leads to greater use of statewide evaluation studies as well as other organizing principles.

Accordingly, the Council adopts the following principles and policies -- divided into the topics of policy /authority and implementation -- regarding the evaluation, measurement, and verification of energy efficiency programs:

POLICY/AUTHORITY

Decision Making:

- The EEAC will assume an oversight role over the EM&V activities of the Program Administrators to ensure the objectivity and independence of those activities, and the perception of such, and to help ensure consistency, timeliness, and credibility. While PAs and EEAC Consultants (acting on behalf of the EEAC) will continue to work diligently to reach a consensus on evaluation issues, where there are areas of difference that may arise that cannot be resolved through consensus during the on-going interactive process between the EEAC Consultant and the PA evaluation staff, authority for decision-making will reside with the EEAC or its Designee.
- **Appeals:** To enable the Program Administrators to fulfill their responsibility to report program savings to the DPU with full confidence, an appeals process shall be established, through which the PAs may bring decisions made by the Council or its Designee for review and resolution. This process will be implemented through the formation of a standing evaluation committee (“Standing Committee”) of the Council, whose responsibility in this area will be to hear the matter under dispute and rule so that the study may proceed in a timely way. In general, it is expected that this review process will be completed within 72 hours once an issue is elevated to the Standing Committee.²¹
- **Resolution of Disputes:** This Standing Committee will consist of three voting members of the Council, including DOER. Consistent with general Council proceedings, the Standing Committee will include and consult with, in both deliberations and decision-making, a representative of both the PAs and the EEAC consultant team, neither of whom shall have a vote in the standing committee. The Committee will review the issues related to the disputed matter, hear from the PA evaluation staff and EEAC Evaluation Consultant (the “principals”), and make a determination on the outcome of the matter. The decision will be recorded, along with a description of the applicable issues. The participants in the appeal will sign the record of the decision, indicating their acceptance of, the representation of the issues and of the decision. In exceptional cases, where the PAs perceive there to be significant risk to their ability to manage the energy efficiency programs in the near term, the PAs will note their disagreement with the decision of the Standing Committee on the record of the decision and reserve the right to immediately petition the DPU on the Standing Committee’s decision. The PAs shall be able to submit any such documents to the DPU in conjunction with the filing of the Energy Efficiency Plans and Annual Reports. The DPU will be able to review the record of this decision in its review of Plans and Annual Reports.

²¹

The establishment of this process is still an open action item. A proposal for a Standing Committee was an agenda item discussed at the Council’s March 13, 2012 meeting. To date, however, there has been no need for an appeals process as any disputes have been amicably resolved.

IMPLEMENTATION

- **A. Statewide Focus:** Impact evaluations, and other studies, should be performed at a statewide rather than an individual Program Administrator level to the maximum extent possible, while enabling to the extent necessary results at the Program Administrator level. It is recognized that circumstances could occur where a service territory specific or non-statewide evaluation or study would be appropriate. Such EM&V activities should only be undertaken following an assessment of the need and value of a non-statewide study and agreement between the PA evaluation staff and EEAC Evaluation Consultant.
- **B. Research Areas:** The range of evaluation activities should be divided into 5 to 7 semi-permanent statewide research areas, each oriented primarily to specific target markets (e.g., residential retrofit, large C&I), each with a long-term research and contract manager from the PAs, an independent evaluation contractor to conduct the studies under a long-term contract, and the EEAC Evaluation Consultant. The PAs and the EEAC Evaluation Consultant shall jointly prepare a statewide research management plan to carry this out. The EEAC Evaluation Consultant shall have the opportunity to comment on the proposed assignments of the PA research area managers. The EEAC will have the authority to remove assigned research area managers if they do not perform effectively in accordance with pre-established objective standards for research area managers. Those standards will be developed jointly by the EEAC Consultant and the PAs.
- **C. Evaluation Planning:** The research area managers and EEAC Evaluation Consultant will jointly prepare a proposed statewide evaluation plan and illustrative budget and submit it to the EEAC for approval.²² We expect that this plan will be reviewed and updated annually. Consideration will be given to regional EM&V activities and FCM requirements, and will be responsive to DPU directives about EM&V in the development of the evaluation plan.
- **D. Coordination of Studies:** All studies²³ in which Massachusetts PAs participate should be included in the statewide evaluation plan for the purposes of coordination of evaluation and promotion of consistent methods, and conducted by the research area independent evaluation contractors. Some studies, however, may be excluded from the statewide research area contracts. The EEAC Consultant and PAs will develop guidelines for assessing which studies may be excluded from the statewide research contracts and will apply them as necessary to identify mutually agreed upon studies that will be

²² The DPU has the ultimate authority to review and approve each PA's energy efficiency plan, including its evaluation plan and budget.

²³ Some Massachusetts PAs are multi-jurisdiction utilities and may propose expanding some Massachusetts studies to include those other jurisdictions, where appropriate. If mutually agreed-to by the research area manager and the Council Consultant, these cross-jurisdictional efforts will proceed.

conducted outside of the statewide evaluation contracts. Research area managers, the PAs, and the EEAC Consultant should make every effort over time to determine if these studies may be included in research area contracts. Under the circumstances where a study is not included in a research area contract, the appropriate research area manager shall manage the study and represent Massachusetts statewide evaluation interests in the execution of the study. The EEAC Evaluation Consultant may participate in regional evaluation projects directly, upon the direction of the EEAC.

- **E. Integration:** Electric and gas evaluation efforts should be fully integrated to the maximum extent possible. Each of the statewide research areas should cover both electric and gas evaluation efforts.
- **F. Contracting:** The Program Administrators will be the main mechanism for contracting with the independent evaluation contractors.
- **G. Implementation:** As is current practice, statewide evaluation studies will be coordinated by staff from Program Administrators, with a lead from one of them (the “Study Manager”), and an EEAC Evaluation Consultant. This will enable Program Administrators and the EEAC to collaboratively provide their expertise in the planning, scoping, management, review of methods and draft protocols, and review, acceptance, and application of results of the individual studies. In many cases the Study Manager and the statewide research area manager will be the same individual. The Study Manager shall manage study efforts so that the approved evaluation study budgets are not exceeded.²⁴ The EEAC Evaluation Consultant should have the authority to recommend to the EEAC removal of the assigned Study Manager if they do not perform effectively in accordance with pre-established objective standards for Study Managers. Those standards will be developed jointly by the EEAC Consultant and the PAs.
- **H. Communication and Documentation:** The Study Manager will communicate regularly with the EEAC Evaluation Consultant about issues related to study execution. The Study Manager will document decisions made in the course of a study, for potential review by the EEAC, DOER, the DPU, and/or any other party.

We expect and encourage the PAs to perform the evaluation roles assigned to them in this framework in an effective and timely way.

We recognize that there are details that remain to be worked out under this framework and that the framework may evolve over time. We encourage the EEAC Consultant and PAs to continue discussions on these topics to establish an effective process that leads to high quality and useful evaluation results, mindful

²⁴

At times, the scope of an evaluation study is modified for good reasons. The Study Manager and the EEAC Consultant agree to review proposed changes in scope with the Standing Committee when the change in scope is likely to lead to an increase in study cost of more than 10% or to adversely affect the study timeline.

of the need to maintain public confidence in the overall conduct of these programs. The process, roles and responsibilities should be reviewed and modified, as necessary, after twelve months first, and bi-annually thereafter.

4. Descriptions of Research Areas

Consistent with the EM&V Resolution and experience over the last two plus years implementing the initial three-year plan, the Program Administrators, Council's Consultants and EMC worked collaboratively to develop and refine three market research areas. These research areas are organized primarily by target markets, which design is intended to help maximize the statewide effectiveness of EM&V, while presenting minimal overlap among areas. The research areas identified are as follows:

a) **Residential**

Originally, this research area consisted of three separate categories: Residential Retrofit and Low Income, Residential Retail Products, and Residential New Construction Residential Retrofit and Low Income. This category still includes these issues, but as a single overarching residential research area. As currently defined, the residential research area would include residential cooling and heating equipment, residential heating and water heating, residential and low income retrofit 1-4 (Mass Save) including weatherization, and residential and low-income retrofit (and new construction) multi-family programs; residential lighting and appliance programs; and residential and low income new construction and major renovations programs.

b) **C&I**

This category previously consisted of two separate categories: Non-Residential Large Retrofit and New Construction and Non-Residential Small Retrofit. This category still includes these issues, but as a single overarching C&I research area. As currently defined, the C&I research area would include C&I small retrofit, direct install initiatives, future programs that may target small non-residential customers, C&I new construction (small and large) and major renovations, as well as large C&I retrofit programs and initiatives.

c) **Special and Cross-Sector Studies**

This research area reflects the fact that not all studies will fall into the two market categories above, and some studies may be cross-sector in nature. Some types of studies in this research area could include: cross-sector free ridership and spillover studies, non-energy benefits, behavioral programs, community-based pilots, and marketing, public education, and outreach activities.

5. Transition to Statewide Plan

The Program Administrators overcame many obstacles during the last three-year plan to transition from individual evaluation efforts to the current statewide approach.

Although some research was already being evaluated on a statewide basis, most was not and some had never before been conducted. The PAs successfully implemented an evaluation plan to transition to a statewide framework and build the platform for the robust evaluation framework that exists today in Massachusetts. In making this transition, the PAs overcame challenges related to (a) conducting the necessary studies to evaluate the 2009 calendar year programs; (b) working with individual Program Administrators' procurement departments to adjust to the new framework that required large multi-year umbrella RFPs covering all studies in a given research area on a much larger dollar scale than employed before (*e.g.*, some RFPs may involve \$5M-\$10M of work over a three year period); (c) increased coordination between Program Administrators; (d) coordinating the old and new evaluation efforts; (e) differences in program tracking systems; (f) long-standing differences in evaluation methodologies and approach; and (g) hiring additional staff to manage the increased focus on EM&V. Some challenges still remain, but experience has informed the PAs about how to better coordinate planned studies with those being conducted by Program Administrators in other states, as well as studies being performed regionally under the NEEP EM&V Forum, and thus avoid unnecessarily duplicating studies.

6. Evaluation Budgets

By agreement with the Council's Consultants, the Program Administrators will allocate four percent of total program budgets for evaluation and market research in each year of the three-year plan.²⁵ The evaluation and market research budget was based on several factors, including historical evaluation costs and an expected higher cost of evaluation activities for codes and standards initiatives and the quantification of market effects. Although historical evaluation costs may have been less than evaluation budgets for some programs, the natural lag of evaluation costs needs to be taken into account when developing the evaluation budget for the three-year plan. Since evaluation activities typically occur after program implementation activities, evaluation costs can lag up to a year.

7. Types of Evaluation Functions

EM&V refers to the systematic collection and analysis of information to document the impacts of energy efficiency programs and improve the effectiveness of these programs. EM&V includes the following types of studies:

- *Measurement and Verification* refers to the measurement of gross savings achieved in individual buildings.
- *Impact Evaluation* refers to the measurement of net or gross savings achieved within overall program populations.

²⁵ Four percent is a planning assumption, not a specific budget. Depending upon research needs, actual EM&V costs would be lower or higher than this figure, or than the budget figures shown in the budget tables elsewhere in this plan. The four percent planning assumption applies to both electric and gas.

- *Market Evaluation* refers to the measurement of the effects that programs have on the structure and functioning of their target markets.
- *Process Evaluation* refers to the systematic assessment of programs for the purpose of documenting their operations and developing recommendations to improve their effectiveness.
- *Market Characterization or Assessment* refers to the systematic assessment of energy efficiency markets for the purpose of improving the effectiveness of programs targeting those markets.
- *Evaluation of Pilots* refers to EM&V activities intended to assess the effectiveness of pilot programs, determine their potential for full-scale implementation, and develop recommendations for any changes in program approach. Under the new framework, evaluation of pilots will occur under the research area most closely related to the market being targeted.

8. Specific Evaluation and Monitoring Activities for 2013-2015

In consultation with the Consultants and the EMC, the Program Administrators will explore a wide range of topics over the next planning phase to address the EM&V needs of all stakeholders as well as any policy and planning initiatives of the Commonwealth that will require EM&V support. To that end, the Program Administrators have committed to evaluating the following specific projects over the course of the Three-Year Plan:

- **Codes and Standards:** It is the intent of the Program Administrators to support the proposed Residential and Commercial & Industrial Codes & Standards initiatives with appropriate, timely evaluation. The Program Administrators and the Council's Consultants are currently developing a proposal for a Savings Attribution Methodology. Codes & Standards evaluation plans will be developed after this is complete.
- **Behavioral & Outreach Initiatives:** The Program Administrators will continue to support behavioral and outreach initiatives, assessing the program effects on both electric and gas customers.
- **Quantification of Market Effects:** Subject to the Department's direction in D.P.U. 11-120, the Program Administrators propose to undertake studies to quantify market effects and naturally occurring energy efficiency,²⁶ as well as identifying baseline and program-induced market changes.
- The first round of approximately 45 statewide EM&V studies was completed between 2010 and 2011. The second round of approximately 45 statewide EM&V studies has been underway and is scheduled for completion by July 2012 for inclusion in the 2011 Annual Report. It is expected that the results of the second round of studies will

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As explained in the PAs' comments on net savings, which were filed jointly with other stakeholders, naturally occurring energy efficiency refers to customers who took action, but would have taken the action without an energy efficiency program. In-program naturally occurring energy efficiency corresponds to free ridership. See Joint Savings Comments, Exh. A, D.P.U. 11-120, Phase I (May 7, 2012).

inform the third round of EM&V studies, to take place between 2012 and 2013. The EMC will finalize which research studies will be undertaken in August 2012 and will include this information with the September draft of the 2013-2015 Plan.

In addition to the above statewide EM&V studies which will be included in the 2011 Annual Report, a list of impact evaluation results that will be finalized by July 13, 2012 but not included in the 2011 Annual Report follows.

Study
Residential New Construction Baseline Study
Impact Evaluation of the Home Energy Services Program
MA Residential Lighting Draft Onsite Inventory Report
Non-Energy Impacts 2011 - C&I
Small C&I Retrofit Occupancy Sensor Impact Evaluation
Large C&I Prescriptive Lighting Impact Evaluation - Interim Report
C&I Baseline Code Compliance Study

J. Technical Reference Manual

The Massachusetts Technical Reference Manual for Estimating Savings from Energy Efficiency Measures (“TRM”) documents how the energy efficiency Program Administrators consistently, reliably, and transparently calculate savings resulting from the installation of prescriptive energy efficiency measures. The TRM provides methods, formulas, and default assumptions for estimating energy, peak demand, and other resource impacts from energy efficiency measures. The TRM, which did not exist until the PAs developed the initial three-year plan, is an excellent example of how the PAs work together, share data and best practices and work to develop common assumptions that reflect state-of-the-art EM&V results.

Building on the important new practices developed in the 2010-2012 plans, the Program Administrators will develop a statewide Plan TRM, which contains planning assumptions for each program year. The Plan TRM is submitted along with each Program Administrator’s three-year plan. The Plan TRM will be compiled this summer, with a draft 2013 Plan Version TRM available on August 15, 2012. This Plan Version TRM will incorporate updates from all of the most recent evaluation study results, as well as updates to baseline standards and new measures. The Plan TRM will be the basis for savings in the September 6, 2012 draft that will be presented to the Council. The development and use of the TRM reflects an important success of the Program Administrators’ ongoing 2010-2012 effort.

K. Performance Incentives

On January 28, 2010, the Department issued Orders on the three-year energy efficiency plans (the “Plans”) in dockets D.P.U. 09-116 – D.P.U. 09-120 (“Electric Order”) and D.P.U. 09-121 – D.P.U. 09-128 (“Gas Order”) (together, the “Orders”). The Orders approved most aspects of the performance incentive mechanism proposed by the Program Administrators in their 2010-2012 Plans²⁷. However, for certain aspects of the proposal regarding the allocation method of the statewide pool and performance metrics, the Department ordered the Program Administrators to work further with the Council and re-file these components with the Department for its review and approval. For 2011, the Program Administrators worked closely with the Council in order to update the allocation method in compliance with the Orders, as well as to propose updated performance metrics. As a result of this effort, a comprehensive settlement was achieved on this and other matters, which was filed on April 15, 2011, and is currently pending before the Department (See D.P.U. 10-141 – 10-150). Similarly, for 2012, the Program Administrators used the extensively reviewed 2011 method and performance incentive model as a basis for 2012 performance incentive allocations and updated performance metrics. Performance incentive proposals applicable to 2012 efforts were filed with the Department on October 28, 2011 and are also pending (See D.P.U. 11-106 through D.P.U. 11-116). For 2013-2015, the Program Administrators have retained the performance incentive model that has been effective and fully reviewed related to efforts in the initial three-year plan. In this discussion, the Program Administrators also summarize the 2013-2015 performance incentive amounts in the following manners: statewide; by component; and by Program Administrator.

I. Summary of the Orders on Performance Incentives in the Initial Three-Year Plan.

In the Electric and Gas Orders, the Department noted its support of the following elements of the proposed incentive design:

1. The proposed statewide incentive pool.
 - a. The electric statewide incentive pool goals equal \$22 million in 2011 and \$25.5 million in 2012, assuming that goals on a statewide basis are equal to the goals established by the Council. Electric Order at 93. The actual incentive pool can be adjusted up or down according to actual goals. *Id.* at 111. The Department approved the statewide goals. *Id.* at 112.
 - b. The gas statewide incentive pool goals equal \$4.5 million in 2011 and \$5.5 million in 2012, assuming that goals on a statewide basis are equal to the goals established by the Council. The actual incentive pool can be adjusted up or down according to actual goals. Gas Order at 100. The Department approved the statewide goals. *Id.* at 101.
2. The structure of the proposed incentive mechanism including three components: the Savings Mechanism (focusing on the dollar value of benefits); the Value Mechanism (focusing on the dollar value of net benefits); and Other Performance Metrics.
 - a. The three-pronged structure of the incentive mechanism was approved in the electric plans (Electric Order at 113, 124) and the gas plans (Gas Order at 101-

²⁷See Electric Order, at 93-125, 165, and 168-169; Gas Order at 79-115, 168-169, and 172-173.

102, 114). The Department noted that similar mechanisms have been approved in the past.

3. Common payout amounts under both the Savings and Value Mechanisms.
 - a. The approval for common payout rates in the Electric Order is noted at pages 113-114 with reference to Table D at 96.
 - b. The approval for common payout rates in the Gas Order is noted at pages 102-103 with reference to Table C at 83.
4. The proposed allocation of the statewide incentive pool to each Program Administrator (excluding Cape Light Compact (“CLC”)) for 2010 but not for 2011 or 2012.
 - a. The allocation of the statewide electric incentive pool to each Program Administrator was based on that Program Administrator’s contribution to the statewide savings goals as expressed in MWh. However, the allocation for each of the three components was not consistent among the Program Administrators; the savings component amount was allocated on the basis of the dollar value of savings, the value component amount was allocated on the basis of the dollar value of net benefits, and the performance metrics component was derived to total the overall allocation method based on savings goals. Although the Department approved the allocation of the components for 2010, the Program Administrators were directed to revise the allocation method for 2011 and 2012 so that, to the extent possible, the revised allocation method would result in (1) uniform statewide payout rates for the savings and value components, and (2) an allocation of incentive dollars across the three components for each Program Administrator that, on a percentage basis, approximates the statewide allocation across the three components, as endorsed by the Council and approved by the Department. See Electric Order at 114-116.
 - b. The allocation of the statewide gas incentive pool to each Program Administrator was based on a similar methodology. This methodology produced some anomalous results for certain Program Administrators that required special adjustments. Similar to the electric side, the Department approved the gas Program Administrators’ component allocation for 2010 and the Program Administrators were ordered to revise the allocation methodology in 2011 and 2012. See Gas Order at 103-105.
 - c. A revised allocation methodology was proposed in the 2011 mid-term modification filings settlement proposal. The revised methodology was created following extensive discussions with the Council, and addresses the concerns of the Department, as noted in the Orders.
5. Specific limitations on how EM&V results would be used to determine performance for both the electric and gas Program Administrators. See Electric Order at 124; Gas Order at 114.

However, the Department did not accept: (1) the proposed allocation method for 2011 and 2012 as mentioned above; or (2) the proposed performance metrics for 2010, stating that it did not accept an EM&V “Omnibus Metric”, and directing the Program Administrators to include a financing and funding metric²⁸. The Department further ordered that a cap on the earned incentive mechanism apply both in total and by component. The cap by component and overall has been set at 125% of Design level performance.²⁹

II. Allocation Proposal for 2013 – 2015

The Program Administrators propose the following allocation method for 2013-2015, based directly on the method set forth in each Program Administrator’s 2011 and 2012 mid-term modification. Similar to the 2011 and 2012 allocation methodology, in 2013-2015, the statewide incentives for the savings component of the incentive pool are allocated on the basis of the dollar value of benefits using common payout rates as approved by the Department. The statewide incentives for the value component of the incentive pool are allocated on the basis of the dollar value of net benefits using common payout rates as approved by the Department. The statewide incentives for the performance metric component of the incentive pool are allocated on the basis of the forecasted³⁰ amount of net benefits. The total incentive is the sum of the three components. This methodology was followed for allocating the incentive dollars among Program Administrators, as well as to each sector and to each program³¹.

This proposed allocation model results in a similar distribution of each Program Administrator’s incentives among the three components. The proposed payout rates for 2013-2015 remain constant for all Program Administrators³² and for each year in the Plan.

Distribution of Performance Incentive for Electric PAs in 2013 – 2015:

²⁸ In response to the Electric and Gas Orders, the Program Administrators filed a revised performance metric proposal on March 12, 2010. The Department subsequently approved the revised performance metrics on August 10, 2010 with the exception of the Deeper Savings metric. On September 14, 2010 the Program Administrators filed a compliance filing in regard to changing the baseline year of that metric.

²⁹ The Program Administrator proposals had thresholds for the savings and value incentive mechanisms of 75% of design or target level performance.

³⁰ Once approved, these target amounts are to remain constant regardless of the actual net benefits achieved. In other words the performance metric target doesn’t change once the program year has started. This allows for certainty in planning and forecasting for the Program Administrators as they are aware of the value of the metrics and the work involved.

³¹ With the minor exception of residential gas, where the incentive dollars were allocated to programs excluding Mass Save (RCS).

³² Except CLC, who does not participate in performance incentives.

Percent of Total Incentive

State	Residential	Low Income	C&I	Total
Savings	12.9%	2.5%	36.6%	52.0%
Value	8.3%	1.2%	25.6%	35.0%
Metrics	<u>4.7%</u>	<u>3.6%</u>	<u>4.7%</u>	<u>13.0%</u>
Total	25.9%	7.3%	66.8%	100.0%

National Grid	Residential	Low Income	C&I	Total
Savings	12.5%	2.4%	37.1%	52.0%
Value	7.6%	1.0%	26.4%	35.0%
Metrics	<u>4.7%</u>	<u>3.6%</u>	<u>4.7%</u>	<u>13.0%</u>
Total	24.8%	7.1%	68.2%	100.0%

NSTAR	Residential	Low Income	C&I	Total
Savings	12.4%	2.1%	37.6%	52.1%
Value	8.0%	0.9%	26.0%	34.9%
Metrics	<u>4.7%</u>	<u>3.6%</u>	<u>4.7%</u>	<u>13.0%</u>
Total	25.1%	6.7%	68.2%	100.0%

WMECO	Residential	Low Income	C&I	Total
Savings	17.1%	4.3%	29.7%	51.2%
Value	12.5%	2.8%	20.2%	35.5%
Metrics	<u>4.8%</u>	<u>3.7%</u>	<u>4.8%</u>	<u>13.3%</u>
Total	34.5%	10.8%	54.7%	100.0%

Unitil	Residential	Low Income	C&I	Total
Savings	15.6%	4.4%	34.1%	54.1%
Value	10.0%	1.9%	21.6%	33.5%
Metrics	<u>4.5%</u>	<u>3.5%</u>	<u>4.5%</u>	<u>12.4%</u>
Total	30.0%	9.8%	60.2%	100.0%

Distribution of Performance Incentive for Gas PAs in 2013 – 2015:

Percent of Total Incentive

State	Residential	Low Income	C&I	Total
Savings	25.1%	8.0%	22.0%	55.0%
Value	11.9%	3.4%	14.7%	30.0%
Metrics	<u>5.4%</u>	<u>4.2%</u>	<u>5.4%</u>	<u>15.0%</u>
Total	42.3%	15.6%	42.1%	100.0%

National Grid	Residential	Low Income	C&I	Total
Savings	25.2%	8.1%	22.1%	55.4%
Value	9.9%	3.5%	16.3%	29.7%
Metrics	<u>5.4%</u>	<u>4.2%</u>	<u>5.4%</u>	<u>14.9%</u>
Total	40.5%	15.8%	43.8%	100.0%

NSTAR	Residential	Low Income	C&I	Total
Savings	23.5%	7.4%	27.0%	57.9%
Value	11.8%	2.0%	14.3%	28.1%
Metrics	<u>5.1%</u>	<u>3.9%</u>	<u>5.1%</u>	<u>14.0%</u>
Total	40.4%	13.3%	46.3%	100.0%

Columbia	Residential	Low Income	C&I	Total
Savings	27.8%	7.6%	16.7%	52.2%
Value	17.8%	3.4%	10.8%	31.9%
Metrics	<u>5.7%</u>	<u>4.5%</u>	<u>5.7%</u>	<u>15.9%</u>
Total	51.3%	15.5%	33.2%	100.0%

Unitil	Residential	Low Income	C&I	Total
Savings	9.6%	11.3%	26.1%	46.9%
Value	4.5%	8.2%	22.6%	35.4%
Metrics	<u>6.4%</u>	<u>5.0%</u>	<u>6.4%</u>	<u>17.7%</u>
Total	20.5%	24.5%	55.0%	100.0%

Berkshire	Residential	Low Income	C&I	Total
Savings	22.0%	8.3%	20.3%	50.7%
Value	10.0%	5.5%	17.4%	32.9%
Metrics	<u>5.9%</u>	<u>4.6%</u>	<u>5.9%</u>	<u>16.4%</u>
Total	37.9%	18.4%	43.6%	100.0%

NEG NA &FR	Residential	Low Income	C&I	Total
Savings	26.7%	12.5%	15.6%	54.8%
Value	14.6%	8.1%	7.4%	30.2%
Metrics	<u>5.4%</u>	<u>4.2%</u>	<u>5.4%</u>	<u>15.1%</u>
Total	46.8%	24.8%	28.4%	100.0%

III. 2013 - 2015 Performance Metrics

The Program Administrators plan to work collaboratively with the Council to reach an agreement about performance metrics that will be a focus in 2013-2105. These performance metrics will focus on key aspects of the statewide energy efficiency program efforts beyond savings and cost-effectiveness. The Program Administrators anticipate arriving at an agreement about proposed performance metrics in advance of filing the next three-year plan with the Department in October 2012.

IV. Statewide Incentive Pool for 2013-2015

Statewide, the design level incentive is proportional to the statewide incentive pool supported by the Council in Council resolutions that were approved on October 6, 2009 for electric and on October 13, 2009 for gas. In this case, the incentive pool at the Design level of performance is equal to the sum of the annual statewide savings goal in 2013 – 2015 divided by the sum of the annual statewide savings targets supported by the Council for 2010 – 2012 which is then multiplied by the Design level performance incentive pool supported by the Council in the referenced resolutions. The derivation of the Design level incentive pool follows:

Derivation of Incentive Pool

	Electric	Gas
1. Proposed stateside annual savings goal in 2013 - 2015 excluding CLC (GWh or Therms)	3,505	66,783,676
2. Council recommended statewide savings goal in 2010 - 2012 (GWh or Therms)	2,649	56,010,000
3. Goals in 2013 - 2015 as a percent of Council recommended in 2010 - 2012 (Line 1 divided by Line 2)	132%	119%
4. Council endorsed incentive pool in 2010 - 2012	\$ 65,000,000	\$ 14,000,000
5. Derived Design level statewide incentive pool in 2013 - 2015 (Line 3 x Line 4)	\$ 85,997,993	\$ 16,692,938

IV. Summary of 2013-2015 Incentives

The models set forth as Appendix J provide calculations of the 2013-2015 incentives based on the three-year Plan proposals of each of the Program Administrators for electric and gas, respectively. For the electric Program Administrators this is a 17 page exhibit and for the gas Program Administrators this is an 18 page exhibit. The calculations are described briefly below. Additionally, a summary of the 2013-2015 incentives is provided below.

A. Calculation Exhibits

Appendix J.1 provides the derivation of the 2013-2015 electric incentives at the Design level of performance. Similarly, Appendix J.2 provides the derivation of the 2013-2015 gas incentives at the Design level of performance.

Pages 1 and 2 of both Appendices J.1 and J.2 are input pages that summarize each Program Administrator's 2013-2015 goals, benefits and costs (excluding performance incentives). The common payout rates used to derive projected Design level incentives under the savings and value components are also noted on this page. The Program Administrators note that if avoided costs change compared to what has been used here, either as a result of orders issued by the Department of Public Utilities in DPU 11-120 or due to a study where avoided costs are updated, the common payout rates applicable under the savings and value components will need to be updated.

Page 3 derives the value of the performance metric pool. As described above in section IV of this Section III.K, the 2013-2015 statewide performance incentives are adjusted by the percentage of the actual targets to the 2010-2012 statewide targets. To determine the portion of the statewide performance incentives allocated to the savings component, the expected dollar value of benefits is multiplied by the savings payout rate. Similarly, to determine the proportion of the statewide performance incentives allocated to the value component, the expected dollar value of net benefits (excluding performance incentives as a cost) is multiplied by the value component payout rate. Statewide funding for performance metrics at the Design level of performance is derived by subtracting these two amounts from the total statewide incentive pool. The derivation of the payout rates for both the savings and value components is also shown on the third page of this attachment.

Similar to 2011 and 2012, the Program Administrators are proposing to allocate the statewide funding for performance metrics to each Program Administrator on the basis of forecasted net benefits. Through negotiations in 2011, the Program Administrators further allocated the performance metrics to each sector as follows: 36% to residential, 28% to low-income and 36% to Commercial & Industrial. These sector allocations were maintained in 2012 and in this Plan.

Pages 4 to 13 of the electric appendix and Pages 4 to 17 of the gas appendix provide the calculation of potential Design level incentives under the savings mechanism, the value mechanism, and performance metrics on a statewide basis (excluding CLC) and for each individual Program Administrator. Lines 1 through 3 determine the savings amount by multiplying the dollar value of benefits by the savings mechanism payout rate. Lines 4 through 6 determine potential Design level incentives under the value mechanism by multiplying the dollar value of net benefits by the value mechanism payout rate. Lines 7 through 9 provide the derivation of potential Design level incentives for the performance metrics by using the forecasted amount of net benefits multiplied by the factor derived on page 2. Line 10 provides the total performance incentive.

Pages 14-17 of the electric appendix and Page 18 of the gas appendix provide summary information about performance incentives by sector and by component of the incentive mechanism.

Appendices J.1 and J.2 do not show how the performance incentives are further allocated to specific programs for benefit/cost screening purposes. The program allocation assumptions are summarized below:

- The savings component amount is allocated to programs on the basis of program dollar of benefits.
- The value component amount is allocated to programs on the basis of program dollar of net benefits.
- On a preliminary basis, the sector level performance metric funds have been allocated to all programs in the sector based on net benefits. Once specific performance metrics proposals are developed, the allocation will be updated to take into account the focus of the specific metrics.
- Any programs with negative allocations (efforts with projected costs without identified projected savings) are reallocated to other programs within the sector.

B. Summary

A summary of the threshold, design, and exemplary performance incentive amounts by component of the proposed incentive mechanism for 2013-2015 is provided for each electric and gas Program Administrator, below.

Electric:

Summary of 2013 - 2015 Performance Incentives by Program Administrator

National Grid	Threshold	Design	Exemplary
Savings	15,528,366	20,704,488	25,880,610
Value	10,455,011	13,940,015	17,425,019
Metrics	<u>3,880,994</u>	<u>5,174,658</u>	<u>6,468,323</u>
Total	29,864,371	39,819,161	49,773,951
NSTAR	Threshold	Design	Exemplary
Savings	14,605,022	19,473,363	24,341,704
Value	9,779,161	13,038,881	16,298,601
Metrics	<u>3,630,004</u>	<u>4,840,005</u>	<u>6,050,006</u>
Total	28,014,187	37,352,249	46,690,311
WMECO	Threshold	Design	Exemplary
Savings	3,084,784	4,113,046	5,141,307
Value	2,141,574	2,855,433	3,569,291
Metrics	<u>800,106</u>	<u>1,066,808</u>	<u>1,333,510</u>
Total	6,026,465	8,035,286	10,044,108
Unitil	Threshold	Design	Exemplary
Savings	321,045	428,060	535,075
Value	198,727	264,969	331,211
Metrics	<u>73,701</u>	<u>98,268</u>	<u>122,835</u>
Total	593,472	791,296	989,121

Note: Threshold = 75% of design value and exemplary = 125% of design value

Gas:

Summary of 2013 - 2015 Performance Incentives by Program Administrator

National Grid	Threshold	Design	Exemplary
Savings	3,698,946	4,931,928	6,164,910
Value	1,983,954	2,645,272	3,306,591
Metrics	<u>991,977</u>	<u>1,322,636</u>	<u>1,653,295</u>
Total	6,674,878	8,899,837	11,124,796

NSTAR	Threshold	Design	Exemplary
Savings	1,498,233	1,997,644	2,497,055
Value	727,740	970,320	1,212,900
Metrics	<u>363,870</u>	<u>485,160</u>	<u>606,450</u>
Total	2,589,843	3,453,124	4,316,405

Columbia	Threshold	Design	Exemplary
Savings	1,285,507	1,714,010	2,142,512
Value	786,314	1,048,418	1,310,523
Metrics	<u>393,157</u>	<u>524,209</u>	<u>655,261</u>
Total	2,464,978	3,286,637	4,108,296

Unitil	Threshold	Design	Exemplary
Savings	87,069	116,091	145,114
Value	65,610	87,480	109,351
60% Metrics	<u>32,805</u>	<u>43,740</u>	<u>54,675</u>
40% Total	185,484	247,312	309,140

Berkshire	Threshold	Design	Exemplary
Savings	186,676	248,902	311,127
Value	121,040	161,387	201,733
Metrics	<u>60,520</u>	<u>80,693</u>	<u>100,867</u>
Total	368,236	490,982	613,727

NEG NA &FR	Threshold	Design	Exemplary
Savings	121,468	161,957	202,446
Value	66,923	89,231	111,538
Metrics	<u>33,462</u>	<u>44,615</u>	<u>55,769</u>
Total	221,852	295,803	369,754

Note: Threshold = 75% of design value and exemplary = 125% of design value

L. Cost Recovery

1. Overview

The Program Administrators emphasize that cost recovery, including the recovery of a performance incentive, and, for those PAs without a Department-approved decoupling mechanism, LBR, is a critical element of this Plan. In order for the Program Administrators to pursue the aggressive goals set forth in this Plan, it is essential that the cost-recovery process provide a full and fair opportunity for the Program Administrators to be made economically whole for aggressively pursuing sales-reducing energy efficiency efforts and to earn a reasonable return on this investment based upon their performance and achievement. While Department approval of the proposed Plan should ensure cost-recovery of Plan related costs, LBR, and performance incentives, the details around cost-recovery mechanisms will be addressed in separate proceedings and may be affected by orders to be issued by the Department D.P.U. 11-120.

Pursuant to the GCA, the Department must approve a fully reconciling funding mechanism if, after reviewing a Program Administrator's proposed Plan, it determines that the Plan ensures that the PA has identified and shall capture all energy efficiency and demand reduction resources that are cost effective or less expensive than supply. G.L. c. 25, § 21(d)(2).

As part of this determination, the Department must approve recovery of all expenditures for the Program Administrator's energy efficiency measures that are screened through the cost-effectiveness test described herein in Section III.A.3. G.L. c. 25, § 21(d)(2). In the event that program costs exceed available revenue sources, the Department must approve a fully reconciling funding mechanism to ensure that the costs for all cost-effective energy efficiency measures are recovered from customers. G.L. c. 25, § 21(b)(3). The funding sources available for electric energy efficiency programming are discussed in Section III.C. See G.L. c. 25, § 19; G.L. c. 25, §§ 21(b)(2)(vii) and 21(d)(2); D.P.U. 08-50-B Guidelines §§ 3.2.1 and 3.2.2.

Therefore, in reviewing a Program Administrator's proposed Plan, the Department must assure that the Program Administrator is able to implement all Plan offerings that are found to be cost-effective, even if the costs associated with providing those offerings are in excess of the established funding sources provided for in the statutorily-authorized energy efficiency charge (equal to 0.250¢ per kilowatt hour for electric Program Administrators) and through other sources. G.L. c. 25, § 19.

a. Mechanisms Specific to Electric Program Administrators

In this context, the electric distribution companies have each filed with the Department proposed tariffs or modifications to their respective energy efficiency charge tariffs that include an EERF factor to recover and reconcile their respective energy efficiency costs in a particular program year with the revenue it receives through: (1) the statutorily-authorized energy efficiency charge; (2) participation in the FCM; (3) proceeds from participation in cap-and-trade programs such as the RGGI; (4) for electric PAs without a Department-approved decoupling mechanism, LBR; and (5) proceeds available from other private or public funds that may be available for energy efficiency or demand resources, as appropriate. This is consistent with the Legislature's mandates established in G.L. c. 25, §§ 19 and 21. In addition to costs associated with program implementation and performance incentives, and consistent with Department directives, each electric Program Administrator's respective energy efficiency tariffs will also include, for those Program Administrators without an approved decoupling mechanism, recovery of LBR. The factor is calculated as the sum of a Program Administrator's energy efficiency

costs, net of that Program Administrator's energy efficiency revenues (from sources outlined above), divided by the forecasted kilowatt-hour sales for the previous calendar year.³³

The electric Program Administrators will submit new EERFs annually for calendar years 2013, 2014, and 2015 during the course of the implementation of this Three-Year Plan.³⁴

b. Mechanisms Specific to Gas Program Administrators

In Revenue Decoupling, D.P.U. 07-50-A, at 83-84 (2008), the Department determined that allowance of LBR recovery for gas companies through the term of the initial three-year energy efficiency plans is consistent with the Department's expectation that, with limited exceptions, distribution companies will be operating under decoupling plans by year-end 2012. However, those distribution companies that are subject to Performance-Based Ratemaking or rate plans that extend past 2012, and that do not voluntarily terminate such plans before their expiration, will be allowed to recover LBR through the remainder of their existing rate plans. D.P.U. 07-50-A at 83-84. In this context, and consistent with the standard that governs the calculations for and recovery of LBR, those gas Program Administrators' respective energy efficiency tariffs will also include recovery of LBR.³⁵ For gas companies, LBR is defined as the non-gas portion of a gas utility's base rates that is lost between rate cases as a result of reduced sales cause by the implementation of demand-side management programs. Boston Gas Company, D.P.U. 90-17/18/55, at 139 (1990).

The costs associated with LBR, for gas Program Administrators for whom an approved revenue decoupling mechanism is not in effect, will continue to be reconciled through the energy efficiency surcharge ("EES") calculation included in each Program Administrator's local distribution adjustment clause ("LDAC"). The EES is applied to therm sales of a particular company to recover from firm ratepayers any demand side management program costs and associated expenditures. Included in that calculation is a determination of the Program Administrator's lost margins, determined by multiplying the rate category therm savings by the respective rate category recovery rate. Where applicable, the gas Program Administrators will include their LBR calculations for calendar year 2013 in their respective PA-specific Plan filings with the Department in October 2012, and will submit new LBR calculations annually for calendar years 2014 and 2015 during the course of the implementation of this three-year statewide Plan.

³³ LBR recovery with respect to NSTAR Gas will be consistent with the terms and conditions of the Settlement Agreement among NSTAR Gas, Northeast Utilities, DOER and the Attorney General dated February 15, 2012 and filed in docket D.P.U. 10-170.

³⁴ The DPU is investigating potential changes related to how the EERF is set in DPU 11-120. If changes are enacted, the PAs will comply with those directives.

³⁵ The base year measurement dates for LBR (and related recovery logistics) vary by PA.

2. Calculation of EERF³⁶

The electric Program Administrators calculate their EERF estimates in the following manner; as directed in the Department's orders on the Program Administrators' 2009 energy efficiency programs (*see, e.g., Cape Light Compact*, D.P.U. 08-113; *Fitchburg Gas & Electric Light Company*, D.P.U. 08-116; *National Grid*, D.P.U. 08-129; *NSTAR Electric Company*, D.P.U. 08-117; *Western Massachusetts Electric Company*, D.P.U. 08-118).

- Funds collected through the SBC, FCM, and RGGI are allocated to each customer sector in proportion to the sector's kWh consumption. However, consistent with G.L. c. 25 § 19(c), at least 10 percent of the amount expended for electric energy efficiency programs shall be spent on low-income energy efficiency efforts;
- The EERF charged to low-income customers is calculated by dividing (1) the amount of EERF revenue required to fund the low income programs, by (2) total company-wide (*i.e.*, the sum of all customer sectors) kWh sales;
- The EERF charged to residential customers is calculated as the sum of (1) the amount of EERF revenue required to fund residential programs divided by total residential kWh sales and (2) the low-income EERF, as described above; and
- The EERF charged to C&I customers is calculated as the sum of (1) the amount of EERF revenue required to fund C&I programs divided by total C&I kWh sales and (2) the low-income EERF, as described above.

M. Mid-Term Modifications

The Program Administrators continue to view the three-year planning and review process as an opportunity to anticipate and analyze a wide range of possibilities in developing the Plan. The Program Administrators, however, have also recognized that planning flexibility during the three-year term (the "Term") is critical. It is during the Term that Program Administrators monitor and evaluate the effectiveness of various programs and make determinations that certain enhancements, reallocations, or modifications may be appropriate to best achieve the Plan's energy efficiency goals. Having planning flexibility allows ongoing revisions and enhancements to the Plan in order to reflect in-the-field conditions, actual achievements, technological advances and state-of-the-art techniques without unduly inhibiting Program Administrators with the need to seek advance regulatory review and approval (with accompanying administration costs and implementation delays).

While the Program Administrators welcome flexibility to make ongoing revisions and refinements, the Program Administrators also appreciate the importance of transparency and oversight. The Department has balanced these interests in formulating the governing guidelines for Plan modifications, as set forth in its Order in D.P.U. 08-50-A. Indeed, the Department

³⁶ The Program Administrators note that this Plan is not establishing the details of the EERF or LBR recovery. Details of the EERF formula and amount have been determined in separate Department proceeding(s).

expects that Program Administrators will make minor modifications as a matter of course but that significant modifications will require Department review and approval. D.P.U. 08-50-A at 61. More specifically, D.P.U. 08-50-A expressly authorizes the Program Administrators to make modifications, reallocations and enhancements to their individual plans during the term of those plans (including, without limitation, budgetary reallocations and additions or subtractions of program measures). However, any such modification, reallocation or enhancement shall be submitted to the Department (with a copy to the Council) for the Department's review and approval (with the advance opportunity for the Council to comment and work with the Program Administrators) if the contemplated modification, reallocation or enhancement meets any of the following prescribed conditions:

- (1) the addition of a new program or the termination of an existing program;
- (2) a change in a program budget of greater than 20 percent;
- (3) a program modification that leads to an adjustment in savings goals that is greater than 20 percent;
- or (4) a program modification that leads to a change in performance incentives of greater than 20 percent.

D.P.U. 08-50-A at 64; D.P.U. 08-50-B Guidelines § 3.8.2.³⁷

Subsequent to D.P.U. 08-50-A, the Department provided further guidance regarding the need for Department approval of proposed mid-term program modifications. Specifically, in D.P.U. 10-106, the Department addressed the implementation of the modification thresholds contained in the D.P.U. 08-50-B Guidelines, noting that “the Department implemented Guidelines § 3.8.2 with the intent that Program Administrators are required to seek Department approval for a program budget modification that is 20 percent greater than the program’s **three-year** budget.” D.P.U. 10-106, at 6-9, emphasis added.

As the Department expressly recognizes, it was the intent of the Legislature to establish a three-year cycle for budgeting, planning, and regulatory review of energy efficiency programs. *Id.* As such, the Program Administrators propose to apply the D.P.U. 08-50-B Guidelines, as clarified by the Department in D.P.U. 10-106, *supra*, to program modifications that lead to savings adjustments during the three-year term of the Plan. This will allow Program Administrators continued flexibility to make adjustments to programs that are necessary to promote innovation and efficiency without being unduly burdened by the administrative process. Indeed, retaining the flexibility to make changes and reallocations within the 20 percent bandwidth over the three-year term of the Plan is critical. Having flexibility with budgets without having the same flexibility for program modifications over the three-years of the Plan is counterproductive. Requiring annual review for program modifications will come at a substantial administrative cost and could have the unfortunate effect of inhibiting valuable innovation. The Program Administrators propose that the interpretation of the D.P.U. 08-50-B Guidelines, as expressed by the Department in D.P.U. 10-106, should be broadly construed to apply to both budget and program modifications that adjust savings goals. Such an application will ensure regulatory oversight but permit the Program Administrators to remain agile and

³⁷ While D.P.U. 08-50-B Guideline § 3.8.1 contemplates the requests for plan modifications to accompany a Program Administrators' annual report filing, the Program Administrators, during the 2010-2012 Term, have filed modification requests through a separate subsequent filing.

responsive in implementing state-of-the-art energy efficiency programs for the benefit of customers during the three-year term of the Plan.³⁸

The Program Administrators are pleased that the Department recently initiated an investigation in D.P.U. 11-120 to consider specific revisions to the D.P.U. 08-50-B Guidelines addressing the mid-term modification process. In D.P.U. 11-120 (Phase II), the Department presents a straw proposal pursuant to which a Program Administrator seeking to make a significant modification to its three-year plan must obtain Council approval and submit an informational only filing to the Department. After Council approval, the Program Administrator may implement the modification. Under the Department's straw proposal, however, two proposed modifications would still require Department approval: the addition of a new program during the three-year term and the increase in a sector budget greater than 2%. It is the goal of the Program Administrators to balance the need for flexibility with respect to program implementation, budgeting and savings over the three-year term of the Plan with the need for regulatory review of modifications. The Program Administrators are encouraged that through this stakeholder process adjustments to the mid-term modification process will result to better accomplish this balance.

N. Database Issues

The Council has identified defining and encouraging better data analytics and access as a priority. One of the Council's action plan items is "Enablement for statewide data management and statewide data reporting in a consistent and timely manner." With respect to statewide data management and analytics priorities, the Program Administrators will continue to collaborate with the Council to explore and develop options that are timely, appropriate and efficient for all users. As discussed below, there are ongoing discussions on database issues with the DOER and other interested parties. The PAs look forward to continuing to work with DOER and other interested parties on these challenging issues.

It is important to understand and acknowledge that presently there are several key data activities that are ongoing. First, the PAs are currently reporting statewide data in a consistent and timely manner (see Appendix K at 2-3). There is an enormous amount of data that is being successfully and consistently provided in a public and transparent manner by the PAs. Over the course of the initial three-year plan (2010-2012), the PAs have provided, 9 quarterly reports (through the first quarter of 2012) with statewide or "rolled up" data and data from individual PAs,³⁹ 7 monthly "data dashboards" which provide key snapshots of core metrics in a timely

³⁸ The Program Administrators note that, in adopting the appropriate flexibility provided by the Department in D.P.U. 10-106, they are not proposing that such flexibility apply to any of the mandatory low-income program funding levels established in G.L. c. 25, § 19(c). Any modification of such levels would only be undertaken with advance approval from the Department after an opportunity for Council participation and after discussions with LEAN.

³⁹ The quarterly reports contain a narrative summary of activities undertaken by the Program Administrators in the relevant quarter ("qualitative report"), along with quantitative quarterly report information attached to the report as Attachment A (pertaining to electric Program Administrators) and Attachment B (pertaining to gas Program Administrators). For 2012, the filing of the qualitative and quantitative reports was consolidated. Prior to 2012, these reports were filed in separate months.

basis,⁴⁰ and detailed annual reports filed by each PA for 2010, with Annual Reports for 2011 on schedule for filing this August. In general, each PA’s Annual Report contains over 20 tables and is over 600 pages, with detailed EM&V attachments. The PAs have also provided over x sets of “rolled up” D.P.U. 08-50 data tables, which provides information on both an individual PA and statewide basis. The D.P.U. 08-50 tables contain over numerous separate tabs, each developed through a public process and designed to provide detailed information on all key aspects of energy efficiency program delivery by the PAs. All information and data as noted above that is filed with the Council and Department is publicly available and benefits customers, regulators, researchers, academics and other entities interested in seeking to emulate Massachusetts’ success in energy efficiency.

Second, DOER maintains the PARIS statewide database. In addition to the data reporting noted above, each PA provides extensive information annually for the PARIS database. The PAs have devoted substantial time and resources working cooperatively with DOER in populating and maintaining the PARIS database throughout the initial three-year plan term. In particular, the PAs provide program, end use and measure level detail, annual and lifetime savings, budgets and benefits for annual plans and annual reports each year.

As energy efficiency efforts in Massachusetts have ramped up, resulting in Massachusetts leading the nation in energy efficiency, there is interest in obtaining even more data, from multiple, easy-access sources. While there are significant data resources available, there are limitations to DOER’s use of the current PARIS system.

With respect to the possibility of establishing a uniform tracking system for energy efficiency data, the Department has encouraged the parties to determine if it is practicable to establish a uniform system that is efficient, reliable, and useful to all parties. Massachusetts Electric Company, D.P.U. 10-98, at 16 (2011); Western Massachusetts Electric Company, D.P.U. 10-90, at 21 (2011); Fitchburg Gas and Electric Light Company, d/b/a Unitil, D.P.U. 10-89 at 17 (2011). Prior to the Department’s statement, the PAs had been working collaboratively and proactively with DOER to discuss the purpose, challenges and strategies for developing a new, enhanced database that would provide value both to the PAs and to the Commonwealth. Some of the relevant dates and forums include:

DATE	FORUM	ISSUES
November 8, 2011	Database Symposium convened by DOER	PAs attended a database symposium at the request of DOER, along with many other stakeholders, which focused on the type of data stakeholders would like to get from PAs. The PAs discussed the type of information that is available, including PARIS and D.P.U. 08-50 tables, and constraints with regard to providing certain information.
November 28, 2011	DPU 10-98, DPU 10-90, DPU 10-89 (2011)	DPU stated that it “encourages the parties to develop a uniform energy efficiency program data tracking system that is efficient, reliable, and useful to all parties, to the extent practicable.”

⁴⁰ The data dashboards are filed in months when there was no quarterly report due.

January 5, 2012	DOER/PA meeting	DOER explained its proposal for a new statewide database (“PARIS 2.0”), which was not intended to build off the current PARIS database.
January 31, 2012	PA Feedback	PAs provided a response to DOER’s proposal (<i>see</i> Appendix K at 8-13). Among other issues, the PAs emphasized the need to clearly identify the data that is sought (and the reasons why that data is sought). The PAs stated that any approach should leverage the deep wealth of data already tracked and available; be mindful of cost, privacy issues, and individual PA tracking systems (in which the PAs have made significant financial investments); and identify a means of funding such a project.
February 27, 2012	Executive Committee Meeting	At an executive committee meeting of the Council, DOER clarified that it is not necessarily committed to PARIS 2.0 and is instead looking for the PAs to consider other paths forward.
April 3, 2012	DOER/PA meeting	Small PA group met with DOER to better understand DOER’s purpose for a database and discuss the best approach to moving forward. The meeting was productive and may lead to a collaborative solution to the Commonwealth’s near-and-long-term data requirements.
April 6, 2012	PA Reply Comments, 2010 Annual Reports	PAs describe their good faith efforts to address database issues.
May 1, 2012	Executive Committee Meeting	Discussion about database issues in which DOER states its intention to host a webinar to provide information on available database platforms. The AG questioned whether the purpose and content of the database had been clarified as those issues would drive the platform that would be needed.
May 3, 2012	PA Feedback	PAs provide a power point to DOER to clarify the problem to be solved and identify the next best steps with database issues (<i>see</i> Appendix K at 1-7).
May 18, 2012	Executive Committee Meeting	DOER discusses possible webinar on database issues. AG offered to bring in folks from Teradata to explain data integration, data quality and data granulation but not as a pitch.
June 22, 2012	Executive Committee Meeting	The EEAC will likely convene a webinar on database matters (very broad overview of what databases can effectively do) on either July 25 or July 26.

The PAs began their collaboration before the Department’s 2011 Order and remain committed to working with DOER and others to determine if there is a practicable solution that is efficient, reliable, useful to a variety of entities and that addresses the concerns of the PAs, including: (1) clearly identify the data that is sought (and the reasons why that data is sought); (2) leverage the deep wealth of data already tracked and available; (3) be mindful of cost, privacy issues, and differences in individual PA tracking systems (in which the PAs have made significant financial investments); and (4) identify a means of funding such a project.

To develop an effective/optimal data system, all interested parties need to clearly identify the data to be collected, the purposes for which the data are needed, and by whom the data would be used. An understanding of these objectives is critical to considering appropriate solutions. Failure to conduct this critical scoping exercise will increase costs and potentially result in the development of a database that is incompatible with existing PA database infrastructure. The PAs have made significant financial investments in their database infrastructure, the costs of which have been paid by customers, and the development of a statewide database must be coordinated with existing PA systems to avoid increasing costs for PAs to interface with the new statewide database. The costs of a new database/tracking system need to be determined, discussed and optimized. The funding for such a database needs to be clearly identified, and all efforts should be taken to minimize costs, while ensuring quality and utility of the new system. For example, if customers, rather than an agency of the Commonwealth, are to pay for a new database, it is easy to see that there would be conflict between a new database and implementation of PA energy efficiency delivery costs.⁴¹ If the objectives, funding sources, cost estimates and necessary data have been clarified, the discussion on a uniform database could proceed to identify possible cost-effective solutions.

In sum, the PAs have compiled and shared on a timely and coordinated basis extensive energy efficiency data. The PAs believe the process to address database concerns will benefit from further thought and discussion. No party should minimize the level of work, resources and costs that will be entailed in this effort. The PAs remain willing to be active participants in this ongoing effort

O. Effect of Investigation D.P.U. 11-120 on Three-Year Plans

As discussed in Section II.G, the Department has opened up an investigation to examine issues associated with the Program Administrators' three-year energy efficiency plans. D.P.U. 11-120, Phases I and II. Phase I is examining issues related to reasonably anticipated CO₂ compliance costs and net savings. Phase II is investigating issues related to MTMs, Annual Reports, and energy efficiency surcharges ("EES"). For the reasons discussed below, the outcome of these investigations may affect the PAs' final Plan.

1. Phase I

a. CO₂ Compliance Costs

The Department is considering whether or not reasonably anticipated carbon compliance costs have been incorporated into the avoided costs used to value energy efficiency program savings. The Department's ultimate assessment of this issue could lead to changes in the avoided costs that are used to assess the value of projected savings from Plan efforts. As a result, changes in the Plan may be needed to comply with the Department's ultimate direction on this issue.

⁴¹ The PAs have included \$500,000 of funding for a statewide database in each annual budget for the next three years. See Section III.D and Appendix A.

b. Savings

The Department is considering changes to the way in which net savings are estimated. The current Plan incorporates savings estimates that reflect current practice. If an alternative approach is adopted by the Department, then projected savings from Plan efforts may need to be updated.

2. Phase II

Phase II contemplates changes to reporting requirements, the criteria for an MTM filing, and the incentive mechanism. The current Plan does not factor in any of the changes currently under consideration. If the Department ultimately adopts changes in any of these areas, elements of the Plan may need to be updated.

P. On The Horizon: Next Steps Between Now and October 31, 2012

The development of this Plan is an evolving and dynamic undertaking. Between today and the ultimate filing of the PAs' Plan with the Department on October 31, 2012, efforts to explore new areas and technologies will continue and the Plan will be refined and revised as additional information and data become available and as comments and suggestions are considered. For example:

- The Program Administrators expect to have greater clarity around a codes and standards initiative after ongoing studies are completed this summer and EM&V results are reviewed. See Sections III.F.6.e, and III.I above. The Program Administrators expect that it is likely that the October 31, 2012 version of the Plan will contain a full codes and standards proposal.
- The current version of the Plan contains an education initiative for which the PAs have budgeted, as discussed in more detail in Section III.H.3 above. However, at this time the PAs have not claimed any projected savings associated with this initiative given the lack of EM&V results for such an effort. PAs, however, are undertaking a study of savings resulting from education efforts to be completed in August and it is likely that the October 31 filing will contain savings projections for this effort, thereby increasing the overall portfolio savings associated with this Plan, but without accompanying budget increases.
- The cut-off date for EM&V studies to be included in this Plan is July 13, 2012. It is likely that additional results will cause the PAs to make some adjustments in savings and cost estimates for applicable programs.
- It is possible that certain PAs will study behavior feedback, which may lead them to implement behavioral feedback programs that are not currently reflected in their savings and budget projections.
- The efforts and collaboration of the working groups will continue, including quality control checks and comparisons among Program Administrators of the data included in this Plan and ongoing sharing of best practices.

- The PAs will continue to work with the Council, its consultants and other stakeholders, including review and follow up on appropriate recommendations coming out of the Appreciative Inquiry.

Each of these factors can result in worthwhile enhancements to this Plan before a final Plan is submitted to the Department on October 31, 2012. See Appendix L (list of key dates and events).

IV. APPENDICES

A. D.P.U. 08-50 Tables

ELECTRIC STATEWIDE D.P.U. 08-50 TABLES

IV.C. Statewide Electric PA Budgets

1. Summary Table

Program Administrator Budget, 2013 (1)									
Program	PA Costs (3)						Lost Base Revenue (2)	Performance Incentive	TOTAL PA Budget (4)
	Program Planning and Administration	Marketing and Advertising	Participant Incentive	Sales, Technical Assistance & Training	Evaluation and Market Research	Total PA Costs			
Residential (total)	\$6,302,454	\$11,818,550	\$107,580,077	\$29,821,793	\$6,033,821	\$161,556,694	\$1,805,401	\$7,209,547	\$170,571,643
1. Residential Whole House	\$ 3,428,492	\$ 4,185,784	\$ 71,442,522	\$ 20,823,789	\$ 4,397,395	\$ 104,277,982		\$ 4,695,684	\$ 108,973,666
2. Residential Products	\$ 1,693,320	\$ 4,560,723	\$ 27,437,456	\$ 6,390,256	\$ 1,606,266	\$ 41,688,020		\$ 2,513,863	\$ 44,201,882
3. Residential Hard-to-Measure	\$ 1,180,643	\$ 3,072,043	\$ 8,700,099	\$ 2,607,748	\$ 30,160	\$ 15,590,693		\$ -	\$ 15,590,693
Residential Statewide Marketing	\$ -	\$ 2,009,116	\$ -	\$ -	\$ -	\$ 2,009,116		\$ -	\$ 2,009,116
Residential DOER Assessment	\$ 650,416	\$ -	\$ -	\$ 199,967	\$ -	\$ 850,383		\$ -	\$ 850,383
Residential EEAC Consultants	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		\$ -	\$ -
Residential Sponsorships & Subscriptions	\$ 390,942	\$ -	\$ -	\$ 46,792	\$ -	\$ 437,734		\$ -	\$ 437,734
Residential HEAT Loan	\$ 31,212	\$ 5,295	\$ 8,452,599	\$ 398,473	\$ -	\$ 8,887,580		\$ -	\$ 8,887,580
Residential Workforce Development	\$ 13,178	\$ -	\$ -	\$ 720,407	\$ 15,000	\$ 748,585		\$ -	\$ 748,585
Residential R&D and Demonstration	\$ 20,046	\$ 41,362	\$ 247,500	\$ 251,630	\$ 15,160	\$ 575,698		\$ -	\$ 575,698
Residential Education	\$ 74,848	\$ 1,016,270	\$ -	\$ 990,479	\$ -	\$ 2,081,597		\$ -	\$ 2,081,597
Low-Income (total)	\$3,371,307	\$1,030,600	\$40,640,606	\$10,480,343	\$2,299,026	\$57,821,882	\$17,698	\$2,144,101	\$59,983,681
4. Low-Income Whole House	\$ 2,068,556	\$ 763,686	\$ 40,640,606	\$ 10,364,870	\$ 2,299,026	\$ 56,136,743		\$ 2,144,101	\$ 58,280,844
5. Low-Income Hard-to-Measure	\$ 1,302,751	\$ 266,915	\$ -	\$ 115,474	\$ -	\$ 1,685,139		\$ -	\$ 1,685,139
Low-Income Statewide Marketing	\$ -	\$ 239,165	\$ -	\$ -	\$ -	\$ 239,165		\$ -	\$ 239,165
Low-Income DOER Assessment	\$ 235,049	\$ -	\$ -	\$ 54,824	\$ -	\$ 289,873		\$ -	\$ 289,873
Low-Income Energy Affordability Network	\$ 1,067,702	\$ 27,750	\$ -	\$ 60,650	\$ -	\$ 1,156,102		\$ -	\$ 1,156,102
Commercial & Industrial (total)	\$18,802,120	\$6,498,200	\$230,002,316	\$27,547,993	\$11,596,620	\$294,447,248	\$2,777,620	\$18,713,768	\$315,938,635
6. C&I New Construction	\$ 4,451,227	\$ 1,504,635	\$ 59,868,876	\$ 11,256,549	\$ 3,455,594	\$ 80,536,882		\$ 6,047,488	\$ 86,584,370
7. C&I Retrofit	\$ 12,098,277	\$ 3,853,666	\$ 170,133,440	\$ 16,045,834	\$ 8,141,026	\$ 210,272,242		\$ 12,666,279	\$ 222,938,522
8. C&I Hard-to-Measure	\$ 2,252,616	\$ 1,139,899	\$ -	\$ 245,610	\$ -	\$ 3,638,124		\$ -	\$ 3,638,124
C&I Statewide Marketing	\$ -	\$ 1,139,899	\$ -	\$ -	\$ -	\$ 1,139,899		\$ -	\$ 1,139,899
C&I DOER Assessment	\$ 1,205,146	\$ -	\$ -	\$ 245,610	\$ -	\$ 1,450,756		\$ -	\$ 1,450,756
C&I EEAC Consultants	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		\$ -	\$ -
C&I Sponsorships & Subscriptions	\$ 1,047,470	\$ -	\$ -	\$ -	\$ -	\$ 1,047,470		\$ -	\$ 1,047,470
GRAND TOTAL	\$28,475,881	\$19,347,350	\$378,222,998	\$67,850,129	\$19,929,467	\$513,825,825	\$4,600,719	\$28,067,415	\$546,493,959

IV.C. Statewide Electric PA Budgets

1. Summary Table

Program Administrator Budget, 2014 (1)									
Program	PA Costs (3)						Lost Base Revenue (2)	Performance Incentive	TOTAL PA Budget (4)
	Program Planning and Administration	Marketing and Advertising	Participant Incentive	Sales, Technical Assistance & Training	Evaluation and Market Research	Total PA Costs			
Residential (total)	\$6,261,778	\$12,414,160	\$115,722,446	\$30,359,768	\$6,383,074	\$171,141,225	\$5,778,721	\$7,453,687	\$184,373,633
1. Residential Whole House	\$ 3,385,225	\$ 4,427,466	\$ 77,599,187	\$ 21,244,655	\$ 4,654,699	\$ 111,311,232		\$ 5,002,882	\$ 116,314,114
2. Residential Products	\$ 1,690,582	\$ 4,959,174	\$ 29,109,052	\$ 6,502,045	\$ 1,697,487	\$ 43,958,339		\$ 2,450,805	\$ 46,409,144
3. Residential Hard-to-Measure	\$ 1,185,971	\$ 3,027,520	\$ 9,014,207	\$ 2,613,069	\$ 30,887	\$ 15,871,654		\$ -	\$ 15,871,654
Residential Statewide Marketing	\$ -	\$ 1,918,018	\$ -	\$ -	\$ -	\$ 1,918,018		\$ -	\$ 1,918,018
Residential DOER Assessment	\$ 648,473	\$ -	\$ -	\$ 199,741	\$ -	\$ 848,214		\$ -	\$ 848,214
Residential EEAC Consultants	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		\$ -	\$ -
Residential Sponsorships & Subscriptions	\$ 396,455	\$ -	\$ -	\$ 46,792	\$ -	\$ 443,247		\$ -	\$ 443,247
Residential HEAT Loan	\$ 31,638	\$ 5,018	\$ 8,752,582	\$ 400,985	\$ -	\$ 9,190,224		\$ -	\$ 9,190,224
Residential Workforce Development	\$ 13,304	\$ -	\$ -	\$ 677,283	\$ 15,000	\$ 705,587		\$ -	\$ 705,587
Residential R&D and Demonstration	\$ 20,567	\$ 43,400	\$ 261,625	\$ 257,788	\$ 15,887	\$ 599,267		\$ -	\$ 599,267
Residential Education	\$ 75,534	\$ 1,061,084	\$ -	\$ 1,030,479	\$ -	\$ 2,167,097		\$ -	\$ 2,167,097
Low-Income (total)	\$3,371,922	\$1,067,152	\$40,012,141	\$10,465,602	\$2,278,639	\$57,195,456	\$74,843	\$2,126,583	\$59,396,883
4. Low-Income Whole House	\$ 2,064,363	\$ 815,530	\$ 40,012,141	\$ 10,358,150	\$ 2,278,639	\$ 55,528,823		\$ 2,126,583	\$ 57,655,407
5. Low-Income Hard-to-Measure	\$ 1,307,559	\$ 251,622	\$ -	\$ 107,452	\$ -	\$ 1,666,633		\$ -	\$ 1,666,633
Low-Income Statewide Marketing	\$ -	\$ 228,372	\$ -	\$ -	\$ -	\$ 228,372		\$ -	\$ 228,372
Low-Income DOER Assessment	\$ 230,548	\$ -	\$ -	\$ 54,302	\$ -	\$ 284,850		\$ -	\$ 284,850
Low-Income Energy Affordability Network	\$ 1,077,011	\$ 23,250	\$ -	\$ 53,150	\$ -	\$ 1,153,411		\$ -	\$ 1,153,411
Commercial & Industrial (total)	\$18,409,011	\$6,525,667	\$229,320,553	\$27,634,053	\$11,720,875	\$293,610,158	\$14,911,749	\$19,229,453	\$327,751,360
6. C&I New Construction	\$ 4,222,235	\$ 1,519,482	\$ 56,108,018	\$ 11,591,403	\$ 3,497,608	\$ 76,938,747		\$ 5,724,315	\$ 82,663,062
7. C&I Retrofit	\$ 11,912,582	\$ 3,902,053	\$ 173,212,535	\$ 15,796,293	\$ 8,223,266	\$ 213,046,729		\$ 13,505,138	\$ 226,551,866
8. C&I Hard-to-Measure	\$ 2,274,194	\$ 1,104,132	\$ -	\$ 246,357	\$ -	\$ 3,624,682		\$ -	\$ 3,624,682
C&I Statewide Marketing	\$ -	\$ 1,104,132	\$ -	\$ -	\$ -	\$ 1,104,132		\$ -	\$ 1,104,132
C&I DOER Assessment	\$ 1,211,590	\$ -	\$ -	\$ 246,357	\$ -	\$ 1,457,947		\$ -	\$ 1,457,947
C&I EEAC Consultants	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		\$ -	\$ -
C&I Sponsorships & Subscriptions	\$ 1,062,603	\$ -	\$ -	\$ -	\$ -	\$ 1,062,603		\$ -	\$ 1,062,603
GRAND TOTAL	\$28,042,711	\$20,006,979	\$385,055,139	\$68,459,424	\$20,382,588	\$521,946,840	\$20,765,312	\$28,809,723	\$571,521,875

IV.C. Statewide Electric PA Budgets

1. Summary Table

Program Administrator Budget, 2015 (1)									
Program	PA Costs (3)						Lost Base Revenue (2)	Performance Incentive	TOTAL PA Budget (4)
	Program Planning and Administration	Marketing and Advertising	Participant Incentive	Sales, Technical Assistance & Training	Evaluation and Market Research	Total PA Costs			
Residential (total)	\$6,324,646	\$12,788,129	\$120,234,384	\$30,661,233	\$6,571,636	\$176,580,028	\$10,452,962	\$7,641,796	\$194,674,786
1. Residential Whole House	\$ 3,409,172	\$ 4,613,414	\$ 81,900,482	\$ 21,658,207	\$ 4,790,964	\$ 116,372,239		\$ 5,242,482	\$ 121,614,722
2. Residential Products	\$ 1,726,618	\$ 5,177,335	\$ 28,995,876	\$ 6,408,023	\$ 1,749,023	\$ 44,056,874		\$ 2,399,314	\$ 46,456,188
3. Residential Hard-to-Measure	\$ 1,188,857	\$ 2,997,380	\$ 9,338,026	\$ 2,595,002	\$ 31,649	\$ 16,150,915		\$ -	\$ 16,150,915
Residential Statewide Marketing	\$ -	\$ 1,919,013	\$ -	\$ -	\$ -	\$ 1,919,013		\$ -	\$ 1,919,013
Residential DOER Assessment	\$ 644,752	\$ -	\$ -	\$ 199,310	\$ -	\$ 844,062		\$ -	\$ 844,062
Residential EEAC Consultants	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		\$ -	\$ -
Residential Sponsorships & Subscriptions	\$ 401,694	\$ -	\$ -	\$ 46,792	\$ -	\$ 448,486		\$ -	\$ 448,486
Residential HEAT Loan	\$ 32,924	\$ 5,072	\$ 9,061,820	\$ 404,804	\$ -	\$ 9,504,619		\$ -	\$ 9,504,619
Residential Workforce Development	\$ 13,243	\$ -	\$ -	\$ 634,366	\$ 15,000	\$ 662,609		\$ -	\$ 662,609
Residential R&D and Demonstration	\$ 21,056	\$ 45,539	\$ 276,206	\$ 264,252	\$ 16,649	\$ 623,703		\$ -	\$ 623,703
Residential Education	\$ 75,188	\$ 1,027,755	\$ -	\$ 1,045,479	\$ -	\$ 2,148,422		\$ -	\$ 2,148,422
Low-Income (total)	\$3,397,085	\$1,080,592	\$41,005,007	\$10,758,285	\$2,334,908	\$58,575,878	\$121,558	\$2,028,621	\$60,726,057
4. Low-Income Whole House	\$ 2,072,343	\$ 825,852	\$ 41,005,007	\$ 10,645,768	\$ 2,334,908	\$ 56,883,878		\$ 2,028,621	\$ 58,912,500
5. Low-Income Hard-to-Measure	\$ 1,324,742	\$ 254,740	\$ -	\$ 112,518	\$ -	\$ 1,692,000		\$ -	\$ 1,692,000
Low-Income Statewide Marketing	\$ -	\$ 228,490	\$ -	\$ -	\$ -	\$ 228,490		\$ -	\$ 228,490
Low-Income DOER Assessment	\$ 227,230	\$ -	\$ -	\$ 53,918	\$ -	\$ 281,148		\$ -	\$ 281,148
Low-Income Energy Affordability Network	\$ 1,097,512	\$ 26,250	\$ -	\$ 58,600	\$ -	\$ 1,182,362		\$ -	\$ 1,182,362
Commercial & Industrial (total)	\$18,462,739	\$6,563,023	\$233,574,180	\$27,993,335	\$11,884,895	\$298,478,171	\$27,237,577	\$19,599,721	\$345,315,469
6. C&I New Construction	\$ 4,153,904	\$ 1,531,011	\$ 58,461,823	\$ 11,929,915	\$ 3,554,341	\$ 79,630,993		\$ 6,014,685	\$ 85,645,678
7. C&I Retrofit	\$ 12,011,576	\$ 3,924,860	\$ 175,112,357	\$ 15,816,247	\$ 8,330,554	\$ 215,195,594		\$ 13,585,036	\$ 228,780,630
8. C&I Hard-to-Measure	\$ 2,297,259	\$ 1,107,152	\$ -	\$ 247,173	\$ -	\$ 3,651,584		\$ -	\$ 3,651,584
C&I Statewide Marketing	\$ -	\$ 1,107,152	\$ -	\$ -	\$ -	\$ 1,107,152		\$ -	\$ 1,107,152
C&I DOER Assessment	\$ 1,218,629	\$ -	\$ -	\$ 247,173	\$ -	\$ 1,465,801		\$ -	\$ 1,465,801
C&I EEAC Consultants	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		\$ -	\$ -
C&I Sponsorships & Subscriptions	\$ 1,078,631	\$ -	\$ -	\$ -	\$ -	\$ 1,078,631		\$ -	\$ 1,078,631
GRAND TOTAL	\$28,184,470	\$20,431,745	\$394,813,571	\$69,412,852	\$20,791,439	\$533,634,078	\$37,812,096	\$29,270,138	\$600,716,312

IV.C. Statewide Electric PA Budgets

1. Summary Table

Program Administrator Budget, 2013-2015 (1)									
Program	PA Costs (3)						Lost Base Revenue (2)	Performance Incentive	TOTAL PA Budget (4)
	Program Planning and Administration	Marketing and Advertising	Participant Incentive	Sales, Technical Assistance & Training	Evaluation and Market Research	Total PA Costs			
Residential (total)	\$18,888,879	\$37,020,839	\$343,536,906	\$90,842,794	\$18,988,531	\$509,277,948	\$18,037,085	\$22,305,030	\$549,620,062
1. Residential Whole House	\$ 10,222,889	\$ 13,226,664	\$ 230,942,191	\$ 63,726,651	\$ 13,843,058	\$ 331,961,453	\$ -	\$ 14,941,048	\$ 346,902,502
2. Residential Products	\$ 5,110,519	\$ 14,697,232	\$ 85,542,383	\$ 19,300,323	\$ 5,052,776	\$ 129,703,233	\$ -	\$ 7,363,981	\$ 137,067,214
3. Residential Hard-to-Measure	\$ 3,555,471	\$ 9,096,943	\$ 27,052,333	\$ 7,815,819	\$ 92,696	\$ 47,613,262	\$ -	\$ -	\$ 47,613,262
Residential Statewide Marketing	\$ -	\$ 5,846,147	\$ -	\$ -	\$ -	\$ 5,846,147	\$ -	\$ -	\$ 5,846,147
Residential DOER Assessment	\$ 1,943,641	\$ -	\$ -	\$ 599,018	\$ -	\$ 2,542,659	\$ -	\$ -	\$ 2,542,659
Residential EEAC Consultants (5)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Residential Sponsorships & Subscriptions	\$ 1,189,090	\$ -	\$ -	\$ 140,376	\$ -	\$ 1,329,466	\$ -	\$ -	\$ 1,329,466
Residential HEAT Loan	\$ 95,774	\$ 15,385	\$ 26,267,002	\$ 1,204,262	\$ -	\$ 27,582,424	\$ -	\$ -	\$ 27,582,424
Residential Workforce Development	\$ 39,725	\$ -	\$ -	\$ 2,032,056	\$ 45,000	\$ 2,116,781	\$ -	\$ -	\$ 2,116,781
Residential R&D and Demonstration	\$ 61,670	\$ 130,301	\$ 785,331	\$ 773,669	\$ 47,696	\$ 1,798,668	\$ -	\$ -	\$ 1,798,668
Residential Education	\$ 225,569	\$ 3,105,110	\$ -	\$ 3,066,438	\$ -	\$ 6,397,117	\$ -	\$ -	\$ 6,397,117
Low-Income (total)	\$10,140,314	\$3,178,345	\$121,657,753	\$31,704,231	\$6,912,573	\$173,593,217	\$214,099	\$6,299,306	\$180,106,621
4. Low-Income Whole House	\$ 6,205,262	\$ 2,405,068	\$ 121,657,753	\$ 31,368,787	\$ 6,912,573	\$ 168,549,444	\$ -	\$ 6,299,306	\$ 174,848,750
5. Low-Income Hard-to-Measure	\$ 3,935,052	\$ 773,277	\$ -	\$ 335,444	\$ -	\$ 5,043,772	\$ -	\$ -	\$ 5,043,772
Low-Income Statewide Marketing	\$ -	\$ 696,027	\$ -	\$ -	\$ -	\$ 696,027	\$ -	\$ -	\$ 696,027
Low-Income DOER Assessment	\$ 692,827	\$ -	\$ -	\$ 163,044	\$ -	\$ 855,871	\$ -	\$ -	\$ 855,871
Low-Income Energy Affordability Network	\$ 3,242,224	\$ 77,250	\$ -	\$ 172,400	\$ -	\$ 3,491,874	\$ -	\$ -	\$ 3,491,874
Commercial & Industrial (total)	\$55,673,869	\$19,586,890	\$692,897,049	\$83,175,380	\$35,202,390	\$886,535,578	\$44,926,945	\$57,542,941	\$989,005,464
6. C&I New Construction	\$ 12,827,366	\$ 4,555,128	\$ 174,438,717	\$ 34,777,867	\$ 10,507,543	\$ 237,106,622	\$ -	\$ 17,786,488	\$ 254,893,110
7. C&I Retrofit	\$ 36,022,434	\$ 11,680,579	\$ 518,458,332	\$ 47,658,374	\$ 24,694,846	\$ 638,514,565	\$ -	\$ 39,756,453	\$ 678,271,018
8. C&I Hard-to-Measure	\$ 6,824,068	\$ 3,351,183	\$ -	\$ 739,139	\$ -	\$ 10,914,391	\$ -	\$ -	\$ 10,914,391
C&I Statewide Marketing	\$ -	\$ 3,351,183	\$ -	\$ -	\$ -	\$ 3,351,183	\$ -	\$ -	\$ 3,351,183
C&I DOER Assessment	\$ 3,635,365	\$ -	\$ -	\$ 739,139	\$ -	\$ 4,374,504	\$ -	\$ -	\$ 4,374,504
C&I EEAC Consultants (5)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
C&I Sponsorships & Subscriptions	\$ 3,188,704	\$ -	\$ -	\$ -	\$ -	\$ 3,188,704	\$ -	\$ -	\$ 3,188,704
GRAND TOTAL	\$84,703,061	\$59,786,073	\$1,158,091,708	\$205,722,405	\$61,103,494	\$1,569,406,742	\$63,178,128	\$86,147,277	\$1,718,732,147

Notes:

- (1) Where not otherwise indicated, budgets for each year are represented in nominal dollars (2013\$, 2014\$, 2015\$)
- (2)
- (3) Refer to common definitions for allocation of costs.
- (4) The Total PA Budget is the sum of Total PA Costs, LBR and Performance Incentives
- (5) EEAC Consultant fees on the electric side do not get paid out of the PA's budgets, but are instead paid by the DOER out of the RGGI proceeds.

IV.D. Cost Effectiveness

3.2.1. Statewide Savings Summary Table

Program	# of Participants	Electric Savings, 2013									Non Electric Resources, 2013						
		Capacity (kW)			Energy (MWh)					MMBTU							Gallons
		Annual		Lifetime	Summer		Winter (Annual)		Total Annual MWh	Lifetime	Avoided Natural Gas	No. 2 Distillate	No. 4 Fuel Oil	Propane	Wood	Kerosene	Water
		Summer	Winter		Peak	Off Peak	Peak	Off Peak									
Residential (total)	1,963,026	29,677	63,157	219,775	39,062	57,134	82,940	116,002	295,138	1,757,346	37,969	281,125	0	30,185	0	0	27,441,017
1. Residential Whole House	776,339	9,840	28,155	52,742	19,185	27,527	41,841	57,052	145,605	570,315	40,927	278,764	0	27,730	0	0	27,441,017
2. Residential Products	1,186,688	19,838	35,002	167,032	19,877	29,607	41,099	58,950	149,533	1,187,031	-2,958	2,361	0	2,455	0	0	0
3. Residential Hard-to-Measure	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential Statewide Marketing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential DOER Assessment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential EEAC Consultants	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential Sponsorships & Subscriptions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential HEAT Loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential Workforce Development	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential R&D and Demonstration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential Education	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Low-Income (total)	29,758	2,704	5,970	26,370	3,907	5,415	8,992	11,589	29,903	310,820	2,085	95,402	0	1,530	0	0	8,550,134
4. Low-Income Whole House	29,758	2,704	5,970	26,370	3,907	5,415	8,992	11,589	29,903	310,820	2,085	95,402	0	1,530	0	0	8,550,134
5. Low-Income Hard-to-Measure	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Low-Income Statewide Marketing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Low-Income DOER Assessment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Low-Income Energy Affordability Network	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Commercial & Industrial (total)	19,688	137,539	103,538	1,757,153	271,670	115,144	308,129	157,810	852,753	11,230,645	-615,067	4,768	-25,533	272	0	0	0
6. C&I New Construction	10,472	44,076	29,622	553,501	74,164	33,686	89,430	49,217	246,498	3,227,660	-13,700	0	-5,311	39	0	0	0
7. C&I Retrofit	9,216	93,463	73,916	1,203,652	197,506	81,458	218,699	108,593	606,255	8,002,985	-601,367	4,768	-20,221	233	0	0	0
8. C&I Hard-to-Measure	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C&I Statewide Marketing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C&I DOER Assessment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C&I EEAC Consultants	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C&I Sponsorships & Subscriptions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GRAND TOTAL	2,012,472	169,920	172,665	2,003,298	314,640	177,693	400,061	285,400	1,177,795	13,298,811	-575,013	381,295	-25,533	31,987	0	0	35,991,150

Program	# of Participants	Electric Savings, 2014									Non Electric Resources, 2014						
		Capacity (kW)			Energy (MWh)					MMBTU							Gallons
		Annual		Lifetime	Summer		Winter (Annual)		Total Annual MWh	Lifetime	Avoided Natural Gas	No. 2 Distillate	No. 4 Fuel Oil	Propane	Wood	Kerosene	Water
		Summer	Winter		Peak	Off Peak	Peak	Off Peak									
Residential (total)	2,021,809	30,508	63,646	227,128	43,279	63,530	91,840	128,978	327,627	1,791,984	43,416	299,016	0	31,988	0	0	28,817,103
1. Residential Whole House	779,662	10,171	27,983	60,021	23,164	33,631	50,258	69,460	176,513	644,538	46,434	295,437	0	29,042	0	0	28,817,103
2. Residential Products	1,242,147	20,337	35,663	167,107	20,114	29,899	41,582	59,519	151,114	1,147,445	-3,018	3,579	0	2,946	0	0	0
3. Residential Hard-to-Measure	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential Statewide Marketing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential DOER Assessment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential EEAC Consultants	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential Sponsorships & Subscriptions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential HEAT Loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential Workforce Development	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential R&D and Demonstration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential Education	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Low-Income (total)	28,948	2,639	5,913	26,115	3,808	5,252	8,787	11,263	29,110	289,716	2,121	87,716	10	2,020	0	0	8,495,107
4. Low-Income Whole House	28,948	2,639	5,913	26,115	3,808	5,252	8,787	11,263	29,110	289,716	2,121	87,716	10	2,020	0	0	8,495,107
5. Low-Income Hard-to-Measure	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Low-Income Statewide Marketing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Low-Income DOER Assessment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Low-Income Energy Affordability Network	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Commercial & Industrial (total)	20,216	135,007	98,410	1,704,344	271,346	114,427	307,212	156,579	849,564	11,019,849	-378,302	4,768	-25,600	272	0	0	0
6. C&I New Construction	11,212	41,810	28,262	528,737	67,680	31,313	84,440	46,937	230,370	3,036,537	-14,327	0	-5,325	39	0	0	0
7. C&I Retrofit	9,004	93,197	70,148	1,175,607	203,666	83,114	222,772	109,643	619,195	7,983,311	-363,975	4,768	-20,275	233	0	0	0
8. C&I Hard-to-Measure	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C&I Statewide Marketing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C&I DOER Assessment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C&I EEAC Consultants	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C&I Sponsorships & Subscriptions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GRAND TOTAL	2,070,973	168,154	167,969	1,957,587	318,433	183,208	407,839	296,821	1,206,302	13,101,549	-332,765	391,499	-25,590	34,280	0	0	37,312,210

IV.D. Cost Effectiveness

3.2.i. Statewide Savings Summary Table

Program	# of Participants	Electric Savings, 2015										Non Electric Resources, 2015					
		Capacity (kW)			Energy (MWh)						MMBTU						Gallons
		Annual		Lifetime	Summer		Winter (Annual)		Total Annual MWh	Lifetime	Avoided Natural Gas	No. 2 Distillate	No. 4 Fuel Oil	Propane	Wood	Kerosene	
		Summer	Winter		Peak	Off Peak	Peak	Off Peak									
Residential (total)	2,023,612	30,388	63,395	230,557	43,746	64,249	92,831	130,507	331,333	1,807,431	48,812	317,521	0	35,988	0	0	30,100,270
1. Residential Whole House	783,447	10,245	28,282	61,615	24,275	35,332	52,621	72,963	185,192	675,724	51,889	313,762	0	32,551	0	0	30,100,270
2. Residential Products	1,240,165	20,143	35,113	168,942	19,471	28,916	40,210	57,543	146,140	1,131,707	-3,076	3,759	0	3,437	0	0	0
3. Residential Hard-to-Measure	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential Statewide Marketing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential DOER Assessment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential EEAC Consultants	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential Sponsorships & Subscriptions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential HEAT Loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential Workforce Development	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential R&D and Demonstration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential Education	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Low-Income (total)	28,574	2,565	5,871	26,454	3,406	4,633	7,953	10,027	28,769	283,264	2,154	90,331	0	1,977	0	0	8,522,217
4. Low-Income Whole House	28,574	2,565	5,871	26,454	3,406	4,633	7,953	10,027	28,769	283,264	2,154	90,331	0	1,977	0	0	8,522,217
5. Low-Income Hard-to-Measure	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Low-Income Statewide Marketing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Low-Income DOER Assessment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Low-Income Energy Affordability Network	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Commercial & Industrial (total)	21,296	134,393	99,178	1,743,099	273,306	115,609	311,172	178,356	859,061	11,467,268	-480,031	3,944	-25,393	70	0	0	0
6. C&I New Construction	11,975	41,732	28,012	538,089	69,507	32,173	86,642	67,599	236,539	3,202,064	-18,235	0	-5,282	2	0	0	0
7. C&I Retrofit	9,321	92,661	71,166	1,205,010	203,800	83,436	224,530	110,757	622,522	8,265,204	-461,796	3,944	-20,111	68	0	0	0
8. C&I Hard-to-Measure	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C&I Statewide Marketing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C&I DOER Assessment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C&I EEAC Consultants	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C&I Sponsorships & Subscriptions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GRAND TOTAL	2,073,482	167,346	168,444	2,000,110	320,458	184,490	411,956	318,890	1,219,163	13,557,964	-429,065	411,796	-25,393	38,034	0	0	38,622,487

Program	# of Participants	Electric Savings, 2013-2015										Non Electric Resources, 2013-2015					
		Capacity (kW)			Energy (MWh)						MMBTU						Gallons
		Annual		Lifetime	Summer		Winter (Annual)		Total Annual MWh	Lifetime	Avoided Natural Gas	No. 2 Distillate	No. 4 Fuel Oil	Propane	Wood	Kerosene	
		Summer	Winter		Peak	Off Peak	Peak	Off Peak									
Residential (total)	6,008,447	90,573	190,198	677,460	126,088	184,913	267,611	375,487	954,098	5,356,761	130,197	897,662	0	98,161	0	0	86,358,389
1. Residential Whole House	2,339,448	30,255	84,420	174,378	66,625	96,491	144,720	199,475	507,311	1,890,578	139,249	887,963	0	89,323	0	0	86,358,389
2. Residential Products	3,668,999	60,318	105,778	503,082	59,463	88,422	122,891	176,012	446,787	3,466,183	-9,052	9,699	0	8,838	0	0	0
3. Residential Hard-to-Measure	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential Statewide Marketing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential DOER Assessment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential EEAC Consultants	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential Sponsorships & Subscriptions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential HEAT Loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential Workforce Development	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential R&D and Demonstration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential Education	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Low-Income (total)	87,280	7,908	17,754	78,939	11,121	15,300	25,732	32,879	87,782	883,801	6,359	273,449	10	5,527	0	0	25,567,458
4. Low-Income Whole House	87,280	7,908	17,754	78,939	11,121	15,300	25,732	32,879	87,782	883,801	6,359	273,449	10	5,527	0	0	25,567,458
5. Low-Income Hard-to-Measure	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Low-Income Statewide Marketing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Low-Income DOER Assessment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Low-Income Energy Affordability Network	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Commercial & Industrial (total)	61,200	406,939	301,126	5,204,596	816,323	345,180	926,513	492,746	2,561,379	33,717,761	-1,473,400	13,479	-76,526	614	0	0	0
6. C&I New Construction	33,659	127,618	85,897	1,620,327	211,351	97,172	260,513	163,753	713,407	9,466,260	-46,262	0	-15,919	79	0	0	0
7. C&I Retrofit	27,541	279,321	215,229	3,584,269	604,972	248,007	666,000	328,993	1,847,973	24,251,501	-1,427,138	13,479	-60,607	534	0	0	0
8. C&I Hard-to-Measure	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C&I Statewide Marketing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C&I DOER Assessment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C&I EEAC Consultants	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C&I Sponsorships & Subscriptions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GRAND TOTAL	6,156,927	505,420	509,078	5,960,995	953,532	545,392	1,219,856	901,111	3,603,259	39,958,324	-1,336,843	1,184,590	-76,516	104,301	0	0	111,925,847

Notes:

IV.D Cost Effectiveness

3.1.i. Statewide Benefits Summary Table

Program	Electric Benefits, 2013 (in 2013 \$)											
	Capacity						Energy					
	Generation		Trans.	Distrib.	DRIPE	TOTAL	Winter		Summer		DRIPE	TOTAL
	Summer	Winter					Peak	Off Peak	Peak	Off Peak		
Residential (total)	\$9,383,763	\$0	\$5,513,139	\$25,630,973	\$11,859,833	\$52,387,709	\$46,781,941	\$43,492,294	\$27,019,903	\$20,733,065	\$47,251,774	\$185,278,978
1. Residential Whole House	\$2,598,873	\$0	\$1,341,247	\$6,091,875	\$2,615,627	\$12,647,622	\$16,636,574	\$15,409,167	\$7,560,970	\$5,559,329	\$13,805,687	\$58,871,727
2. Residential Products	\$6,784,890	\$0	\$4,171,892	\$19,539,098	\$9,344,206	\$39,840,086	\$30,245,367	\$28,083,127	\$19,458,933	\$15,173,737	\$33,448,087	\$126,407,252
3. Residential Hard-to-Measure	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential Statewide Marketing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential DOER Assessment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential EEAC Consultants	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential Sponsorships & Subscriptions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential HEAT Loan	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential Workforce Development	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential R&D and Demonstration	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential Education	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low-Income (total)	\$1,295,515	\$0	\$669,075	\$2,587,659	\$1,574,503	\$6,126,753	\$8,319,502	\$8,694,441	\$4,207,521	\$3,835,297	\$7,275,664	\$32,332,425
4. Low-Income Whole House	\$1,295,515	\$0	\$669,075	\$2,587,659	\$1,574,503	\$6,126,753	\$8,319,502	\$8,694,441	\$4,207,521	\$3,835,297	\$7,275,664	\$32,332,425
5. Low-Income Hard-to-Measure	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low-Income Statewide Marketing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low-Income DOER Assessment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low-Income Energy Affordability Network	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Commercial & Industrial (total)	\$97,337,097	\$0	\$38,733,617	\$179,848,074	\$124,221,926	\$440,140,714	#####	\$163,633,088	#####	\$117,181,591	\$266,680,516	#####
6. C&I New Construction	\$30,167,833	\$0	\$10,032,821	\$46,322,327	\$38,034,411	\$124,557,392	\$96,726,762	\$40,677,426	#####	\$30,396,601	\$77,907,446	\$356,615,682
7. C&I Retrofit	\$67,169,264	\$0	\$28,700,795	\$133,525,748	\$86,187,515	\$315,583,321	#####	\$122,955,663	#####	\$86,784,990	\$188,773,070	\$865,934,251
8. C&I Hard-to-Measure	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C&I Statewide Marketing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C&I DOER Assessment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C&I EEAC Consultants	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C&I Sponsorships & Subscriptions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
GRAND TOTAL	\$108,016,375	\$0	\$44,915,831	\$208,066,707	\$137,656,262	\$498,655,175	#####	\$215,819,824	#####	\$141,749,953	\$321,207,955	#####

Program	Electric Benefits, 2014 (in 2013 \$)											
	Capacity						Energy					
	Generation		Trans.	Distrib.	DRIPE	TOTAL	Winter		Summer		DRIPE	TOTAL
	Summer	Winter					Peak	Off Peak	Peak	Off Peak		
Residential (total)	\$11,165,910	\$0	\$5,614,326	\$25,558,509	\$12,832,170	\$55,170,915	\$49,707,527	\$46,082,768	\$28,553,939	\$21,879,123	\$45,936,361	\$192,159,718
1. Residential Whole House	\$3,434,332	\$0	\$1,490,747	\$6,504,287	\$2,718,206	\$14,147,572	\$19,252,472	\$17,947,771	\$8,886,032	\$6,594,004	\$14,894,277	\$67,574,555
2. Residential Products	\$7,731,578	\$0	\$4,123,579	\$19,054,222	\$10,113,964	\$41,023,343	\$30,455,056	\$28,134,998	\$19,667,907	\$15,285,119	\$31,042,084	\$124,585,163
3. Residential Hard-to-Measure	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential Statewide Marketing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential DOER Assessment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential EEAC Consultants	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential Sponsorships & Subscriptions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential HEAT Loan	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential Workforce Development	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential R&D and Demonstration	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential Education	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low-Income (total)	\$1,469,756	\$0	\$642,040	\$2,395,633	\$1,552,855	\$6,060,284	\$8,477,386	\$8,844,948	\$4,231,041	\$3,883,691	\$6,652,266	\$32,089,333
4. Low-Income Whole House	\$1,469,756	\$0	\$642,040	\$2,395,633	\$1,552,855	\$6,060,284	\$8,477,386	\$8,844,948	\$4,231,041	\$3,883,691	\$6,652,266	\$32,089,333
5. Low-Income Hard-to-Measure	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low-Income Statewide Marketing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low-Income DOER Assessment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low-Income Energy Affordability Network	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Commercial & Industrial (total)	\$105,475,594	\$0	\$36,752,075	\$168,701,587	\$122,416,998	\$433,346,254	#####	\$158,892,100	#####	\$118,099,627	\$246,783,019	#####
6. C&I New Construction	\$32,807,002	\$0	\$9,073,560	\$40,726,195	\$35,927,780	\$118,534,538	\$94,294,810	\$40,333,071	#####	\$29,672,977	\$67,398,703	\$337,334,683
7. C&I Retrofit	\$72,668,592	\$0	\$27,678,514	\$127,975,392	\$86,489,218	\$314,811,716	#####	\$118,559,029	#####	\$88,426,650	\$179,384,315	\$876,854,149
8. C&I Hard-to-Measure	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C&I Statewide Marketing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C&I DOER Assessment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C&I EEAC Consultants	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C&I Sponsorships & Subscriptions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
GRAND TOTAL	\$118,111,261	\$0	\$43,008,441	\$196,655,729	\$136,802,023	\$494,577,453	#####	\$213,819,816	#####	\$143,862,440	\$299,371,646	#####

IV.D Cost Effectiveness

3.1.i. Statewide Benefits Summary Table

Program	Electric Benefits, 2015 (In 2013 \$)											
	Capacity						Energy					
	Generation		Trans.	Distrib.	DRIPE	TOTAL	Winter		Summer		DRIPE	TOTAL
	Summer	Winter					Peak	Off Peak	Peak	Off Peak		
Residential (total)	\$12,853,622	\$0	\$5,705,539	\$25,922,634	\$15,820,879	\$60,302,674	\$52,222,674	\$48,522,120	\$29,445,213	\$22,642,902	\$43,921,079	\$196,753,988
1. Residential Whole House	\$3,824,338	\$0	\$1,530,823	\$6,667,301	\$2,930,554	\$14,953,016	\$21,048,973	\$19,701,394	\$9,660,079	\$7,241,191	\$15,028,069	\$72,679,706
2. Residential Products	\$9,029,284	\$0	\$4,174,716	\$19,255,333	\$12,890,325	\$45,349,658	\$31,173,701	\$28,820,725	\$19,785,134	\$15,401,711	\$28,893,010	\$124,074,282
3. Residential Hard-to-Measure	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential Statewide Marketing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential DOER Assessment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential EEAC Consultants	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential Sponsorships & Subscriptions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential HEAT Loan	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential Workforce Development	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential R&D and Demonstration	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential Education	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low-Income (total)	\$1,689,345	\$0	\$650,245	\$2,443,535	\$1,677,745	\$6,460,870	\$9,070,727	\$9,425,389	\$4,487,218	\$4,142,008	\$6,166,836	\$33,292,178
4. Low-Income Whole House	\$1,689,345	\$0	\$650,245	\$2,443,535	\$1,677,745	\$6,460,870	\$9,070,727	\$9,425,389	\$4,487,218	\$4,142,008	\$6,166,836	\$33,292,178
5. Low-Income Hard-to-Measure	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low-Income Statewide Marketing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low-Income DOER Assessment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low-Income Energy Affordability Network	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Commercial & Industrial (total)	\$123,254,370	\$0	\$37,457,426	\$172,510,964	\$124,238,206	\$457,460,966	#####	\$170,250,201	#####	\$131,021,560	\$223,208,636	#####
6. C&I New Construction	\$37,903,622	\$0	\$9,162,951	\$41,269,334	\$37,290,024	\$125,625,932	\$98,200,391	\$42,604,157	#####	\$33,469,363	\$63,000,677	\$358,037,658
7. C&I Retrofit	\$85,350,748	\$0	\$28,294,475	\$131,241,629	\$86,948,182	\$331,835,034	#####	\$127,646,043	#####	\$97,552,197	\$160,207,959	\$905,023,962
8. C&I Hard-to-Measure	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C&I Statewide Marketing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C&I DOER Assessment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C&I EEAC Consultants	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C&I Sponsorships & Subscriptions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
GRAND TOTAL	\$137,797,337	\$0	\$43,813,210	\$200,877,133	\$141,736,829	\$524,224,509	#####	\$228,197,709	#####	\$157,806,470	\$273,296,551	#####

Program	Electric Benefits, 2013-2015 (In 2013 \$)											
	Capacity						Energy					
	Generation		Trans.	Distrib.	DRIPE	TOTAL	Winter		Summer		DRIPE	TOTAL
	Summer	Winter					Peak	Off Peak	Peak	Off Peak		
Residential (total)	\$33,403,295	\$0	\$16,833,005	\$77,112,116	\$40,512,882	\$167,861,297	#####	\$138,097,183	\$85,019,055	\$65,255,090	\$137,109,214	\$574,192,684
1. Residential Whole House	\$9,857,543	\$0	\$4,362,817	\$19,263,463	\$8,164,386	\$41,648,210	\$56,838,019	\$53,058,332	\$26,107,080	\$19,394,523	\$43,728,034	\$199,125,988
2. Residential Products	\$23,545,752	\$0	\$12,470,188	\$57,848,653	\$32,348,495	\$126,213,088	\$91,874,124	\$85,038,851	\$58,911,975	\$45,860,567	\$93,381,180	\$375,066,696
3. Residential Hard-to-Measure	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential Statewide Marketing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential DOER Assessment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential EEAC Consultants	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential Sponsorships & Subscriptions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential HEAT Loan	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential Workforce Development	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential R&D and Demonstration	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential Education	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low-Income (total)	\$4,454,617	\$0	\$1,961,360	\$7,426,828	\$4,805,102	\$18,647,906	\$25,867,615	\$26,964,778	\$12,925,781	\$11,860,995	\$20,094,766	\$97,713,936
4. Low-Income Whole House	\$4,454,617	\$0	\$1,961,360	\$7,426,828	\$4,805,102	\$18,647,906	\$25,867,615	\$26,964,778	\$12,925,781	\$11,860,995	\$20,094,766	\$97,713,936
5. Low-Income Hard-to-Measure	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low-Income Statewide Marketing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low-Income DOER Assessment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low-Income Energy Affordability Network	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Commercial & Industrial (total)	\$326,067,061	\$0	\$112,943,118	\$521,060,625	\$370,877,130	\$1,330,947,934	#####	\$492,775,389	#####	\$366,302,778	\$736,672,171	#####
6. C&I New Construction	\$100,878,457	\$0	\$28,269,333	\$128,317,856	\$111,252,216	\$368,717,862	#####	\$123,614,654	#####	\$93,538,942	\$208,306,827	#####
7. C&I Retrofit	\$225,188,603	\$0	\$84,673,785	\$392,742,769	\$259,624,915	\$962,230,072	#####	\$369,160,735	#####	\$272,763,837	\$528,365,344	#####
8. C&I Hard-to-Measure	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C&I Statewide Marketing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C&I DOER Assessment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C&I EEAC Consultants	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C&I Sponsorships & Subscriptions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
GRAND TOTAL	\$363,924,973	\$0	\$131,737,482	\$605,599,568	\$416,195,114	\$1,517,457,137	#####	\$657,837,350	#####	\$443,416,864	\$893,876,152	#####

Notes:

- (1) See Table IV.D.3.2.i Savings Summary for information on the savings used to determine the benefits in these tables.
- (2) See Table IV.D.3.3.i for the Avoided Cost Factors used to determine the benefits in these tables

IV.D Cost Effectiveness

3.1.i. Statewide Benefits Summary Table

Program	Non-Electric Benefits, 2013 (In 2013 \$)									TOTAL BENEFITS
	Resource Benefits							Non- Resource Benefits (1)	TOTAL	
	Avoided Natural Gas	No. 2 Distillate	No. 4 Fuel Oil	Propane	Wood	Water	Kerosene			
Residential (total)	\$8,506,570	\$150,793,554	\$0	\$21,707,687	\$0	\$2,054,670	\$0	\$168,854,781	\$351,917,262	\$589,583,948
1. Residential Whole House	\$8,788,728	\$149,947,142	\$0	\$20,841,471	\$0	\$2,054,670	\$0	\$148,498,351	\$330,130,362	\$401,549,711
2. Residential Products	-\$282,159	\$846,412	\$0	\$866,216	\$0	\$0	\$0	\$20,356,430	\$21,786,900	\$188,034,237
3. Residential Hard-to-Measure	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential Statewide Marketing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential DOER Assessment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential EEAC Consultants	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential Sponsorships & Subscriptions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential HEAT Loan	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential Workforce Development	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential R&D and Demonstration	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential Education	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low-Income (total)	\$437,282	\$34,517,547	\$12,520,212	\$1,165,774	\$0	\$635,415	\$0	\$33,607,939	\$82,884,170	\$121,343,347
4. Low-Income Whole House	\$437,282	\$34,517,547	\$12,520,212	\$1,165,774	\$0	\$635,415	\$0	\$33,607,939	\$82,884,170	\$121,343,347
5. Low-Income Hard-to-Measure	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low-Income Statewide Marketing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low-Income DOER Assessment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low-Income Energy Affordability Network	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Commercial & Industrial (total)	-\$96,534,235	-\$9,706,211	\$0	\$102,739	\$0	\$0	\$0	-\$12,454,057	-\$118,591,763	\$1,544,098,883
6. C&I New Construction	-\$1,482,786	-\$1,750,162	\$0	\$20,452	\$0	\$0	\$0	\$728,468	-\$2,484,029	\$478,689,046
7. C&I Retrofit	-\$95,051,448	-\$7,956,048	\$0	\$82,287	\$0	\$0	\$0	-\$13,182,525	-\$116,107,734	\$1,065,409,838
8. C&I Hard-to-Measure	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C&I Statewide Marketing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C&I DOER Assessment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C&I EEAC Consultants	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C&I Sponsorships & Subscriptions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
GRAND TOTAL	-\$87,590,382	\$175,604,890	\$12,520,212	\$22,976,201	\$0	\$2,690,085	\$0	\$190,008,662	\$316,209,668	\$2,255,026,179

Program	Non-Electric Benefits, 2014 (In 2013 \$)									TOTAL BENEFITS
	Resource Benefits							Non- Resource Benefits (1)	TOTAL	
	Avoided Natural Gas	No. 2 Distillate	No. 4 Fuel Oil	Propane	Wood	Water	Kerosene			
Residential (total)	\$9,567,722	\$147,084,802	\$13,634,524	\$23,029,712	\$0	\$2,161,695	\$0	\$181,607,713	\$377,086,168	\$624,416,801
1. Residential Whole House	\$9,855,315	\$146,431,465	\$13,379,385	\$21,995,849	\$0	\$2,161,695	\$0	\$180,574,900	\$354,398,610	\$436,120,736
2. Residential Products	-\$287,593	\$653,337	\$255,138	\$1,033,863	\$0	\$0	\$0	\$21,032,813	\$22,687,558	\$188,296,065
3. Residential Hard-to-Measure	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential Statewide Marketing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential DOER Assessment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential EEAC Consultants	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential Sponsorships & Subscriptions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential HEAT Loan	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential Workforce Development	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential R&D and Demonstration	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential Education	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low-Income (total)	\$451,918	\$43,570,738	\$80,768	\$1,482,535	\$0	\$630,289	\$0	\$29,588,828	\$75,805,077	\$113,954,694
4. Low-Income Whole House	\$451,918	\$43,570,738	\$80,768	\$1,482,535	\$0	\$630,289	\$0	\$29,588,828	\$75,805,077	\$113,954,694
5. Low-Income Hard-to-Measure	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low-Income Statewide Marketing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low-Income DOER Assessment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low-Income Energy Affordability Network	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Commercial & Industrial (total)	-\$61,354,823	-\$9,807,373	\$0	\$102,271	\$0	\$0	\$0	-\$3,561,287	-\$74,621,213	\$1,572,913,873
6. C&I New Construction	-\$1,612,774	-\$1,766,955	\$0	\$20,427	\$0	\$0	\$0	\$768,485	-\$2,590,818	\$453,278,403
7. C&I Retrofit	-\$59,742,049	-\$8,040,418	\$0	\$81,844	\$0	\$0	\$0	-\$4,329,772	-\$72,030,395	\$1,119,635,470
8. C&I Hard-to-Measure	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C&I Statewide Marketing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C&I DOER Assessment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C&I EEAC Consultants	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C&I Sponsorships & Subscriptions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
GRAND TOTAL	-\$51,335,184	\$180,848,167	\$13,715,292	\$24,614,518	\$0	\$2,791,984	\$0	\$207,635,254	\$378,270,032	\$2,311,285,368

IV.D Cost Effectiveness

3.1.i. Statewide Benefits Summary Table

Program	Non-Electric Benefits, 2015 (In 2013 \$)									TOTAL BENEFITS
	Resource Benefits							Non- Resource Benefits (1)	TOTAL	
	Avoided Natural Gas	No. 2 Distillate	No. 4 Fuel Oil	Propane	Wood	Water	Kerosene			
Residential (total)	\$10,638,816	\$172,253,972	\$0	\$26,109,364	\$0	\$2,260,001	\$0	\$190,517,759	\$401,779,911	\$658,836,573
1. Residential Whole House	\$10,931,453	\$171,293,480	\$0	\$24,904,522	\$0	\$2,260,001	\$0	\$169,183,581	\$378,573,036	\$466,205,758
2. Residential Products	-\$292,637	\$960,491	\$0	\$1,204,842	\$0	\$0	\$0	\$21,334,179	\$23,206,875	\$192,630,815
3. Residential Hard-to-Measure	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential Statewide Marketing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential DOER Assessment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential EEAC Consultants	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential Sponsorships & Subscriptions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential HEAT Loan	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential Workforce Development	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential R&D and Demonstration	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential Education	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low-Income (total)	\$465,728	\$32,606,719	\$12,822,868	\$1,491,701	\$0	\$632,400	\$0	\$29,940,108	\$77,959,525	\$117,712,572
4. Low-Income Whole House	\$465,728	\$32,606,719	\$12,822,868	\$1,491,701	\$0	\$632,400	\$0	\$29,940,108	\$77,959,525	\$117,712,572
5. Low-Income Hard-to-Measure	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low-Income Statewide Marketing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low-Income DOER Assessment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low-Income Energy Affordability Network	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Commercial & Industrial (total)	-\$82,206,372	-\$2,594,296	\$0	\$24,651	\$0	\$0	\$0	-\$15,187,063	-\$99,963,080	\$1,620,559,506
6. C&I New Construction	-\$2,092,333	\$0	\$0	\$821	\$0	\$0	\$0	\$880,604	-\$1,210,907	\$482,452,683
7. C&I Retrofit	-\$80,114,039	-\$2,594,296	\$0	\$23,830	\$0	\$0	\$0	-\$16,067,668	-\$98,752,173	\$1,138,106,823
8. C&I Hard-to-Measure	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C&I Statewide Marketing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C&I DOER Assessment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C&I EEAC Consultants	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C&I Sponsorships & Subscriptions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
GRAND TOTAL	-\$71,101,828	\$202,266,394	\$12,822,868	\$27,625,716	\$0	\$2,892,400	\$0	\$205,270,804	\$379,776,355	\$2,397,108,651

Program	Non-Electric Benefits, 2013-2015 (In 2013 \$)									TOTAL BENEFITS
	Resource Benefits							Non- Resource Benefits (1)	TOTAL	
	Avoided Natural Gas	No. 2 Distillate	No. 4 Fuel Oil	Propane	Wood	Water	Kerosene			
Residential (total)	\$28,713,108	\$470,132,328	\$13,634,524	\$70,846,763	\$0	\$6,476,366	\$0	\$540,980,253	\$1,130,783,340	\$1,872,837,322
1. Residential Whole House	\$29,575,497	\$467,672,087	\$13,379,385	\$67,741,842	\$0	\$6,476,366	\$0	\$478,256,831	\$1,063,102,007	\$1,303,876,205
2. Residential Products	-\$862,389	\$2,460,240	\$255,138	\$3,104,921	\$0	\$0	\$0	\$62,723,422	\$67,681,333	\$568,961,117
3. Residential Hard-to-Measure	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential Statewide Marketing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential DOER Assessment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential EEAC Consultants	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential Sponsorships & Subscriptions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential HEAT Loan	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential Workforce Development	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential R&D and Demonstration	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Residential Education	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low-Income (total)	\$1,354,928	\$110,695,004	\$25,423,849	\$4,140,011	\$0	\$1,898,104	\$0	\$93,136,874	\$236,648,771	\$353,010,613
4. Low-Income Whole House	\$1,354,928	\$110,695,004	\$25,423,849	\$4,140,011	\$0	\$1,898,104	\$0	\$93,136,874	\$236,648,771	\$353,010,613
5. Low-Income Hard-to-Measure	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low-Income Statewide Marketing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low-Income DOER Assessment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low-Income Energy Affordability Network	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Commercial & Industrial (total)	-\$240,095,430	-\$22,107,880	\$0	\$229,662	\$0	\$0	\$0	-\$31,202,407	-\$293,176,056	\$4,737,572,262
6. C&I New Construction	-\$5,187,894	-\$3,517,118	\$0	\$41,700	\$0	\$0	\$0	\$2,377,558	-\$6,285,754	\$1,414,420,131
7. C&I Retrofit	-\$234,907,536	-\$18,590,762	\$0	\$187,962	\$0	\$0	\$0	-\$33,829,965	-\$286,890,302	\$3,323,152,131
8. C&I Hard-to-Measure	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C&I Statewide Marketing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C&I DOER Assessment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C&I EEAC Consultants	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C&I Sponsorships & Subscriptions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
GRAND TOTAL	-\$210,027,394	\$558,719,452	\$39,058,372	\$75,216,435	\$0	\$8,374,470	\$0	\$602,914,720	\$1,074,256,055	\$6,963,420,198

IV.D. Cost Effectiveness

1. Statewide Summary Table

Total Resource Cost Test, 2013 (In 2013 \$)				
Customer Sector	B/C Ratio	Net Benefits	Benefits	Costs
Residential (total)	2.93	\$388,683,131	\$589,583,948	\$200,900,818
1. Residential Whole House	3.07	\$270,962,598	\$401,549,711	\$130,587,113
2. Residential Products	3.44	\$133,311,226	\$188,034,237	\$54,723,011
3. Residential Hard-to-Measure	-	-\$15,590,693	\$0	\$15,590,693
Residential Statewide Marketing	-	-\$2,009,116	\$0	\$2,009,116
Residential DOER Assessment	-	-\$850,383	\$0	\$850,383
Residential EEAC Consultants	-	\$0	\$0	\$0
Residential Sponsorship & Subscriptions	-	-\$437,734	\$0	\$437,734
Residential HEAT Loan	-	-\$8,887,580	\$0	\$8,887,580
Residential Workforce Development	-	-\$748,585	\$0	\$748,585
Residential R&D and Demonstration	-	-\$575,698	\$0	\$575,698
Residential Education	-	-\$2,081,597	\$0	\$2,081,597
Low-Income (total)	2.02	\$61,129,068	\$121,343,347	\$60,214,279
4. Low-Income Whole House	2.07	\$62,814,208	\$121,343,347	\$58,529,140
5. Low-Income Hard-to-Measure	-	-\$1,685,139	\$0	\$1,685,139
Low-Income Statewide Marketing	-	-\$239,165	\$0	\$239,165
Low-Income DOER Assessment	-	-\$289,873	\$0	\$289,873
Low-Income Energy Affordability Network	-	-\$1,156,102	\$0	\$1,156,102
Commercial & Industrial (total)	3.36	\$1,084,690,744	\$1,544,098,883	\$459,408,140
6. C&I New Construction	4.42	\$370,324,357	\$478,689,046	\$108,364,689
7. C&I Retrofit	3.07	\$718,004,511	\$1,065,409,838	\$347,405,327
8. C&I Hard-to-Measure	-	-\$3,638,124	\$0	\$3,638,124
C&I Statewide Marketing	-	-\$1,139,899	\$0	\$1,139,899
C&I DOER Assessment	-	-\$1,450,756	\$0	\$1,450,756
C&I EEAC Consultants	-	\$0	\$0	\$0
C&I Sponsorships & Subscriptions	-	-\$1,047,470	\$0	\$1,047,470
GRAND TOTAL	3.13	\$1,534,502,943	\$2,255,026,179	\$720,523,236

Total Resource Cost Test, 2014 (In 2013\$)				
Customer Sector	B/C Ratio	Net Benefits	Benefits	Costs
Residential (total)	2.92	\$410,485,203	\$624,416,801	\$213,931,598
1. Residential Whole House	3.09	\$294,828,850	\$436,120,736	\$141,291,886
2. Residential Products	3.30	\$131,293,091	\$188,296,065	\$57,002,974
3. Residential Hard-to-Measure	-	-\$15,636,738	\$0	\$15,636,738
Residential Statewide Marketing	-	-\$1,890,264	\$0	\$1,890,264
Residential DOER Assessment	-	-\$837,834	\$0	\$837,834
Residential EEAC Consultants	-	\$0	\$0	\$0
Residential Sponsorship & Subscriptions	-	-\$438,086	\$0	\$438,086
Residential HEAT Loan	-	-\$9,056,705	\$0	\$9,056,705
Residential Workforce Development	-	-\$692,018	\$0	\$692,018
Residential R&D and Demonstration	-	-\$593,195	\$0	\$593,195
Residential Education	-	-\$2,128,637	\$0	\$2,128,637
Low-Income (total)	1.94	\$55,328,252	\$113,954,694	\$58,626,442
4. Low-Income Whole House	2.00	\$56,969,354	\$113,954,694	\$56,985,340
5. Low-Income Hard-to-Measure	-	-\$1,641,102	\$0	\$1,641,102
Low-Income Statewide Marketing	-	-\$225,397	\$0	\$225,397
Low-Income DOER Assessment	-	-\$281,070	\$0	\$281,070
Low-Income Energy Affordability Network	-	-\$1,134,635	\$0	\$1,134,635
Commercial & Industrial (total)	3.44	\$1,116,327,185	\$1,572,913,873	\$456,586,688
6. C&I New Construction	4.50	\$352,554,311	\$453,278,403	\$100,724,091
7. C&I Retrofit	3.18	\$767,340,923	\$1,119,635,470	\$352,294,548
8. C&I Hard-to-Measure	-	-\$3,568,049	\$0	\$3,568,049
C&I Statewide Marketing	-	-\$1,087,303	\$0	\$1,087,303
C&I DOER Assessment	-	-\$1,438,028	\$0	\$1,438,028
C&I EEAC Consultants	-	\$0	\$0	\$0
C&I Sponsorships & Subscriptions	-	-\$1,042,718	\$0	\$1,042,718
GRAND TOTAL	3.17	\$1,582,140,640	\$2,311,285,368	\$729,144,728

IV.D. Cost Effectiveness

1. Statewide Summary Table

Total Resource Cost Test, 2015 (In 2013 \$)				
Customer Sector	B/C Ratio	Net Benefits	Benefits	Costs
Residential (total)	3.05	\$442,868,113	\$658,836,573	\$215,968,460
1. Residential Whole House	3.28	\$324,160,289	\$466,205,758	\$142,045,469
2. Residential Products	3.36	\$135,296,572	\$192,630,815	\$57,334,242
3. Residential Hard-to-Measure	-	-\$16,588,749	\$0	\$16,588,749
Residential Statewide Marketing	-	-\$2,918,423	\$0	\$2,918,423
Residential DOER Assessment	-	-\$757,494	\$0	\$757,494
Residential EEAC Consultants	-	-\$66,065	\$0	\$66,065
Residential Sponsorship & Subscriptions	-	-\$393,915	\$0	\$393,915
Residential HEAT Loan	-	-\$8,528,209	\$0	\$8,528,209
Residential Workforce Development	-	-\$1,326,652	\$0	\$1,326,652
Residential R&D and Demonstration	-	-\$668,198	\$0	\$668,198
Residential Education	-	-\$1,929,794	\$0	\$1,929,794
Low-Income (total)	2.00	\$58,775,033	\$117,712,572	\$58,937,539
4. Low-Income Whole House	2.05	\$60,415,426	\$117,712,572	\$57,297,146
5. Low-Income Hard-to-Measure	-	-\$1,640,393	\$0	\$1,640,393
Low-Income Statewide Marketing	-	-\$222,601	\$0	\$222,601
Low-Income DOER Assessment	-	-\$273,708	\$0	\$273,708
Low-Income Energy Affordability Network	-	-\$1,144,084	\$0	\$1,144,084
Commercial & Industrial (total)	3.55	\$1,164,538,494	\$1,620,559,506	\$456,021,012
6. C&I New Construction	4.67	\$379,218,438	\$482,452,683	\$103,234,245
7. C&I Retrofit	3.26	\$788,859,385	\$1,138,106,823	\$349,247,438
8. C&I Hard-to-Measure	-	-\$3,539,329	\$0	\$3,539,329
C&I Statewide Marketing	-	-\$1,073,846	\$0	\$1,073,846
C&I DOER Assessment	-	-\$1,426,309	\$0	\$1,426,309
C&I EEAC Consultants	-	\$0	\$0	\$0
C&I Sponsorships & Subscriptions	-	-\$1,039,174	\$0	\$1,039,174
GRAND TOTAL	3.28	\$1,666,181,640	\$2,397,108,651	\$730,927,011

Total Resource Cost Test, 2013-2015 (In 2013\$)				
Customer Sector	B/C Ratio	Net Benefits	Benefits	Costs
Residential (total)	2.97	\$1,242,036,446	\$1,872,837,322	\$630,800,876
1. Residential Whole House	3.15	\$889,951,737	\$1,303,876,205	\$413,924,468
2. Residential Products	3.37	\$399,900,889	\$568,961,117	\$169,060,228
3. Residential Hard-to-Measure	-	-\$47,816,180	\$0	\$47,816,180
Residential Statewide Marketing	-	-\$6,817,802	\$0	\$6,817,802
Residential DOER Assessment	-	-\$2,445,711	\$0	\$2,445,711
Residential EEAC Consultants	-	-\$66,065	\$0	\$66,065
Residential Sponsorship & Subscriptions	-	-\$1,269,735	\$0	\$1,269,735
Residential HEAT Loan	-	-\$26,472,493	\$0	\$26,472,493
Residential Workforce Development	-	-\$2,767,255	\$0	\$2,767,255
Residential R&D and Demonstration	-	-\$1,837,091	\$0	\$1,837,091
Residential Education	-	-\$6,140,028	\$0	\$6,140,028
Low-Income (total)	1.99	\$175,232,353	\$353,010,613	\$177,778,260
4. Low-Income Whole House	2.04	\$180,198,987	\$353,010,613	\$172,811,626
5. Low-Income Hard-to-Measure	-	-\$4,966,634	\$0	\$4,966,634
Low-Income Statewide Marketing	-	-\$687,162	\$0	\$687,162
Low-Income DOER Assessment	-	-\$844,650	\$0	\$844,650
Low-Income Energy Affordability Network	-	-\$3,434,821	\$0	\$3,434,821
Commercial & Industrial (total)	3.45	\$3,365,556,423	\$4,737,572,262	\$1,372,015,840
6. C&I New Construction	4.53	\$1,102,097,106	\$1,414,420,131	\$312,323,025
7. C&I Retrofit	3.17	\$2,274,204,818	\$3,323,152,131	\$1,048,947,313
8. C&I Hard-to-Measure	-	-\$10,745,502	\$0	\$10,745,502
C&I Statewide Marketing	-	-\$3,301,048	\$0	\$3,301,048
C&I DOER Assessment	-	-\$4,315,092	\$0	\$4,315,092
C&I EEAC Consultants	-	\$0	\$0	\$0
C&I Sponsorships & Subscriptions	-	-\$3,129,362	\$0	\$3,129,362
GRAND TOTAL	3.19	\$4,782,825,222	\$6,963,420,198	\$2,180,594,976

GAS STATEWIDE D.P.U. 08-50 TABLES

V.C. Statewide Gas PA Budgets
 1. Summary Table

Program Administrator Budget, 2013									
Program	PA Costs (1)						Lost Base Revenue (3)	Performance Incentive (2)	TOTAL PA Budget
	Program Planning and Administration	Marketing and Advertising	Participant Incentive	Sales, Technical Assistance & Training	Evaluation and Market Research	Total PA Costs			
Residential (total)	\$ 3,549,995	\$ 3,655,082	\$ 51,075,467	\$ 7,990,797	\$ 3,082,142	\$ 69,353,483	\$ 2,528,420	\$ 2,256,039	\$ 74,137,942
1. Residential Whole House	\$ 1,797,999	\$ 957,889	\$ 31,407,076	\$ 6,113,494	\$ 1,951,951	\$ 42,228,409		\$ 1,188,348	\$ 43,416,757
2. Residential Products	\$ 836,779	\$ 1,804,398	\$ 18,537,055	\$ 1,491,121	\$ 1,093,848	\$ 23,763,200		\$ 1,067,691	\$ 24,830,891
3. Residential Hard-to-Measure	\$ 915,218	\$ 892,795	\$ 1,131,336	\$ 386,182	\$ 36,343	\$ 3,361,874		\$ -	\$ 3,361,874
Residential Statewide Marketing	\$ 12,818	\$ 584,785	\$ -	\$ -	\$ 13,359	\$ 610,963		\$ -	\$ 610,963
Residential DOER Assessment	\$ 287,246	\$ -	\$ -	\$ 81,996	\$ -	\$ 369,243		\$ -	\$ 369,243
Residential EEAC Consultants	\$ 413,377	\$ -	\$ -	\$ -	\$ -	\$ 413,377		\$ -	\$ 413,377
Residential Sponsorships & Subscriptions	\$ 137,880	\$ -	\$ -	\$ -	\$ -	\$ 137,880		\$ -	\$ 137,880
Residential Workforce Development	\$ 13,554	\$ 1,528	\$ -	\$ 182,145	\$ 2,175	\$ 199,401		\$ -	\$ 199,401
Residential Education	\$ 1,101	\$ 258,158	\$ -	\$ 15,000	\$ 1,006	\$ 275,265		\$ -	\$ 275,265
Residential HEAT Loan	\$ 3,482	\$ 2,134	\$ 997,836	\$ 1,288	\$ 3,860	\$ 1,008,600		\$ -	\$ 1,008,600
Residential R&D and Demonstration	\$ 45,759	\$ 46,190	\$ 133,500	\$ 105,753	\$ 15,944	\$ 347,145		\$ -	\$ 347,145
Low-Income (total)	\$ 2,017,874	\$ 811,279	\$ 23,288,160	\$ 6,833,539	\$ 1,385,989	\$ 34,336,841	\$ 18,763	\$ 809,732	\$ 35,165,336
4. Low-Income Whole House	\$ 1,265,193	\$ 635,629	\$ 23,288,160	\$ 6,796,858	\$ 1,384,548	\$ 33,370,387		\$ 809,732	\$ 34,180,119
5. Low-Income Hard-to-Measure	\$ 752,681	\$ 175,650	\$ -	\$ 36,681	\$ 1,441	\$ 966,454		\$ -	\$ 966,454
Low-Income Statewide Marketing & Education	\$ 2,321	\$ 175,650	\$ -	\$ -	\$ 1,441	\$ 179,413		\$ -	\$ 179,413
Low-Income DOER Assessment	\$ 150,892	\$ -	\$ -	\$ 27,693	\$ -	\$ 178,585		\$ -	\$ 178,585
Low-Income Energy Affordability Network	\$ 599,468	\$ -	\$ -	\$ 8,988	\$ -	\$ 608,456		\$ -	\$ 608,456
Commercial & Industrial (total)	\$ 2,452,051	\$ 2,733,129	\$ 35,626,010	\$ 6,410,258	\$ 2,319,713	\$ 49,541,162	\$ 2,092,671	\$ 2,227,925	\$ 53,861,758
6. C&I New Construction	\$ 768,800	\$ 1,036,343	\$ 11,790,065	\$ 1,805,380	\$ 783,983	\$ 16,182,572		\$ 938,174	\$ 17,120,746
7. C&I Retrofit	\$ 1,268,556	\$ 1,194,424	\$ 23,835,945	\$ 4,527,861	\$ 1,521,505	\$ 32,348,291		\$ 1,289,751	\$ 33,638,042
8. C&I Hard-to-Measure	\$ 416,695	\$ 502,361	\$ -	\$ 77,017	\$ 14,225	\$ 1,010,298		\$ -	\$ 1,010,298
C&I Statewide Marketing & Education	\$ 15,898	\$ 499,934	\$ -	\$ -	\$ 11,372	\$ 527,204		\$ -	\$ 527,204
C&I DOER Assessment	\$ 173,427	\$ -	\$ -	\$ 38,517	\$ -	\$ 211,944		\$ -	\$ 211,944
C&I EEAC Consultants	\$ 158,036	\$ -	\$ -	\$ -	\$ -	\$ 158,036		\$ -	\$ 158,036
C&I Sponsorships & Subscriptions	\$ 62,665	\$ -	\$ -	\$ -	\$ -	\$ 62,665		\$ -	\$ 62,665
C&I Workforce Development	\$ 6,669	\$ 2,427	\$ -	\$ 38,500	\$ 2,853	\$ 50,450		\$ -	\$ 50,450
GRAND TOTAL	\$ 8,019,921	\$ 7,199,490	\$ 109,989,637	\$ 21,234,594	\$ 6,787,844	\$ 153,231,486	\$ 4,639,854	\$ 5,293,696	\$ 163,165,035

Program Administrator Budget, 2014									
Program	PA Costs (1)						Lost Base Revenue (3)	Performance Incentive (2)	TOTAL PA Budget
	Program Planning and Administration	Marketing and Advertising	Participant Incentive	Sales, Technical Assistance & Training	Evaluation and Market Research	Total PA Costs			
Residential (total)	\$ 3,661,425	\$ 3,934,826	\$ 53,182,311	\$ 8,206,950	\$ 3,158,421	\$ 72,143,933	\$ 2,965,646	\$ 2,410,842	\$ 77,520,421
1. Residential Whole House	\$ 1,869,499	\$ 1,066,421	\$ 33,098,112	\$ 6,259,874	\$ 2,019,441	\$ 44,313,348		\$ 1,294,508	\$ 45,607,856
2. Residential Products	\$ 855,529	\$ 1,960,276	\$ 18,902,873	\$ 1,554,443	\$ 1,101,720	\$ 24,374,840		\$ 1,116,334	\$ 25,491,174
3. Residential Hard-to-Measure	\$ 936,397	\$ 908,129	\$ 1,181,327	\$ 392,633	\$ 37,259	\$ 3,455,745		\$ -	\$ 3,455,745
Residential Statewide Marketing	\$ 13,997	\$ 585,035	\$ -	\$ -	\$ 13,850	\$ 612,881		\$ -	\$ 612,881
Residential DOER Assessment	\$ 291,365	\$ -	\$ -	\$ 82,743	\$ -	\$ 374,108		\$ -	\$ 374,108
Residential EEAC Consultants	\$ 422,790	\$ -	\$ -	\$ -	\$ -	\$ 422,790		\$ -	\$ 422,790
Residential Sponsorships & Subscriptions	\$ 142,581	\$ -	\$ -	\$ -	\$ -	\$ 142,581		\$ -	\$ 142,581
Residential Workforce Development	\$ 13,835	\$ 1,552	\$ -	\$ 184,564	\$ 2,137	\$ 202,089		\$ -	\$ 202,089
Residential Education	\$ 1,094	\$ 271,021	\$ -	\$ 15,000	\$ 949	\$ 288,064		\$ -	\$ 288,064
Residential HEAT Loan	\$ 3,628	\$ 2,186	\$ 1,041,152	\$ 1,288	\$ 3,818	\$ 1,052,071		\$ -	\$ 1,052,071
Residential R&D and Demonstration	\$ 47,108	\$ 48,335	\$ 140,175	\$ 109,038	\$ 16,505	\$ 361,161		\$ -	\$ 361,161
Low-Income (total)	\$ 2,072,965	\$ 852,855	\$ 23,995,839	\$ 6,996,926	\$ 1,427,154	\$ 35,345,738	\$ 20,274	\$ 873,907	\$ 36,239,919
4. Low-Income Whole House	\$ 1,298,351	\$ 681,673	\$ 23,995,839	\$ 6,960,720	\$ 1,425,575	\$ 34,362,158		\$ 873,907	\$ 35,236,065
5. Low-Income Hard-to-Measure	\$ 774,614	\$ 171,182	\$ -	\$ 36,206	\$ 1,579	\$ 983,580		\$ -	\$ 983,580
Low-Income Statewide Marketing & Education	\$ 2,378	\$ 171,182	\$ -	\$ -	\$ 1,579	\$ 175,139		\$ -	\$ 175,139
Low-Income DOER Assessment	\$ 155,631	\$ -	\$ -	\$ 27,218	\$ -	\$ 182,850		\$ -	\$ 182,850
Low-Income Energy Affordability Network	\$ 616,604	\$ -	\$ -	\$ 8,988	\$ -	\$ 625,592		\$ -	\$ 625,592
Commercial & Industrial (total)	\$ 2,506,900	\$ 2,720,584	\$ 36,019,474	\$ 6,575,465	\$ 2,351,955	\$ 50,174,378	\$ 2,619,161	\$ 2,364,773	\$ 55,158,312
6. C&I New Construction	\$ 783,115	\$ 1,037,617	\$ 11,958,565	\$ 1,869,924	\$ 798,424	\$ 16,447,645		\$ 1,002,647	\$ 17,450,292
7. C&I Retrofit	\$ 1,302,093	\$ 1,194,033	\$ 24,060,909	\$ 4,627,595	\$ 1,538,227	\$ 32,722,857		\$ 1,362,126	\$ 34,084,983
8. C&I Hard-to-Measure	\$ 421,692	\$ 488,934	\$ -	\$ 77,946	\$ 15,304	\$ 1,003,876		\$ -	\$ 1,003,876
C&I Statewide Marketing & Education	\$ 17,177	\$ 486,513	\$ -	\$ -	\$ 12,362	\$ 516,052		\$ -	\$ 516,052
C&I DOER Assessment	\$ 172,265	\$ -	\$ -	\$ 38,246	\$ -	\$ 210,511		\$ -	\$ 210,511
C&I EEAC Consultants	\$ 161,615	\$ -	\$ -	\$ -	\$ -	\$ 161,615		\$ -	\$ 161,615
C&I Sponsorships & Subscriptions	\$ 63,981	\$ -	\$ -	\$ -	\$ -	\$ 63,981		\$ -	\$ 63,981
C&I Workforce Development	\$ 6,654	\$ 2,421	\$ -	\$ 39,700	\$ 2,942	\$ 51,718		\$ -	\$ 51,718
GRAND TOTAL	\$ 8,241,290	\$ 7,508,264	\$ 113,197,624	\$ 21,779,341	\$ 6,937,530	\$ 157,664,049	\$ 5,605,080	\$ 5,649,523	\$ 168,918,551

Program Administrator Budget, 2015									
Program	PA Costs (1)						Lost Base Revenue (3)	Performance Incentive (2)	TOTAL PA Budget
	Program Planning and Administration	Marketing and Advertising	Participant Incentive	Sales, Technical Assistance & Training	Evaluation and Market Research	Total PA Costs			
Residential (total)	\$ 3,781,328	\$ 4,234,587	\$ 54,770,356	\$ 8,251,559	\$ 3,248,314	\$ 74,286,144	\$ 3,294,099	\$ 2,452,759	\$ 80,033,002
1. Residential Whole House	\$ 1,945,611	\$ 1,175,119	\$ 34,304,237	\$ 6,291,074	\$ 2,083,192	\$ 45,799,233		\$ 1,346,338	\$ 47,145,571
2. Residential Products	\$ 877,714	\$ 2,139,457	\$ 19,234,342	\$ 1,561,263	\$ 1,125,753	\$ 24,938,528		\$ 1,106,420	\$ 26,044,949
3. Residential Hard-to-Measure	\$ 958,004	\$ 920,011	\$ 1,231,777	\$ 399,222	\$ 39,369	\$ 3,548,383		\$ -	\$ 3,548,383
Residential Statewide Marketing	\$ 15,265	\$ 607,478	\$ -	\$ -	\$ 15,123	\$ 637,866		\$ -	\$ 637,866
Residential DOER Assessment	\$ 294,851	\$ -	\$ -	\$ 83,288	\$ -	\$ 378,139		\$ -	\$ 378,139
Residential EEAC Consultants	\$ 433,220	\$ -	\$ -	\$ -	\$ -	\$ 433,220		\$ -	\$ 433,220
Residential Sponsorships & Subscriptions	\$ 147,190	\$ -	\$ -	\$ -	\$ -	\$ 147,190		\$ -	\$ 147,190
Residential Workforce Development	\$ 14,123	\$ 1,576	\$ -	\$ 187,161	\$ 2,213	\$ 205,074		\$ -	\$ 205,074
Residential Education	\$ 1,090	\$ 258,137	\$ -	\$ 15,000	\$ 943	\$ 275,170		\$ -	\$ 275,170
Residential HEAT Loan	\$ 3,768	\$ 2,237	\$ 1,084,593	\$ 1,288	\$ 3,977	\$ 1,095,863		\$ -	\$ 1,095,863
Residential R&D and Demonstration	\$ 48,497	\$ 50,584	\$ 147,184	\$ 112,484	\$ 17,113	\$ 375,862		\$ -	\$ 375,862
Low-Income (total)	\$ 2,132,621	\$ 907,397	\$ 24,809,855	\$ 7,182,837	\$ 1,471,714	\$ 36,504,424	\$ 21,785	\$ 878,969	\$ 37,405,179
4. Low-Income Whole House	\$ 1,339,043	\$ 731,441	\$ 24,809,855	\$ 7,146,191	\$ 1,469,983	\$ 35,496,513		\$ 878,969	\$ 36,375,483
5. Low-Income Hard-to-Measure	\$ 793,578	\$ 175,956	\$ -	\$ 36,646	\$ 1,730	\$ 1,007,911		\$ -	\$ 1,007,911
Low-Income Statewide Marketing & Education	\$ 2,443	\$ 175,956	\$ -	\$ -	\$ 1,730	\$ 180,130		\$ -	\$ 180,130
Low-Income DOER Assessment	\$ 161,752	\$ -	\$ -	\$ 26,823	\$ -	\$ 188,576		\$ -	\$ 188,576
Low-Income Energy Affordability Network	\$ 629,383	\$ -	\$ -	\$ 9,823	\$ -	\$ 639,206		\$ -	\$ 639,206
Commercial & Industrial (total)	\$ 2,583,454	\$ 2,732,978	\$ 37,112,300	\$ 6,719,874	\$ 2,407,717	\$ 51,556,323	\$ 3,144,419	\$ 2,417,994	\$ 57,118,736
6. C&I New Construction	\$ 802,994	\$ 1,035,653	\$ 12,272,795	\$ 1,920,606	\$ 811,566	\$ 16,843,614		\$ 1,012,277	\$ 17,855,891
7. C&I Retrofit	\$ 1,352,586	\$ 1,193,815	\$ 24,839,504	\$ 4,720,213	\$ 1,579,571	\$ 33,685,689		\$ 1,405,717	\$ 35,091,406
8. C&I Hard-to-Measure	\$ 427,875	\$ 503,510	\$ -	\$ 79,055	\$ 16,800	\$ 1,027,020		\$ -	\$ 1,027,020
C&I Statewide Marketing & Education	\$ 18,772	\$ 501,096	\$ -	\$ -	\$ 13,525	\$ 533,394		\$ -	\$ 533,394
C&I DOER Assessment	\$ 171,479	\$ -	\$ -	\$ 38,095	\$ -	\$ 209,574		\$ -	\$ 209,574
C&I EEAC Consultants	\$ 165,337	\$ -	\$ -	\$ -	\$ -	\$ 165,337		\$ -	\$ 165,337
C&I Sponsorships & Subscriptions	\$ 65,568	\$ -	\$ -	\$ -	\$ -	\$ 65,568		\$ -	\$ 65,568
C&I Workforce Development	\$ 6,719	\$ 2,414	\$ -	\$ 40,960	\$ 3,054	\$ 53,147		\$ -	\$ 53,147
GRAND TOTAL	\$ 8,497,404	\$ 7,874,962	\$ 116,692,510	\$ 22,154,270	\$ 7,127,745	\$ 162,346,891	\$ 6,460,303	\$ 5,749,723	\$ 174,556,917

Program Administrator Budget, 2013-2015									
Program	PA Costs (1)						Lost Base Revenue (3)	Performance Incentive (2)	TOTAL PA Budget
	Program Planning and Administration	Marketing and Advertising	Participant Incentive	Sales, Technical Assistance & Training	Evaluation and Market Research	Total PA Costs			
Residential (total)	\$ 10,992,749	\$ 11,824,494	\$ 159,028,134	\$ 24,449,306	\$ 9,488,878	\$ 215,783,560	\$ 8,788,165	\$ 7,119,640	\$ 231,691,365
1. Residential Whole House	\$ 5,613,109	\$ 3,199,429	\$ 98,809,425	\$ 18,664,442	\$ 6,054,585	\$ 132,340,989		\$ 3,829,195	\$ 136,170,184
2. Residential Products	\$ 2,570,021	\$ 5,904,131	\$ 56,674,269	\$ 4,606,826	\$ 3,321,321	\$ 73,076,568		\$ 3,290,445	\$ 76,367,013
3. Residential Hard-to-Measure	\$ 2,809,618	\$ 2,720,935	\$ 3,544,440	\$ 1,178,037	\$ 112,972	\$ 10,366,002		\$ -	\$ 10,366,002
Residential Statewide Marketing	\$ 42,081	\$ 1,777,297	\$ -	\$ -	\$ 42,332	\$ 1,861,710		\$ -	\$ 1,861,710
Residential DOER Assessment	\$ 873,462	\$ -	\$ -	\$ 248,027	\$ -	\$ 1,121,490		\$ -	\$ 1,121,490
Residential EEAC Consultants	\$ 1,269,386	\$ -	\$ -	\$ -	\$ -	\$ 1,269,386		\$ -	\$ 1,269,386
Residential Sponsorships & Subscriptions	\$ 427,651	\$ -	\$ -	\$ -	\$ -	\$ 427,651		\$ -	\$ 427,651
Residential Workforce Development	\$ 41,512	\$ 4,656	\$ -	\$ 553,870	\$ 6,526	\$ 606,564		\$ -	\$ 606,564
Residential Education	\$ 3,286	\$ 787,316	\$ -	\$ 45,000	\$ 2,897	\$ 838,499		\$ -	\$ 838,499
Residential HEAT Loan	\$ 10,877	\$ 6,557	\$ 3,123,581	\$ 3,864	\$ 11,655	\$ 3,156,534		\$ -	\$ 3,156,534
Residential Building Practices & Demonstration	\$ 141,363	\$ 145,109	\$ 420,859	\$ 327,275	\$ 49,562	\$ 1,084,168		\$ -	\$ 1,084,168
Low-Income (total)	\$ 6,223,461	\$ 2,571,530	\$ 72,093,854	\$ 21,013,301	\$ 4,284,857	\$ 106,187,004	\$ 60,821	\$ 2,562,608	\$ 108,810,433
4. Low-Income Whole House	\$ 3,902,588	\$ 2,048,742	\$ 72,093,854	\$ 20,903,769	\$ 4,280,106	\$ 103,229,059		\$ 2,562,608	\$ 105,791,667
5. Low-Income Hard-to-Measure	\$ 2,320,873	\$ 522,788	\$ -	\$ 109,533	\$ 4,751	\$ 2,957,945		\$ -	\$ 2,957,945
Low-Income Statewide Marketing & Education	\$ 7,142	\$ 522,788	\$ -	\$ -	\$ 4,751	\$ 534,681		\$ -	\$ 534,681
Low-Income DOER Assessment	\$ 468,276	\$ -	\$ -	\$ 81,735	\$ -	\$ 550,010		\$ -	\$ 550,010
Low-Income Energy Affordability Network	\$ 1,845,455	\$ -	\$ -	\$ 27,798	\$ -	\$ 1,873,254		\$ -	\$ 1,873,254
Commercial & Industrial (total)	\$ 7,542,405	\$ 8,186,691	\$ 108,757,784	\$ 19,705,598	\$ 7,079,385	\$ 151,271,862	\$ 7,856,251	\$ 7,010,693	\$ 166,138,806
6. C&I New Construction	\$ 2,352,909	\$ 3,109,613	\$ 36,021,426	\$ 5,595,910	\$ 2,393,972	\$ 49,473,830		\$ 2,953,098	\$ 52,426,929
7. C&I Retrofit	\$ 3,923,235	\$ 3,582,272	\$ 72,736,358	\$ 13,875,670	\$ 4,639,304	\$ 98,756,838		\$ 4,057,594	\$ 102,814,432
8. C&I Hard-to-Measure	\$ 1,266,262	\$ 1,494,806	\$ -	\$ 234,018	\$ 46,109	\$ 3,041,194		\$ -	\$ 3,041,194
C&I Statewide Marketing & Education	\$ 51,846	\$ 1,487,544	\$ -	\$ -	\$ 37,259	\$ 1,576,649		\$ -	\$ 1,576,649
C&I DOER Assessment	\$ 517,171	\$ -	\$ -	\$ 114,858	\$ -	\$ 632,029		\$ -	\$ 632,029
C&I EEAC Consultants	\$ 484,988	\$ -	\$ -	\$ -	\$ -	\$ 484,988		\$ -	\$ 484,988
C&I Sponsorships & Subscriptions	\$ 192,214	\$ -	\$ -	\$ -	\$ -	\$ 192,214		\$ -	\$ 192,214
C&I Workforce Development	\$ 20,043	\$ 7,262	\$ -	\$ 119,160	\$ 8,850	\$ 155,315		\$ -	\$ 155,315
GRAND TOTAL	\$ 24,758,615	\$ 22,582,716	\$ 339,879,771	\$ 65,168,204	\$ 20,853,119	\$ 473,242,426	\$ 16,705,237	\$ 16,692,941	\$ 506,640,604

IV.D. SW Gas PA Cost Effectiveness
 3.2. Savings Summary Table

Gas Savings, 2013															
Program	# of Participants	Gas (MMBTU)	Gas (Annual Therms)	Gas (LifetimeTherms)	Electric			Non-Gas Non-Electric*						Non-Resource (1)	
					Summer Capacity (kW)	Winter Capacity (kW)	Energy (kWh)	Resource					Gallons Water		
								No. 2 Distillate	No. 4 Fuel Oil	No. 6 Fuel Oil	Propane	Wood			Kerosene
Residential (total)	\$ 445,535	933,253	9,332,531	111,388,068	396	242	2,036,717	-	-	-	-	-	-	112,696,543	326,685
1. Residential Whole House	414,371	708,487	7,084,875	70,898,037	294	256	1,803,680	-	-	-	-	-	-	112,696,543	77,664
2. Residential Products	31,164	224,766	2,247,656	40,490,031	102	(15)	233,037	-	-	-	-	-	-	-	249,022
Low-Income (total)	\$ 6,163	139,291	1,392,909	28,031,299	522	719	2,485,709	-	-	-	-	-	-	165,593	520,294
4. Low-Income Whole House	6,163	139,291	1,392,909	28,031,299	522	719	2,485,709	-	-	-	-	-	-	165,593	520,294
Commercial & Industrial (total)	\$ 17,596	1,044,864	10,448,636	142,341,745	0	11	16,752	-	-	-	-	-	-	80,965,904	-
6. C&I New Construction	2,965	310,626	3,106,259	61,349,797	-	10	15,312	-	-	-	-	-	-	11,218,617	-
7. C&I Retrofit	14,631	734,238	7,342,377	80,991,949	0	0	1,440	-	-	-	-	-	-	69,747,287	-
GRAND TOTAL	469,294	2,117,407	21,174,076	281,761,112	918	971	4,539,178	-	-	-	-	-	-	193,828,040	846,979

Gas Savings (Annual), 2014															
Program	# of Participants	Gas (MMBTU)	Gas (Annual Therms)	Gas (LifetimeTherms)	Electric			Non-Gas Non-Electric*						Non-Resource (1)	
					Summer Capacity (kW)	Winter Capacity (kW)	Energy (kWh)	Resource					Gallons Water		
								No. 2 Distillate	No. 4 Fuel Oil	No. 6 Fuel Oil	Propane	Wood			Kerosene
Residential (total)	\$ 446,638	1,057,933	10,579,331	115,405,481	407	250	2,100,544	-	-	-	-	-	-	118,460,342	285,484
1. Residential Whole House	415,103	830,481	8,304,813	74,392,909	304	266	1,868,190	-	-	-	-	-	-	118,460,342	68,551
2. Residential Products	31,534	227,452	2,274,518	41,012,572	103	(16)	232,354	-	-	-	-	-	-	-	216,933
Low-Income (total)	\$ 6,294	142,470	1,424,695	28,746,147	567	771	2,668,011	-	-	-	-	-	-	84,885	389,906
4. Low-Income Whole House	6,294	142,470	1,424,695	28,746,147	567	771	2,668,011	-	-	-	-	-	-	84,885	389,906
Commercial & Industrial (total)	\$ 17,600	1,057,261	10,572,614	144,306,726	0	11	16,752	-	-	-	-	-	-	82,049,012	-
6. C&I New Construction	3,064	316,644	3,166,442	62,364,699	-	10	15,312	-	-	-	-	-	-	11,218,617	-
7. C&I Retrofit	14,535	740,617	7,406,172	81,942,028	0	0	1,440	-	-	-	-	-	-	70,830,395	-
GRAND TOTAL	470,531	2,257,664	22,576,640	288,458,354	974	1,032	4,785,307	-	-	-	-	-	-	200,594,238	675,389

Gas Savings (Annual), 2015															
Program	# of Participants	Gas (MMBTU)	Gas (Annual Therms)	Gas (LifetimeTherms)	Electric			Non-Gas Non-Electric*						Non-Resource (1)	
					Summer Capacity (kW)	Winter Capacity (kW)	Energy (kWh)	Resource					Gallons Water		
								No. 2 Distillate	No. 4 Fuel Oil	No. 6 Fuel Oil	Propane	Wood			Kerosene
Residential (total)	\$ 448,764	1,062,080	10,620,802	118,083,890	412	250	2,115,900	-	-	-	-	-	-	125,070,507	286,930
1. Residential Whole House	416,468	833,428	8,334,278	76,888,656	307	268	1,884,229	-	-	-	-	-	-	125,070,507	67,817
2. Residential Products	32,296	228,652	2,286,524	41,195,234	105	(18)	231,671	-	-	-	-	-	-	-	219,113
Low-Income (total)	\$ 6,438	146,881	1,468,806	29,674,031	589	797	2,758,370	-	-	-	-	-	-	93,373	391,947
4. Low-Income Whole House	6,438	146,881	1,468,806	29,674,031	589	797	2,758,370	-	-	-	-	-	-	93,373	391,947
Commercial & Industrial (total)	\$ 17,913	1,086,719	10,867,191	148,202,035	0	11	16,752	-	-	-	-	-	-	82,565,441	-
6. C&I New Construction	3,124	321,998	3,219,978	63,330,534	-	10	15,312	-	-	-	-	-	-	11,218,617	-
7. C&I Retrofit	14,789	764,721	7,647,212	84,871,501	0	0	1,440	-	-	-	-	-	-	71,346,824	-
GRAND TOTAL	473,116	2,295,680	22,956,799	295,959,957	1,001	1,058	4,891,022	-	-	-	-	-	-	207,729,321	678,877

Gas Savings (Annual), 2013-2015															
Program	# of Participants	Gas (MMBTU)	Gas (Annual Therms)	Gas (LifetimeTherms)	Electric			Non-Gas Non-Electric*						Non-Resource (1)	
					Summer Capacity (kW)	Winter Capacity (kW)	Energy (kWh)	Resource					Gallons Water		
								No. 2 Distillate	No. 4 Fuel Oil	No. 6 Fuel Oil	Propane	Wood			Kerosene
Residential (total)	\$ 1,340,937	3,053,266	30,532,664	344,877,439	1,215	742	6,253,161	-	-	-	-	-	-	356,227,391	899,099
1. Residential Whole House	1,245,943	2,372,396	23,723,966	222,179,602	905	791	5,556,098	-	-	-	-	-	-	356,227,391	214,031
2. Residential Products	94,994	680,870	6,808,698	122,697,837	310	(49)	697,062	-	-	-	-	-	-	-	685,067
Low-Income (total)	\$ 18,895	428,641	4,286,410	86,451,477	1,677	2,287	7,912,090	-	-	-	-	-	-	343,851	1,302,147
4. Low-Income Whole House	18,895	428,641	4,286,410	86,451,477	1,677	2,287	7,912,090	-	-	-	-	-	-	343,851	1,302,147
Commercial & Industrial (total)	\$ 53,109	3,188,844	31,888,441	434,850,507	0	32	50,256	-	-	-	-	-	-	245,580,357	-
6. C&I New Construction	9,153	949,268	9,492,679	187,045,029	-	31	45,936	-	-	-	-	-	-	33,655,851	-
7. C&I Retrofit	43,956	2,239,576	22,395,761	247,805,478	0	1	4,320	-	-	-	-	-	-	211,924,506	-
GRAND TOTAL	1,412,941	6,670,751	66,707,515	866,179,423	2,893	3,061	14,215,507	-	-	-	-	-	-	602,151,600	2,201,246

IV.D. SW Gas PA Cost Effectiveness
 3.1. Benefits Summary Table

Gas Benefits, 2013 (Lifetime \$)															
Program	Gas	Electric			Non-Gas Non-Electric*								Non-Resource	TOTAL	TOTAL TRC Benefits
		Summer Capacity	Winter Capacity	Energy	Resource				Kerosene						
					No. 2 Distillate	No. 4 Fuel Oil	No. 6 Fuel Oil	Propane		Wood	Water				
Residential (total)	\$ 102,268,298	\$ 644,876	\$ (15,065)	\$ 814,964	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,911,453	\$ -	\$ 53,973,995	\$ 56,885,448	\$ 160,598,522
1. Residential Whole House	\$ 65,995,608	\$ 488,265	\$ 17,866	\$ 680,247	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,911,453	\$ -	\$ 17,571,658	\$ 20,483,111	\$ 87,664,918	
2. Residential Products	\$ 36,272,690	\$ 156,611	\$ (32,751)	\$ 134,717	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 36,402,337	\$ 36,402,337	\$ 72,933,603	
Low-Income (total)	\$ 26,473,874	\$ 53,452	\$ 61,015	\$ 994,455	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 8,098	\$ -	\$ 23,955,289	\$ 23,963,386	\$ 51,546,183	
4. Low-Income Whole House	\$ 26,473,874	\$ 53,452	\$ 61,015	\$ 994,455	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 8,098	\$ -	\$ 23,955,289	\$ 23,963,386	\$ 51,546,183	
Commercial & Industrial (total)	\$ 124,738,465	\$ 565	\$ -	\$ 28,681	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 16,616,511	\$ -	\$ -	\$ 16,616,511	\$ 141,384,222	
6. C&I New Construction	\$ 55,518,077	\$ -	\$ -	\$ 26,518	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 488,176	
7. C&I Retrofit	\$ 69,220,387	\$ 565	\$ -	\$ 2,162	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 16,128,335	\$ -	\$ -	\$ 16,128,335	\$ 85,351,450	
GRAND TOTAL	\$ 253,480,637	\$ 698,894	\$ 45,951	\$ 1,838,100	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 19,536,062	\$ -	\$ 77,929,284	\$ 97,465,346	\$ 353,528,927	

Gas Benefits, 2014 (Lifetime \$)															
Program	Gas	Electric			Non-Gas Non-Electric*								Non-Resource	TOTAL	TOTAL TRC Benefits
		Summer Capacity	Winter Capacity	Energy	Resource				Kerosene						
					No. 2 Distillate	No. 4 Fuel Oil	No. 6 Fuel Oil	Propane		Wood	Water				
Residential (total)	\$ 107,420,906	\$ 437,046	\$ 215,803	\$ 832,347	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,995,286	\$ -	\$ 54,531,259	\$ 57,526,545	\$ 166,432,647	
1. Residential Whole House	\$ 70,157,841	\$ 507,205	\$ 19,032	\$ 698,951	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,995,286	\$ -	\$ 17,950,128	\$ 20,945,414	\$ 92,328,441	
2. Residential Products	\$ 37,263,066	\$ (70,158)	\$ 196,771	\$ 133,396	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 36,581,131	\$ 36,581,131	\$ 74,104,205	
Low-Income (total)	\$ 27,419,785	\$ 58,711	\$ 67,060	\$ 1,029,377	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 702	\$ -	\$ 24,099,723	\$ 24,100,425	\$ 52,675,358	
4. Low-Income Whole House	\$ 27,419,785	\$ 58,711	\$ 67,060	\$ 1,029,377	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 702	\$ -	\$ 24,099,723	\$ 24,100,425	\$ 52,675,358	
Commercial & Industrial (total)	\$ 128,316,783	\$ 581	\$ -	\$ 28,982	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 16,601,359	\$ -	\$ -	\$ 16,601,359	\$ 144,947,705	
6. C&I New Construction	\$ 57,153,979	\$ -	\$ -	\$ 26,808	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 485,256	\$ -	\$ -	\$ 485,256	\$ 57,666,043	
7. C&I Retrofit	\$ 71,162,804	\$ 581	\$ -	\$ 2,174	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 16,116,103	\$ -	\$ -	\$ 16,116,103	\$ 87,281,662	
GRAND TOTAL	\$ 263,157,474	\$ 496,338	\$ 282,862	\$ 1,890,705	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 19,597,347	\$ -	\$ 78,630,983	\$ 98,228,329	\$ 364,055,709	

Gas Benefits, 2015 (Lifetime \$)															
Program	Gas	Electric			Non-Gas Non-Electric*								Non-Resource	TOTAL	TOTAL TRC Benefits
		Summer Capacity	Winter Capacity	Energy	Resource				Kerosene						
					No. 2 Distillate	No. 4 Fuel Oil	No. 6 Fuel Oil	Propane		Wood	Water				
Residential (total)	\$ 111,310,507	\$ 633,328	\$ 44,594	\$ 842,426	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,086,833	\$ -	\$ 55,264,169	\$ 58,351,002	\$ 171,181,856	
1. Residential Whole House	\$ 73,513,824	\$ 527,241	\$ 19,658	\$ 707,833	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,086,833	\$ -	\$ 18,429,623	\$ 21,516,456	\$ 96,285,011	
2. Residential Products	\$ 37,796,683	\$ 106,088	\$ 24,936	\$ 134,592	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 36,834,546	\$ 36,834,546	\$ 74,896,845	
Low-Income (total)	\$ 28,586,303	\$ 61,628	\$ 70,529	\$ 1,048,698	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 751	\$ -	\$ 24,509,923	\$ 24,510,674	\$ 54,277,833	
4. Low-Income Whole House	\$ 28,586,303	\$ 61,628	\$ 70,529	\$ 1,048,698	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 751	\$ -	\$ 24,509,923	\$ 24,510,674	\$ 54,277,833	
Commercial & Industrial (total)	\$ 133,283,839	\$ 597	\$ -	\$ 29,280	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 16,577,389	\$ -	\$ -	\$ 16,577,389	\$ 149,891,104	
6. C&I New Construction	\$ 58,650,528	\$ -	\$ -	\$ 27,095	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 482,416	\$ -	\$ -	\$ 482,416	\$ 59,160,038	
7. C&I Retrofit	\$ 74,633,311	\$ 597	\$ -	\$ 2,185	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 16,094,973	\$ -	\$ -	\$ 16,094,973	\$ 90,731,066	
GRAND TOTAL	\$ 273,180,649	\$ 695,553	\$ 115,123	\$ 1,920,403	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 19,664,974	\$ -	\$ 79,774,092	\$ 99,439,065	\$ 375,350,793	

Gas Benefits, 2013-2015 (Lifetime \$)															
Program	Gas	Electric			Non-Gas Non-Electric*								Non-Resource	TOTAL	TOTAL TRC Benefits
		Summer Capacity	Winter Capacity	Energy	Resource				Kerosene						
					No. 2 Distillate	No. 4 Fuel Oil	No. 6 Fuel Oil	Propane		Wood	Water				
Residential (total)	\$ 320,999,711	\$ 1,715,251	\$ 245,331	\$ 2,489,736	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 8,993,572	\$ -	\$ 163,769,423	\$ 172,762,995	\$ 498,213,025	
1. Residential Whole House	\$ 209,667,272	\$ 1,522,711	\$ 56,376	\$ 2,087,031	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 8,993,572	\$ -	\$ 53,951,409	\$ 62,944,981	\$ 276,278,371	
2. Residential Products	\$ 111,332,439	\$ 192,540	\$ 188,956	\$ 402,705	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 109,818,015	\$ 109,818,015	\$ 221,934,654	
Low-Income (total)	\$ 82,479,962	\$ 173,791	\$ 198,604	\$ 3,072,530	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 9,551	\$ -	\$ 72,564,935	\$ 72,574,486	\$ 158,499,374	
4. Low-Income Whole House	\$ 82,479,962	\$ 173,791	\$ 198,604	\$ 3,072,530	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 9,551	\$ -	\$ 72,564,935	\$ 72,574,486	\$ 158,499,374	
Commercial & Industrial (total)	\$ 386,339,087	\$ 1,743	\$ -	\$ 86,942	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 49,795,259	\$ -	\$ -	\$ 49,795,259	\$ 436,223,301	
6. C&I New Construction	\$ 171,322,584	\$ -	\$ -	\$ 80,420	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,455,848	\$ -	\$ -	\$ 1,455,848	\$ 172,858,852	
7. C&I Retrofit	\$ 215,016,503	\$ 1,743	\$ -	\$ 6,521	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 48,339,411	\$ -	\$ -	\$ 48,339,411	\$ 263,364,178	
GRAND TOTAL	\$ 789,818,760	\$ 1,890,785	\$ 443,936	\$ 5,649,208	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 58,798,382	\$ -	\$ 236,334,358	\$ 295,132,741	\$ 1,092,935,429	

*where applicable
 Benefits for 2011 on this and other tables where they appear are in 2011 dollars
 Benefits for 2012 on this and other tables where they appear are in 2012 dollars

IV.D. SW Gas PA Cost Effectiveness
 1. Summary Table

Total Resource Cost Test, 2013				
Sector	B/C Ratio	Net Benefits	Benefits	Costs (1)
Residential (total)	1.55	\$ 56,933,906	\$ 160,598,522	\$ 103,664,615
1. Residential Whole House	1.52	\$ 29,902,820	\$ 87,664,918	\$ 57,762,098
2. Residential Products	1.71	\$ 30,342,645	\$ 72,933,603	\$ 42,590,959
3. Residential Hard-to-Measure	-	n/a	\$ -	\$ 3,311,558
Residential Statewide Marketing	-	n/a	\$ -	\$ 610,963
Residential DOER Assessment	-	n/a	\$ -	\$ 369,243
Residential EEAC Consultants	-	n/a	\$ -	\$ 413,377
Residential Sponsorships & Subscriptions	-	n/a	\$ -	\$ 137,880
Residential Workforce Development	-	n/a	\$ -	\$ 199,401
Residential Education	-	n/a	\$ -	\$ 275,265
Residential HEAT Loan	-	n/a	\$ -	\$ 958,284
Residential R&D and Demonstration	-	n/a	\$ -	\$ 347,145
Low-Income (total)	1.47	\$ 16,399,610	\$ 51,546,183	\$ 35,146,573
4. Low-Income Whole House	1.51	\$ 17,366,064	\$ 51,546,183	\$ 34,180,119
5. Low-Income Hard-to-Measure	-	n/a	\$ -	\$ 966,454
Low-Income Statewide Marketing & Educa	-	n/a	\$ -	\$ 179,413
Low-Income DOER Assessment	-	n/a	\$ -	\$ 178,585
Low-Income Energy Affordability Network	-	n/a	\$ -	\$ 608,456
Commercial & Industrial (total)	2.04	\$ 72,170,621	\$ 141,384,222	\$ 69,213,600
6. C&I New Construction	2.48	\$ 33,441,300	\$ 56,032,772	\$ 22,591,472
7. C&I Retrofit	1.87	\$ 39,739,620	\$ 85,351,450	\$ 45,611,830
8. C&I Hard-to-Measure	-	n/a	\$ -	\$ 1,010,298
C&I Statewide Marketing & Education	-	n/a	\$ -	\$ 527,204
C&I DOER Assessment	-	n/a	\$ -	\$ 211,944
C&I EEAC Consultants	-	n/a	\$ -	\$ 158,036
C&I Sponsorships & Subscriptions	-	n/a	\$ -	\$ 62,665
C&I Workforce Development	-	n/a	\$ -	\$ 50,450
GRAND TOTAL	1.70	\$ 145,504,138	\$ 353,528,927	\$ 208,024,789

Total Resource Cost Test, 2014				
Sector	B/C Ratio	Net Benefits	Benefits	Costs (1)
Residential (total)	1.57	\$ 60,737,210	\$ 166,432,647	\$ 105,695,436
1. Residential Whole House	1.55	\$ 32,783,387	\$ 92,328,441	\$ 59,545,055
2. Residential Products	1.73	\$ 31,213,778	\$ 74,104,205	\$ 42,890,427
3. Residential Hard-to-Measure	-	n/a	\$ -	\$ 3,259,955
Residential Statewide Marketing	-	n/a	\$ -	\$ 601,685
Residential DOER Assessment	-	n/a	\$ -	\$ 369,647
Residential EEAC Consultants	-	n/a	\$ -	\$ 414,000
Residential Sponsorships & Subscriptions	-	n/a	\$ -	\$ 141,801
Residential Workforce Development	-	n/a	\$ -	\$ 199,185
Residential Education	-	n/a	\$ -	\$ 286,107
Residential HEAT Loan	-	n/a	\$ -	\$ 889,112
Residential R&D and Demonstration	-	n/a	\$ -	\$ 358,418
Low-Income (total)	1.48	\$ 17,009,612	\$ 52,675,358	\$ 35,665,746
4. Low-Income Whole House	1.52	\$ 17,979,293	\$ 52,675,358	\$ 34,696,065
5. Low-Income Hard-to-Measure	-	n/a	\$ -	\$ 969,681
Low-Income Statewide Marketing & Educa	-	n/a	\$ -	\$ 172,716
Low-Income DOER Assessment	-	n/a	\$ -	\$ 180,248
Low-Income Energy Affordability Network	-	n/a	\$ -	\$ 616,717
Commercial & Industrial (total)	2.10	\$ 75,835,721	\$ 144,947,705	\$ 69,111,983
6. C&I New Construction	2.55	\$ 35,080,793	\$ 57,666,043	\$ 22,585,249
7. C&I Retrofit	1.92	\$ 41,744,742	\$ 87,281,662	\$ 45,536,920
8. C&I Hard-to-Measure	-	n/a	\$ -	\$ 989,814
C&I Statewide Marketing & Education	-	n/a	\$ -	\$ 508,778
C&I DOER Assessment	-	n/a	\$ -	\$ 208,467
C&I EEAC Consultants	-	n/a	\$ -	\$ 158,458
C&I Sponsorships & Subscriptions	-	n/a	\$ -	\$ 63,631
C&I Workforce Development	-	n/a	\$ -	\$ 50,481
GRAND TOTAL	1.73	\$ 153,582,543	\$ 364,055,709	\$ 210,473,166

Total Resource Cost Test, 2015				
Sector	B/C Ratio	Net Benefits	Benefits	Costs (1)
Residential (total)	1.60	\$ 64,257,854	\$ 171,181,856	\$ 106,924,003
1. Residential Whole House	1.59	\$ 35,728,114	\$ 96,285,011	\$ 60,556,897
2. Residential Products	1.74	\$ 31,840,014	\$ 74,896,845	\$ 43,056,831
3. Residential Hard-to-Measure	-	n/a	\$ -	\$ 3,310,274
Residential Statewide Marketing	-	n/a	\$ -	\$ 614,462
Residential DOER Assessment	-	n/a	\$ -	\$ 369,223
Residential EEAC Consultants	-	n/a	\$ -	\$ 415,319
Residential Sponsorships & Subscriptions	-	n/a	\$ -	\$ 145,584
Residential Workforce Development	-	n/a	\$ -	\$ 199,316
Residential Education	-	n/a	\$ -	\$ 271,417
Residential HEAT Loan	-	n/a	\$ -	\$ 924,706
Residential R&D and Demonstration	-	n/a	\$ -	\$ 370,246
Low-Income (total)	1.50	\$ 18,050,150	\$ 54,277,833	\$ 36,227,683
4. Low-Income Whole House	1.54	\$ 19,029,239	\$ 54,277,833	\$ 35,248,594
5. Low-Income Hard-to-Measure	-	n/a	\$ -	\$ 979,088
Low-Income Statewide Marketing & Educa	-	n/a	\$ -	\$ 175,092
Low-Income DOER Assessment	-	n/a	\$ -	\$ 183,030
Low-Income Energy Affordability Network	-	n/a	\$ -	\$ 620,966
Commercial & Industrial (total)	2.14	\$ 79,983,581	\$ 149,891,104	\$ 69,907,523
6. C&I New Construction	2.60	\$ 36,380,500	\$ 59,160,038	\$ 22,779,538
7. C&I Retrofit	1.97	\$ 44,601,112	\$ 90,731,066	\$ 46,129,954
8. C&I Hard-to-Measure	-	n/a	\$ -	\$ 998,031
C&I Statewide Marketing & Education	-	n/a	\$ -	\$ 518,123
C&I DOER Assessment	-	n/a	\$ -	\$ 205,536
C&I EEAC Consultants	-	n/a	\$ -	\$ 158,890
C&I Sponsorships & Subscriptions	-	n/a	\$ -	\$ 64,853
C&I Workforce Development	-	n/a	\$ -	\$ 50,629
GRAND TOTAL	1.76	\$ 162,291,585	\$ 375,350,793	\$ 213,059,209

Total Resource Cost Test, 2013-2015				
Sector	B/C Ratio	Net Benefits	Benefits	Costs (1)
Residential (total)	1.58	\$ 181,928,970	\$ 498,213,025	\$ 316,284,054
1. Residential Whole House	1.55	\$ 98,414,321	\$ 276,278,371	\$ 177,864,050
2. Residential Products	1.73	\$ 93,396,436	\$ 221,934,654	\$ 128,538,218
3. Residential Hard-to-Measure	-	n/a	\$ -	\$ 9,881,787
Residential Statewide Marketing	-	n/a	\$ -	\$ 1,827,110
Residential DOER Assessment	-	n/a	\$ -	\$ 1,108,113
Residential EEAC Consultants	-	n/a	\$ -	\$ 1,242,696
Residential Sponsorships & Subscriptions	-	n/a	\$ -	\$ 425,265
Residential Workforce Development	-	n/a	\$ -	\$ 597,903
Residential Education	-	n/a	\$ -	\$ 832,788
Residential HEAT Loan	-	n/a	\$ -	\$ 2,772,102
Residential R&D and Demonstration	-	n/a	\$ -	\$ 1,075,810
Low-Income (total)	1.48	\$ 51,459,372	\$ 158,499,374	\$ 107,040,002
4. Low-Income Whole House	1.52	\$ 54,374,595	\$ 158,499,374	\$ 104,124,778
5. Low-Income Hard-to-Measure	-	n/a	\$ -	\$ 2,915,223
Low-Income Statewide Marketing & Educa	-	n/a	\$ -	\$ 527,221
Low-Income DOER Assessment	-	n/a	\$ -	\$ 541,863
Low-Income Energy Affordability Network	-	n/a	\$ -	\$ 1,846,139
Commercial & Industrial (total)	2.09	\$ 227,989,924	\$ 436,223,031	\$ 208,233,107
6. C&I New Construction	2.54	\$ 104,902,594	\$ 172,858,852	\$ 67,956,259
7. C&I Retrofit	1.92	\$ 126,085,474	\$ 263,364,178	\$ 137,278,704
8. C&I Hard-to-Measure	-	n/a	\$ -	\$ 2,998,144
C&I Statewide Marketing & Education	-	n/a	\$ -	\$ 1,554,104
C&I DOER Assessment	-	n/a	\$ -	\$ 625,948
C&I EEAC Consultants	-	n/a	\$ -	\$ 475,384
C&I Sponsorships & Subscriptions	-	n/a	\$ -	\$ 191,149
C&I Workforce Development	-	n/a	\$ -	\$ 151,559
GRAND TOTAL	1.73	\$ 461,378,266	\$ 1,092,935,429	\$ 631,557,163

Notes:

(1) See Table IV.D.2.1

B. Traditional Bill Impacts for each Program Administrator

A residential (R-1) customer using 600 kilowatt-hours (“kWh”) of electricity per month would experience a monthly bill increase of approximately \$0.95, or 1.2 percent on a total bill resulting from the EERF based on the 2013 budget and estimated funding when compared to rates currently in effect.

A low-income residential (R-2) customer using 600 kWh of electricity per month would experience a monthly bill increase of approximately \$0.25, or 0.4 percent on a total bill resulting from the EERF based on the 2013 budget and estimated funding when compared to rates currently in effect.

A small commercial and industrial (G-1) customer using 1,300 kilowatt-hours (“kWh”) of electricity per month would experience a monthly bill increase of approximately \$5.73, or 3.4 percent on a total bill resulting from the EERF based on the 2013 budget and estimated funding when compared to rates currently in effect.

Massachusetts Electric Company and Nantucket Electric Company d/b/a National Grid
 Exhibit B - Traditional Bill Impacts
 July 2, 2012
 2 of 2

600 kWh

Massachusetts Electric (R-1)	Existing		Proposed		Increase (Decrease)	% Change
	Rates	Charge	Rates	Charge		
Customer Charge	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00		
Base Distribution Energy Charge 1st 600	\$ 0.02797		\$ 0.02797			
Base Distribution Energy Charge Excess 600	\$ 0.03459		\$ 0.03459			
Basic Service Adjustment Factor	\$ (0.00098)		\$ (0.00098)			
Residential Assistance Adjustment Factor ("RAAF")	\$ 0.00210		\$ 0.00210			
Storm Recovery Adjustment Factor	\$ 0.00035		\$ 0.00035			
Pension PBOP Adjustment Factor	\$ 0.00246		\$ 0.00246			
Revenue Decoupling	\$ 0.00044		\$ 0.00044			
Attorney General Consulting Expenses Factor	\$ -		\$ -			
Solar Cost Adjustment Factor	\$ 0.00023		\$ 0.00023			
Default Service Reclass			\$ -			
Net Distribution Charge for Billing 1st 600	\$ 0.03257	\$ 19.54	\$ 0.03257	\$ 19.54		
Net Distribution Charge for Billing Excess 600	\$ 0.03919	\$ -	\$ 0.03919	\$ -		
Transition	\$ 0.00069	\$ 0.41	\$ 0.00069	\$ 0.41		
Base Energy Efficiency Charge	\$ 0.00250		\$ 0.00250			
Energy Efficiency Reconciliation Factor (1)	\$ 0.00572	\$ 4.93	\$ 0.00572	\$ 4.93		
Incremental EERF			\$ 0.00158	\$ 0.95	\$ 0.95	
Renewable Energy	\$ 0.00050	\$ 0.30	\$ 0.00050	\$ 0.30		
Transmission	\$ 0.01738	\$ 10.43	\$ 0.01738	\$ 10.43		
<u>Basic Service</u>	\$ 0.06718	\$ 40.31	\$ 0.06718	\$ 40.31		
Total		\$ 79.92		\$ 80.87	\$ 0.95	1.2%

Massachusetts Electric (R-2)	Existing		Proposed		Increase (Decrease)	% Change
	Rates	Charge	Rates	Charge		
Customer Charge	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00		
Base Distribution Energy Charge 1st 600	\$ 0.02797		\$ 0.02797			
Base Distribution Energy Charge Excess 600	\$ 0.03459		\$ 0.03459			
Basic Service Adjustment Factor	\$ (0.00098)		\$ (0.00098)			
Residential Assistance Adjustment Factor ("RAAF")	\$ 0.00210		\$ 0.00210			
Storm Recovery Adjustment Factor	\$ 0.00035		\$ 0.00035			
Pension PBOP Adjustment Factor	\$ 0.00246		\$ 0.00246			
Revenue Decoupling	\$ 0.00044		\$ 0.00044			
Attorney General Consulting Expenses Factor	\$ -		\$ -			
Solar Cost Adjustment Factor	\$ 0.00023		\$ 0.00023			
Standard Offer Adjustment Factor	\$ -		\$ -			
Net Distribution Charge for Billing 1st 600	\$ 0.03257	\$ 19.54	\$ 0.03257	\$ 19.54		
Net Distribution Charge for Billing Excess 600	\$ 0.03919	\$ -	\$ 0.03919	\$ -		
Transition	\$ 0.00069	\$ 0.41	\$ 0.00069	\$ 0.41		
Base Energy Efficiency Charge	\$ 0.00250		\$ 0.00250			
Energy Efficiency Reconciliation Factor (1)	\$ 0.00048	\$ 1.79	\$ 0.00048	\$ 1.79		
Incremental EERF			\$ 0.00055	\$ 0.33	\$ 0.33	
Renewable Energy	\$ 0.00050	\$ 0.30	\$ 0.00050	\$ 0.30		
Transmission	\$ 0.01738	\$ 10.43	\$ 0.01738	\$ 10.43		
<u>Basic Service</u>	\$ 0.06718	\$ 40.31	\$ 0.06718	\$ 40.31		
Total		\$ 76.78		\$ 77.11		
Low Income Discount		\$ 19.20		\$ 19.28	\$ 0.08	
Total		\$ 57.58		\$ 57.83	\$ 0.25	0.4%

1,300 kWh

Massachusetts Electric (G-1)	Existing		Proposed		Increase (Decrease)	% Change
	Rates	Charge	Rates	Charge		
Customer Charge	\$ 10.00	\$ 10.00	\$ 10.00	\$ 10.00		
Base Distribution Energy Charge 1st 600	\$ 0.03085		\$ 0.03085			
Base Distribution Energy Charge Excess 600	\$ 0.04857		\$ 0.04857			
Basic Service Adjustment Factor	\$ (0.00098)		\$ (0.00098)			
Residential Assistance Adjustment Factor ("RAAF")	\$ 0.00210		\$ 0.00210			
Storm Recovery Adjustment Factor	\$ 0.00035		\$ 0.00035			
Pension PBOP Adjustment Factor	\$ 0.00246		\$ 0.00246			
Revenue Decoupling	\$ 0.00044		\$ 0.00044			
Attorney General Consulting Expenses Factor	\$ -		\$ -			
Solar Cost Adjustment Factor	\$ 0.00023		\$ 0.00023			
Default Service Reclass			\$ -			
Net Distribution Charge for Billing 1st 2,000	\$ 0.03545	\$ 46.09	\$ 0.03545	\$ 46.09		
Net Distribution Charge for Billing Excess 2,000	\$ 0.05317	\$ -	\$ 0.05317	\$ -		
Transition	\$ 0.00052	\$ 0.68	\$ 0.00052	\$ 0.68		
Base Energy Efficiency Charge	\$ 0.00250		\$ 0.00250			
Energy Efficiency Reconciliation Factor	\$ 0.00410	\$ 8.58	\$ 0.00410	\$ 8.58		
Incremental EERF			\$ 0.00441	\$ 5.73	\$ 5.73	
Renewable Energy	\$ 0.00050	\$ 0.65	\$ 0.00050	\$ 0.65		
Transmission	\$ 0.01629	\$ 21.18	\$ 0.01629	\$ 21.18		
<u>Basic Service</u>	\$ 0.06391	\$ 83.08	\$ 0.06391	\$ 83.08		
Total		\$ 170.26		\$ 175.99	\$ 5.73	3.4%

BOSTON EDISON COMPANY
 TYPICAL BILL ANALYSIS
 RESIDENTIAL RATE R-1

CUM % BILLS	KW	MONTHLY KWH	PRESENT RATE			PROPOSED RATE			DIFFERENCE	
			TOTAL	SUPPLIER	DELIVERY	TOTAL	SUPPLIER	DELIVERY	AMOUNT	%
10		148	\$28.69	\$9.95	\$18.74	\$29.00	\$9.95	\$19.05	\$0.31	1.1%
20		206	\$37.30	\$13.80	\$23.50	\$37.73	\$13.80	\$23.93	\$0.43	1.2%
30		268	\$46.61	\$17.96	\$28.65	\$47.17	\$17.96	\$29.21	\$0.56	1.2%
40		333	\$56.43	\$22.35	\$34.08	\$57.13	\$22.35	\$34.78	\$0.70	1.2%
50		408	\$67.57	\$27.33	\$40.24	\$68.42	\$27.33	\$41.09	\$0.85	1.3%
60		497	\$80.94	\$33.30	\$47.64	\$81.97	\$33.30	\$48.67	\$1.03	1.3%
70		610	\$97.83	\$40.85	\$56.98	\$99.10	\$40.85	\$58.25	\$1.27	1.3%
80		762	\$120.71	\$51.08	\$69.63	\$122.30	\$51.08	\$71.22	\$1.59	1.3%
90		1,008	\$157.54	\$67.54	\$90.00	\$159.65	\$67.54	\$92.11	\$2.11	1.3%
AVG.USE		586	\$94.30	\$39.28	\$55.02	\$95.53	\$39.28	\$56.25	\$1.23	1.3%

PRESENT RATE

RESIDENTIAL RATE R-1

DELIVERY SERVICES:

CUSTOMER		\$6.43	PER BILL
DISTRIBUTION	ALL KWH @	4.610	CENTS/KWH
TRANSITION	" "	1.013	" "
TRANSMISSION	" "	1.435	" "
DEMAND-SIDE MGT	" "	0.250	" "
RENEWABLE ENERGY	" "	0.050	" "
TRANSITION RATE ADJ	" "	0.000	" "
DS ADJ + PENSION ADJ. + RAAF	" "	0.934	" "

SUPPLIER SERVICES:

DEFAULT SERVICE - FIXED	ALL KWH @	6.632	CENTS/KWH
DEFAULT SERVICE - ADDER		0.070	

PROPOSED RATE

RESIDENTIAL RATE R-1

DELIVERY SERVICES:

CUSTOMER		\$6.43	PER BILL
DISTRIBUTION	ALL KWH @	4.610	CENTS/KWH
TRANSITION	" "	1.013	" "
TRANSMISSION	" "	1.435	" "
DEMAND-SIDE MGT	" "	0.250	" "
RENEWABLE ENERGY	" "	0.050	" "
TRANSITION RATE ADJ	" "	0.000	" "
DS ADJ + PENSION ADJ. + RAAF	" "	1.143	" "

SUPPLIER SERVICES:

DEFAULT SERVICE - FIXED	ALL KWH @	6.632	CENTS/KWH
DEFAULT SERVICE - ADDER		0.070	

BOSTON EDISON COMPANY
 TYPICAL BILL ANALYSIS
 RESIDENTIAL ASSISTANCE RATE R-2 (W/O SPACE HEATING) (R1)

CUM % BILLS	KW	MONTHLY KWH	PRESENT RATE			PROPOSED RATE			DIFFERENCE	
			TOTAL	SUPPLIER	DELIVERY	TOTAL	SUPPLIER	DELIVERY	AMOUNT	%
10		143	\$19.67	\$7.01	\$12.66	\$19.69	\$7.01	\$12.68	\$0.02	0.1%
20		188	\$24.39	\$9.22	\$15.17	\$24.42	\$9.22	\$15.20	\$0.03	0.1%
30		234	\$29.18	\$11.46	\$17.72	\$29.23	\$11.46	\$17.77	\$0.05	0.2%
40		282	\$34.18	\$13.80	\$20.38	\$34.22	\$13.80	\$20.42	\$0.04	0.1%
50		333	\$39.50	\$16.29	\$23.21	\$39.56	\$16.29	\$23.27	\$0.06	0.2%
60		392	\$45.67	\$19.18	\$26.49	\$45.74	\$19.18	\$26.56	\$0.07	0.2%
70		463	\$53.13	\$22.67	\$30.46	\$53.21	\$22.67	\$30.54	\$0.08	0.2%
80		559	\$63.15	\$27.36	\$35.79	\$63.25	\$27.36	\$35.89	\$0.10	0.2%
90		717	\$79.66	\$35.09	\$44.57	\$79.79	\$35.09	\$44.70	\$0.13	0.2%
AVG.USE		449	\$51.65	\$21.98	\$29.67	\$51.73	\$21.98	\$29.75	\$0.08	0.2%

PRESENT RATE

RESIDENTIAL ASSISTANCE RATE R-2 (W/O SPACE HEATING)

DELIVERY SERVICES:

CUSTOMER		\$6.43	PER BILL
DISTRIBUTION	ALL KWH @	4.610	CENTS/KWH
TRANSITION	" "	1.013	" "
TRANSMISSION	" "	1.435	" "
DEMAND-SIDE MGT	" "	0.250	" "
RENEWABLE ENERGY	" "	0.050	" "
TRANSITION RATE ADJ	" "	0.000	" "
DS ADJ + PENSION ADJ. + RAAF	" "	0.259	" "

SUPPLIER SERVICES:

DEFAULT SERVICE - FIXED	ALL KWH @	6.632	CENTS/KWH
DEFAULT SERVICE - ADDER		0.070	

LOW INCOME DISCOUNT 27.0%

PROPOSED RATE

RESIDENTIAL ASSISTANCE RATE R-2 (W/O SPACE HEATING)

DELIVERY SERVICES:

CUSTOMER		\$6.43	PER BILL
DISTRIBUTION	ALL KWH @	4.610	CENTS/KWH
TRANSITION	" "	1.013	" "
TRANSMISSION	" "	1.435	" "
DEMAND-SIDE MGT	" "	0.250	" "
RENEWABLE ENERGY	" "	0.050	" "
TRANSITION RATE ADJ	" "	0.000	" "
DS ADJ + PENSION ADJ. + RAAF	" "	0.283	" "

SUPPLIER SERVICES:

DEFAULT SERVICE - FIXED	ALL KWH @	6.632	CENTS/KWH
DEFAULT SERVICE - ADDER		0.070	

LOW INCOME DISCOUNT 27.0%

BOSTON EDISON COMPANY
 TYPICAL BILL ANALYSIS
 GENERAL RATE G-1 (DEMAND)

HRS USE= CUM % BILLS	150 WINTER KW	KWH	PRESENT RATE			PROPOSED RATE			DIFFERENCE	
			TOTAL	SUPPLIER	DELIVERY	TOTAL	SUPPLIER	DELIVERY	AMOUNT	%
10	1	150	\$33.23	\$10.03	\$23.20	\$33.39	\$10.03	\$23.36	\$0.16	0.5%
20	2	300	\$54.38	\$20.07	\$34.31	\$54.71	\$20.07	\$34.64	\$0.33	0.6%
30	3	450	\$75.52	\$30.10	\$45.42	\$76.01	\$30.10	\$45.91	\$0.49	0.6%
40	3	450	\$75.52	\$30.10	\$45.42	\$76.01	\$30.10	\$45.91	\$0.49	0.6%
50	4	600	\$96.66	\$40.13	\$56.53	\$97.32	\$40.13	\$57.19	\$0.66	0.7%
60	5	750	\$117.81	\$50.17	\$67.64	\$118.63	\$50.17	\$68.46	\$0.82	0.7%
70	6	900	\$138.94	\$60.20	\$78.74	\$139.93	\$60.20	\$79.73	\$0.99	0.7%
80	6	900	\$138.94	\$60.20	\$78.74	\$139.93	\$60.20	\$79.73	\$0.99	0.7%
90	8	1,200	\$181.23	\$80.27	\$100.96	\$182.55	\$80.27	\$102.28	\$1.32	0.7%
AVG.USE	5	750	\$117.81	\$50.17	\$67.64	\$118.63	\$50.17	\$68.46	\$0.82	0.7%

PRESENT RATE

GENERAL RATE G-1 (WITH DEMAND)

DELIVERY SERVICES:

CUSTOMER		\$12.09	PER BILL	
		FIRST 10 kw	OVER 10 kw	PER KW
DISTRIBUTION (summer)		\$0.00	\$0.86	PER KW
DISTRIBUTION (winter)		\$0.00	\$0.28	
TRANSMISSION (summer)		\$0.00	\$30.40	" "
TRANSMISSION (winter)		\$0.00	\$9.91	" "

		1st 2000 kwh	next 150 hrs	additional kwh	CENTS/KWH
DISTRIBUTION (summer)		6.821	4.167	2.618	" "
DISTRIBUTION (winter)		4.270	3.722	2.494	" "
TRANSITION (summer)		1.013	1.013	1.013	" "
TRANSITION (winter)		1.013	1.013	1.013	" "
TRANSMISSION (summer)		1.032	1.032	0.000	" "
TRANSMISSION (winter)		1.032	1.032	0.000	" "
DEMAND-SIDE MGT		0.250	0.250	0.250	" "
RENEWABLE ENERGY		0.050	0.050	0.050	" "
TRANSIT RATE ADJ (summer)		-0.004	-0.004	-0.004	" "
TRANSIT RATE ADJ (winter)		-0.004	-0.004	-0.004	" "
DS ADJ + PENSION ADJ. + RAAF		0.795	0.795	0.795	" "

SUPPLIER SERVICES:

DEFAULT SERVI CE - FIXED	6.619	6.619	6.619	CENTS/KWH
DEFAULT SERVI CE - ADDER	0.070	0.070	0.070	" "

PROPOSED RATE

GENERAL RATE G-1 (WITH DEMAND)

DELIVERY SERVICES:

CUSTOMER		\$12.09	PER BILL	
		FIRST 10 kw	OVER 10 kw	PER KW
DISTRIBUTION (summer)		\$0.00	\$0.86	PER KW
DISTRIBUTION (winter)		\$0.00	\$0.28	
TRANSMISSION (summer)		\$0.00	\$30.40	" "
TRANSMISSION (winter)		\$0.00	\$9.91	" "

		1st 2000 kwh	next 150 hrs	additional kwh	CENTS/KWH
DISTRIBUTION (summer)		6.821	4.167	2.618	" "
DISTRIBUTION (winter)		4.270	3.722	2.494	" "
TRANSITION (summer)		1.013	1.013	1.013	" "
TRANSITION (winter)		1.013	1.013	1.013	" "
TRANSMISSION (summer)		1.032	1.032	0.000	" "
TRANSMISSION (winter)		1.032	1.032	0.000	" "
DEMAND-SIDE MGT		0.250	0.250	0.250	" "
RENEWABLE ENERGY		0.050	0.050	0.050	" "
TRANSIT RATE ADJ (summer)		-0.004	-0.004	-0.004	" "
TRANSIT RATE ADJ (winter)		-0.004	-0.004	-0.004	" "
DS ADJ + PENSION ADJ. + RAAF		0.905	0.905	0.905	" "

SUPPLIER SERVICES:

DEFAULT SERVI CE - FIXED	6.619	6.619	6.619	CENTS/KWH
DEFAULT SERVI CE - ADDER	0.070	0.070	0.070	" "

BOSTON EDISON COMPANY
 TYPICAL BILL ANALYSIS
GENERAL RATE G-1 (DEMAND)

HRS USE= CUM % BILLS	150 SUMMER KW	KWH	PRESENT RATE			PROPOSED RATE			DIFFERENCE	
			TOTAL	SUPPLIER	DELIVERY	TOTAL	SUPPLIER	DELIVERY	AMOUNT	%
10	1	150	\$37.06	\$10.03	\$27.03	\$37.22	\$10.03	\$27.19	\$0.16	0.4%
20	2	300	\$62.03	\$20.07	\$41.96	\$62.36	\$20.07	\$42.29	\$0.33	0.5%
30	3	450	\$87.00	\$30.10	\$56.90	\$87.49	\$30.10	\$57.39	\$0.49	0.6%
40	4	600	\$111.96	\$40.13	\$71.83	\$112.62	\$40.13	\$72.49	\$0.66	0.6%
50	4	600	\$111.96	\$40.13	\$71.83	\$112.62	\$40.13	\$72.49	\$0.66	0.6%
60	5	750	\$136.94	\$50.17	\$86.77	\$137.76	\$50.17	\$87.59	\$0.82	0.6%
70	6	900	\$161.90	\$60.20	\$101.70	\$162.89	\$60.20	\$102.69	\$0.99	0.6%
80	7	1,050	\$186.87	\$70.23	\$116.64	\$188.02	\$70.23	\$117.79	\$1.15	0.6%
90	8	1,200	\$211.84	\$80.27	\$131.57	\$213.16	\$80.27	\$132.89	\$1.32	0.6%
AVG.USE	5	750	\$136.94	\$50.17	\$86.77	\$137.76	\$50.17	\$87.59	\$0.82	0.6%

PRESENT RATE

PROPOSED RATE

GENERAL RATE G-1 (WITH DEMAND)

GENERAL RATE G-1 (WITH DEMAND)

DELIVERY SERVICES:

DELIVERY SERVICES:

CUSTOMER		\$12.09	PER BILL	
		FIRST 10 kw	OVER 10 kw	
DISTRIBUTION (summer)		\$0.00	\$0.86	PER KW
DISTRIBUTION (winter)		\$0.00	\$0.28	
TRANSMISSION (summer)		\$0.00	\$30.40	" "
TRANSMISSION (winter)		\$0.00	\$9.91	" "

CUSTOMER		\$12.09	PER BILL	
		FIRST 10 kw	OVER 10 kw	
DISTRIBUTION (summer)		\$0.00	\$0.86	PER KW
DISTRIBUTION (winter)		\$0.00	\$0.28	
TRANSMISSION (summer)		\$30.40	" "	
TRANSMISSION (winter)		\$9.91	" "	

		1st 2000 kwh	next 150 hrs	additional kwh	
DISTRIBUTION (summer)		6.821	4.167	2.618	CENTS/KWH
DISTRIBUTION (winter)		4.270	3.722	2.494	" "
TRANSITION (summer)		1.013	1.013	1.013	" "
TRANSITION (winter)		1.013	1.013	1.013	" "
TRANSMISSION (summer)		1.032	1.032	0.000	" "
TRANSMISSION (winter)		1.032	1.032	0.000	" "
DEMAND-SIDE MGT		0.250	0.250	0.250	" "
RENEWABLE ENERGY		0.050	0.050	0.050	" "
TRANSIT RATE ADJ (summer)		-0.004	-0.004	-0.004	" "
TRANSIT RATE ADJ (winter)		-0.004	-0.004	-0.004	" "
DS ADJ + PENSION ADJ. + RAAF		0.795	0.795	0.795	" "

		1st 2000 kwh	next 150 hrs	additional kwh	
DISTRIBUTION (summer)		6.821	4.167	2.618	CENTS/KWH
DISTRIBUTION (winter)		4.270	3.722	2.494	" "
TRANSITION (summer)		1.013	1.013	1.013	" "
TRANSITION (winter)		1.013	1.013	1.013	" "
TRANSMISSION (summer)		1.032	1.032	0.000	" "
TRANSMISSION (winter)		1.032	1.032	0.000	" "
DEMAND-SIDE MGT		0.250	0.250	0.250	" "
RENEWABLE ENERGY		0.050	0.050	0.050	" "
TRANSIT RATE ADJ (summer)		-0.004	-0.004	-0.004	" "
TRANSIT RATE ADJ (winter)		-0.004	-0.004	-0.004	" "
DS ADJ + PENSION ADJ. + RAAF		0.905	0.905	0.905	" "

SUPPLIER SERVICES:

SUPPLIER SERVICES:

DEFAULT SERVI CE - FIXED	6.619	6.619	6.619	CENTS/KWH
DEFAULT SERVI CE - ADDER	0.070	0.070	0.070	" "

DEFAULT SERVI CE - FIXED	6.619	6.619	6.619	CENTS/KWH
DEFAULT SERVI CE - ADDER	0.070	0.070	0.070	" "

BOSTON EDISON COMPANY
 TYPICAL BILL ANALYSIS
 GENERAL RATE G-1 (DEMAND)

HRS USE= CUM % BILLS	300 WINTER KW	KWH	PRESENT RATE			PROPOSED RATE			DIFFERENCE	
			TOTAL	SUPPLIER	DELIVERY	TOTAL	SUPPLIER	DELIVERY	AMOUNT	%
10	1	300	\$54.38	\$20.07	\$34.31	\$54.71	\$20.07	\$34.64	\$0.33	0.6%
20	2	600	\$96.66	\$40.13	\$56.53	\$97.32	\$40.13	\$57.19	\$0.66	0.7%
30	3	900	\$138.94	\$60.20	\$78.74	\$139.93	\$60.20	\$79.73	\$0.99	0.7%
40	3	900	\$138.94	\$60.20	\$78.74	\$139.93	\$60.20	\$79.73	\$0.99	0.7%
50	4	1,200	\$181.23	\$80.27	\$100.96	\$182.55	\$80.27	\$102.28	\$1.32	0.7%
60	5	1,500	\$223.52	\$100.34	\$123.18	\$225.17	\$100.34	\$124.83	\$1.65	0.7%
70	6	1,800	\$265.80	\$120.40	\$145.40	\$267.78	\$120.40	\$147.38	\$1.98	0.7%
80	6	1,800	\$265.80	\$120.40	\$145.40	\$267.78	\$120.40	\$147.38	\$1.98	0.7%
90	8	2,400	\$348.18	\$160.54	\$187.64	\$350.82	\$160.54	\$190.28	\$2.64	0.8%
AVG.USE	5	1,500	\$223.52	\$100.34	\$123.18	\$225.17	\$100.34	\$124.83	\$1.65	0.7%

PRESENT RATE

GENERAL RATE G-1 (WITH DEMAND)

DELIVERY SERVICES:

CUSTOMER	\$12.09		PER BILL
	FIRST 10 kw	OVER 10 kw	PER KW
DISTRIBUTION (summer)	\$0.00	\$0.86	
DISTRIBUTION (winter)	\$0.00	\$0.28	
TRANSMISSION (summer)	\$0.00	\$30.40	" "
TRANSMISSION (winter)	\$0.00	\$9.91	" "

	1st 2000 kwh	next 150 hrs	additional kwh	CENTS/KWH
DISTRIBUTION (summer)	6.821	4.167	2.618	" "
DISTRIBUTION (winter)	4.270	3.722	2.494	" "
TRANSITION (summer)	1.013	1.013	1.013	" "
TRANSITION (winter)	1.013	1.013	1.013	" "
TRANSMISSION (summer)	1.032	1.032	0.000	" "
TRANSMISSION (winter)	1.032	1.032	0.000	" "
DEMAND-SIDE MGT	0.250	0.250	0.250	" "
RENEWABLE ENERGY	0.050	0.050	0.050	" "
TRANSIT RATE ADJ (summer)	-0.004	-0.004	-0.004	" "
TRANSIT RATE ADJ (winter)	-0.004	-0.004	-0.004	" "
DS ADJ + PENSION ADJ. + RAAF	0.795	0.795	0.795	" "

SUPPLIER SERVICES:

DEFAULT SERVI CE - FIXED	6.619	6.619	6.619	CENTS/KWH
DEFAULT SERVI CE - ADDER	0.070	0.070	0.070	" "

PROPOSED RATE

GENERAL RATE G-1 (WITH DEMAND)

DELIVERY SERVICES:

CUSTOMER	\$12.09		PER BILL
	FIRST 10 kw	OVER 10 kw	PER KW
DISTRIBUTION (summer)	\$0.00	\$0.86	
DISTRIBUTION (winter)	\$0.00	\$0.28	
TRANSMISSION (summer)	\$0.00	\$30.40	" "
TRANSMISSION (winter)	\$0.00	\$9.91	" "

	1st 2000 kwh	next 150 hrs	additional kwh	CENTS/KWH
DISTRIBUTION (summer)	6.821	4.167	2.618	" "
DISTRIBUTION (winter)	4.270	3.722	2.494	" "
TRANSITION (summer)	1.013	1.013	1.013	" "
TRANSITION (winter)	1.013	1.013	1.013	" "
TRANSMISSION (summer)	1.032	1.032	0.000	" "
TRANSMISSION (winter)	1.032	1.032	0.000	" "
DEMAND-SIDE MGT	0.250	0.250	0.250	" "
RENEWABLE ENERGY	0.050	0.050	0.050	" "
TRANSIT RATE ADJ (summer)	-0.004	-0.004	-0.004	" "
TRANSIT RATE ADJ (winter)	-0.004	-0.004	-0.004	" "
DS ADJ + PENSION ADJ. + RAAF	0.905	0.905	0.905	" "

SUPPLIER SERVICES:

DEFAULT SERVI CE - FIXED	6.619	6.619	6.619	CENTS/KWH
DEFAULT SERVI CE - ADDER	0.070	0.070	0.070	" "

BOSTON EDISON COMPANY
TYPICAL BILL ANALYSIS
GENERAL RATE G-1 (DEMAND)

HRS USE= CUM % BILLS	300 SUMMER KW	KWH	PRESENT RATE			PROPOSED RATE			DIFFERENCE	
			TOTAL	SUPPLIER	DELIVERY	TOTAL	SUPPLIER	DELIVERY	AMOUNT	%
10	1	300	\$62.03	\$20.07	\$41.96	\$62.36	\$20.07	\$42.29	\$0.33	0.5%
20	2	600	\$111.96	\$40.13	\$71.83	\$112.62	\$40.13	\$72.49	\$0.66	0.6%
30	3	900	\$161.90	\$60.20	\$101.70	\$162.89	\$60.20	\$102.69	\$0.99	0.6%
40	4	1,200	\$211.84	\$80.27	\$131.57	\$213.16	\$80.27	\$132.89	\$1.32	0.6%
50	4	1,200	\$211.84	\$80.27	\$131.57	\$213.16	\$80.27	\$132.89	\$1.32	0.6%
60	5	1,500	\$261.79	\$100.34	\$161.45	\$263.44	\$100.34	\$163.10	\$1.65	0.6%
70	6	1,800	\$311.72	\$120.40	\$191.32	\$313.70	\$120.40	\$193.30	\$1.98	0.6%
80	7	2,100	\$359.00	\$140.47	\$218.53	\$361.31	\$140.47	\$220.84	\$2.31	0.6%
90	8	2,400	\$400.98	\$160.54	\$240.44	\$403.62	\$160.54	\$243.08	\$2.64	0.7%
AVG.USE	5	1,500	\$261.79	\$100.34	\$161.45	\$263.44	\$100.34	\$163.10	\$1.65	0.6%

PRESENT RATE

PROPOSED RATE

GENERAL RATE G-1 (WITH DEMAND)

GENERAL RATE G-1 (WITH DEMAND)

DELIVERY SERVICES:

DELIVERY SERVICES:

CUSTOMER	\$12.09	PER BILL		
<u>FIRST 10 kw OVER 10 kw</u>				
DISTRIBUTION (summer)	\$0.00	\$0.86	PER KW	
DISTRIBUTION (winter)	\$0.00	\$0.28		
TRANSMISSION (summer)	\$0.00	\$30.40	" "	
TRANSMISSION (winter)	\$0.00	\$9.91	" "	

CUSTOMER	\$12.09	PER BILL		
<u>FIRST 10 kw OVER 10 kw</u>				
DISTRIBUTION (summer)	\$0.00	\$0.86	PER KW	
DISTRIBUTION (winter)	\$0.00	\$0.28		
TRANSMISSION (summer)	\$0.00	\$30.40	" "	
TRANSMISSION (winter)	\$0.00	\$9.91	" "	

<u>1st 2000 kw next 150 hrs additional kw</u>				
DISTRIBUTION (summer)	6.821	4.167	2.618	CENTS/KWH
DISTRIBUTION (winter)	4.270	3.722	2.494	" "
TRANSITION (summer)	1.013	1.013	1.013	" "
TRANSITION (winter)	1.013	1.013	1.013	" "
TRANSMISSION (summer)	1.032	1.032	0.000	" "
TRANSMISSION (winter)	1.032	1.032	0.000	" "
DEMAND-SIDE MGT	0.250	0.250	0.250	" "
RENEWABLE ENERGY	0.050	0.050	0.050	" "
TRANSIT RATE ADJ (summer)	-0.004	-0.004	-0.004	" "
TRANSIT RATE ADJ (winter)	-0.004	-0.004	-0.004	" "
DS ADJ + PENSION ADJ. + RAAF	0.795	0.795	0.795	" "

<u>1st 2000 kw next 150 hrs additional kw</u>				
DISTRIBUTION (summer)	6.821	4.167	2.618	CENTS/KWH
DISTRIBUTION (winter)	4.270	3.722	2.494	" "
TRANSITION (summer)	1.013	1.013	1.013	" "
TRANSITION (winter)	1.013	1.013	1.013	" "
TRANSMISSION (summer)	1.032	1.032	0.000	" "
TRANSMISSION (winter)	1.032	1.032	0.000	" "
DEMAND-SIDE MGT	0.250	0.250	0.250	" "
RENEWABLE ENERGY	0.050	0.050	0.050	" "
TRANSIT RATE ADJ (summer)	-0.004	-0.004	-0.004	" "
TRANSIT RATE ADJ (winter)	-0.004	-0.004	-0.004	" "
DS ADJ + PENSION ADJ. + RAAF	0.905	0.905	0.905	" "

SUPPLIER SERVICES:

SUPPLIER SERVICES:

DEFAULT SERVI CE - FIXED	6.619	6.619	6.619	CENTS/KWH
DEFAULT SERVI CE - ADDER	0.070	0.070	0.070	" "

DEFAULT SERVI CE - FIXED	6.619	6.619	6.619	CENTS/KWH
DEFAULT SERVI CE - ADDER	0.070	0.070	0.070	" "

CAMBRIDGE ELECTRIC LIGHT COMPANY
 TYPICAL BILL ANALYSIS
 RESIDENTIAL RATE R-1

CUM % BILLS	KW	MONTHLY KWH	PRESENT RATE			PROPOSED RATE			DIFFERENCE	
			TOTAL	SUPPLIER	DELIVERY	TOTAL	SUPPLIER	DELIVERY	AMOUNT	%
10		106	\$21.23	\$7.10	\$14.13	\$21.45	\$7.10	\$14.35	\$0.22	1.0%
20		144	\$26.39	\$9.65	\$16.74	\$26.69	\$9.65	\$17.04	\$0.30	1.1%
30		185	\$31.94	\$12.40	\$19.54	\$32.33	\$12.40	\$19.93	\$0.39	1.2%
40		227	\$37.63	\$15.21	\$22.42	\$38.11	\$15.21	\$22.90	\$0.48	1.3%
50		272	\$43.73	\$18.23	\$25.50	\$44.30	\$18.23	\$26.07	\$0.57	1.3%
60		325	\$50.92	\$21.78	\$29.14	\$51.60	\$21.78	\$29.82	\$0.68	1.3%
70		392	\$60.00	\$26.27	\$33.73	\$60.82	\$26.27	\$34.55	\$0.82	1.4%
80		488	\$73.01	\$32.71	\$40.30	\$74.03	\$32.71	\$41.32	\$1.02	1.4%
90		646	\$94.42	\$43.29	\$51.13	\$95.77	\$43.29	\$52.48	\$1.35	1.4%
AVG.USE		393	\$60.13	\$26.34	\$33.79	\$60.96	\$26.34	\$34.62	\$0.83	1.4%

PRESENT RATE

RESIDENTIAL RATE R-1

DELIVERY SERVICES:

CUSTOMER		\$6.87	PER BILL
DISTRIBUTION	ALL KWH @	3.847	CENTS/KWH
TRANSITION	" "	0.074	" "
TRANSMISSION	" "	1.762	" "
TRANSITION RATE ADJ	" "	0.000	" "
PAF/RAAF/EERF	" "	0.897	" "
DEFAULT SERV ADJ	" "	-0.029	" "
DEMAND-SIDE MGT	" "	0.250	" "
RENEWABLE ENERGY	" "	0.050	" "

SUPPLIER SERVICES:

DEFAULT SERVICE - FIXED	ALL KWH @	6.632	CENTS/KWH
DEFAULT SERVICE - ADDER		0.070	

PROPOSED RATE

RESIDENTIAL RATE R-1

DELIVERY SERVICES:

CUSTOMER		\$6.87	PER BILL
DISTRIBUTION	ALL KWH @	3.847	CENTS/KWH
TRANSITION	" "	0.074	" "
TRANSMISSION	" "	1.762	" "
TRANSITION RATE ADJ	" "	0.000	" "
PAF/RAAF/EERF	" "	1.106	" "
DEFAULT SERV ADJ	" "	(0.029)	" "
DEMAND-SIDE MGT	" "	0.250	" "
RENEWABLE ENERGY	" "	0.050	" "

SUPPLIER SERVICES:

DEFAULT SERVICE - FIXED	ALL KWH @	6.632	CENTS/KWH
DEFAULT SERVICE - ADDER		0.070	

CAMBRIDGE ELECTRIC LIGHT COMPANY
 TYPICAL BILL ANALYSIS
 RESIDENTIAL ASSISTANCE RATE R-2 (R1)

CUM % BILLS	KW	MONTHLY KWH	PRESENT RATE			PROPOSED RATE			DIFFERENCE	
			TOTAL	SUPPLIER	DELIVERY	TOTAL	SUPPLIER	DELIVERY	AMOUNT	%
10		116	\$16.38	\$5.84	\$10.54	\$16.40	\$5.84	\$10.56	\$0.02	0.1%
20		156	\$20.24	\$7.85	\$12.39	\$20.27	\$7.85	\$12.42	\$0.03	0.1%
30		194	\$23.92	\$9.76	\$14.16	\$23.95	\$9.76	\$14.19	\$0.03	0.1%
40		225	\$26.92	\$11.32	\$15.60	\$26.96	\$11.32	\$15.64	\$0.04	0.1%
50		266	\$30.89	\$13.39	\$17.50	\$30.93	\$13.39	\$17.54	\$0.04	0.1%
60		309	\$35.04	\$15.55	\$19.49	\$35.10	\$15.55	\$19.55	\$0.06	0.2%
70		362	\$40.17	\$18.22	\$21.95	\$40.23	\$18.22	\$22.01	\$0.06	0.1%
80		431	\$46.84	\$21.69	\$25.15	\$46.92	\$21.69	\$25.23	\$0.08	0.2%
90		541	\$57.48	\$27.23	\$30.25	\$57.58	\$27.23	\$30.35	\$0.10	0.2%
AVG.USE		333	\$37.36	\$16.76	\$20.60	\$37.42	\$16.76	\$20.66	\$0.06	0.2%

PRESENT RATE

RESIDENTIAL ASSISTANCE RATE R-2

DELIVERY SERVICES:

CUSTOMER		\$6.87	PER BILL
DISTRIBUTION	ALL KWH @	3.847	CENTS/KWH
TRANSITION	" "	0.074	" "
TRANSMISSION	" "	1.762	" "
TRANSITION RATE ADJ	" "	0.000	" "
PAF/RAAF/EERF	" "	0.222	" "
DEFAULT SERV ADJ	" "	-0.029	" "
DEMAND-SIDE MGT	" "	0.250	" "
RENEWABLE ENERGY	" "	0.050	" "

SUPPLIER SERVICES:

DEFAULT SERVICE - FIXED	ALL KWH @	6.632	CENTS/KWH
DEFAULT SERVICE - ADDER		0.070	" "

LOW INCOME DISCOUNT: 24.9%

PROPOSED RATE

RESIDENTIAL ASSISTANCE RATE R-2

DELIVERY SERVICES:

CUSTOMER		\$6.87	PER BILL
DISTRIBUTION	ALL KWH @	3.847	CENTS/KWH
TRANSITION	" "	0.074	" "
TRANSMISSION	" "	1.762	" "
TRANSITION RATE ADJ	" "	0.000	" "
PAF/RAAF/EERF	" "	0.246	" "
DEFAULT SERV ADJ	" "	(0.029)	" "
DEMAND-SIDE MGT	" "	0.250	" "
RENEWABLE ENERGY	" "	0.050	" "

SUPPLIER SERVICES:

DEFAULT SERVICE - FIXED	ALL KWH @	6.632	CENTS/KWH
DEFAULT SERVICE - ADDER		0.070	" "

LOW INCOME DISCOUNT: 24.9%

CAMBRIDGE ELECTRIC LIGHT COMPANY
 TYPICAL BILL ANALYSIS
 GENERAL RATE G-1 (DEMAND)

LF = CUM % BILLS	AVERAGE 0.420 MONTHLY KW		PRESENT RATE			PROPOSED RATE			DIFFERENCE	
	MONTHLY KWH	MONTHLY KWH	TOTAL	SUPPLIER	DELIVERY	TOTAL	SUPPLIER	DELIVERY	AMOUNT	%
10	5	1,546	\$189.34	\$103.41	\$85.93	\$191.04	\$103.41	\$87.63	\$1.70	0.9%
20	7	2,308	\$274.96	\$154.38	\$120.58	\$277.49	\$154.38	\$123.11	\$2.53	0.9%
30	10	3,125	\$374.31	\$209.03	\$165.28	\$377.74	\$209.03	\$168.71	\$3.43	0.9%
40	12	3,872	\$465.09	\$259.00	\$206.09	\$469.35	\$259.00	\$210.35	\$4.26	0.9%
50	16	4,875	\$602.85	\$326.09	\$276.76	\$608.22	\$326.09	\$282.13	\$5.37	0.9%
60	20	6,237	\$772.63	\$417.19	\$355.44	\$779.49	\$417.19	\$362.30	\$6.86	0.9%
70	26	8,024	\$1,004.48	\$536.73	\$467.75	\$1,013.31	\$536.73	\$476.58	\$8.83	0.9%
80	37	11,418	\$1,440.04	\$763.75	\$676.29	\$1,452.60	\$763.75	\$688.85	\$12.56	0.9%
90	56	17,349	\$2,198.48	\$1,160.47	\$1,038.01	\$2,217.56	\$1,160.47	\$1,057.09	\$19.08	0.9%
AVG.USE	28	8,746	\$1,093.03	\$585.02	\$508.01	\$1,102.65	\$585.02	\$517.63	\$9.62	0.9%

PRESENT RATE

GENERAL RATE G-1

DELIVERY SERVICES:

CUSTOMER			\$7.32	PER BILL
	FIRST 10	OVER 10		
DISTRIBUTION (DEMAND)	\$3.76	\$7.01		PER KW
TRANSITION	\$0.24	\$0.24	"	"
TRANSMISSION	\$4.92	\$4.92	"	"
TRANSITION RATE ADJ	\$ (0.09)	\$ (0.09)		
DISTRIBUTION (ENERGY)	ALL KWH @	1.200	CENTS/KWH	
TRANSMISSION	"	0.000	"	"
TRANSITION	"	0.000	"	"
TRANSITION RATE ADJ	"	0.000	"	"
PAF/RAAF/EERF	"	0.758	"	"
DEFAULT SERV ADJ	"	(0.029)	"	"
DEMAND-SIDE MGT	"	0.250	"	"
RENEWABLE ENERGY	"	0.050	"	"

SUPPLIER SERVICES:

DEFAULT SERVICE - FIXED	ALL KWH @	6.619	CENTS/KWH
DEFAULT SERVICE - ADDER		0.070	

PROPOSED RATE

GENERAL RATE G-1

DELIVERY SERVICES:

CUSTOMER			\$7.32	PER BILL
	FIRST 10	OVER 10		
DISTRIBUTION (DEMAND)	\$3.76	\$7.01		PER KW
TRANSITION	\$0.24	\$0.24	"	"
TRANSMISSION	\$4.92	\$4.92	"	"
TRANSITION RATE ADJ	(\$0.09)	(\$0.09)		
DISTRIBUTION (ENERGY)	ALL KWH @	1.200	CENTS/KWH	
TRANSMISSION	"	0.000	"	"
TRANSITION	"	0.000	"	"
TRANSITION RATE ADJ	"	0.000	"	"
PAF/RAAF/EERF	"	0.868	"	"
DEFAULT SERV ADJ	"	(0.029)	"	"
DEMAND-SIDE MGT	"	0.250	"	"
RENEWABLE ENERGY	"	0.050	"	"

SUPPLIER SERVICES:

DEFAULT SERVICE - FIXED	ALL KWH @	6.619	CENTS/KWH
DEFAULT SERVICE - ADDER		0.070	"

CAMBRIDGE ELECTRIC LIGHT COMPANY
 TYPICAL BILL ANALYSIS
 GENERAL RATE G-1 (DEMAND)

LF = CUM % BILLS	HIGH 0.520 MONTHLY KW	MONTHLY KWH	PRESENT RATE			PROPOSED RATE			DIFFERENCE	
			TOTAL	SUPPLIER	DELIVERY	TOTAL	SUPPLIER	DELIVERY	AMOUNT	%
10	4	1,546	\$180.51	\$103.41	\$77.10	\$182.21	\$103.41	\$78.80	\$1.70	0.9%
20	6	2,308	\$266.13	\$154.38	\$111.75	\$268.66	\$154.38	\$114.28	\$2.53	1.0%
30	8	3,125	\$356.65	\$209.03	\$147.62	\$360.08	\$209.03	\$151.05	\$3.43	1.0%
40	10	3,872	\$440.93	\$259.00	\$181.93	\$445.19	\$259.00	\$186.19	\$4.26	1.0%
50	13	4,875	\$566.61	\$326.09	\$240.52	\$571.98	\$326.09	\$245.89	\$5.37	0.9%
60	16	6,237	\$724.31	\$417.19	\$307.12	\$731.17	\$417.19	\$313.98	\$6.86	0.9%
70	21	8,024	\$944.08	\$536.73	\$407.35	\$952.91	\$536.73	\$416.18	\$8.83	0.9%
80	30	11,418	\$1,355.48	\$763.75	\$591.73	\$1,368.04	\$763.75	\$604.29	\$12.56	0.9%
90	45	17,349	\$2,065.60	\$1,160.47	\$905.13	\$2,084.68	\$1,160.47	\$924.21	\$19.08	0.9%
AVG.USE	23	8,746	\$1,032.63	\$585.02	\$447.61	\$1,042.25	\$585.02	\$457.23	\$9.62	0.9%

PRESENT RATE

GENERAL RATE G-1

DELIVERY SERVICES:

CUSTOMER	\$7.32 PER BILL		PER KW
	FIRST 10	OVER 10	
DISTRIBUTION (DEMAND)	\$3.76	\$7.01	PER KW
TRANSITION	\$0.24	\$0.24	" "
TRANSMISSION	\$4.92	\$4.92	" "
TRANSITION RATE ADJ			
DISTRIBUTION (ENERGY)	ALL KWH @	1.200	CENTS/KWH
TRANSMISSION	" "	0.000	" "
TRANSITION	" "	0.000	" "
TRANSITION RATE ADJ	" "	0.000	" "
PAF/RAAF/EERF	" "	0.758	" "
DEFAULT SERV ADJ	" "	(0.029)	" "
DEMAND-SIDE MGT	" "	0.250	" "
RENEWABLE ENERGY	" "	0.050	" "

SUPPLIER SERVICES:

DEFAULT SERVICE - FIXED	ALL KWH @	6.619	CENTS/KWH
DEFAULT SERVICE - ADDER		0.070	" "

PROPOSED RATE

GENERAL RATE G-1

DELIVERY SERVICES:

CUSTOMER	\$7.32 PER BILL		PER KW
	FIRST 10	OVER 10	
DISTRIBUTION (DEMAND)	\$3.76	\$7.01	PER KW
TRANSITION	\$0.24	\$0.24	" "
TRANSMISSION	\$4.92	\$4.92	" "
TRANSITION RATE ADJ	(\$0.09)	(\$0.09)	" "
DISTRIBUTION (ENERGY)	ALL KWH @	1.200	CENTS/KWH
TRANSMISSION	" "	0.000	" "
TRANSITION	" "	0.000	" "
TRANSITION RATE ADJ	" "	0.000	" "
PAF/RAAF/EERF	" "	0.868	" "
DEFAULT SERV ADJ	" "	(0.029)	" "
DEMAND-SIDE MGT	" "	0.250	" "
RENEWABLE ENERGY	" "	0.050	" "

SUPPLIER SERVICES:

DEFAULT SERVICE - FIXED	ALL KWH @	6.619	CENTS/KWH
DEFAULT SERVICE - ADDER		0.070	" "

CAMBRIDGE ELECTRIC LIGHT COMPANY
 TYPICAL BILL ANALYSIS
 GENERAL RATE G-1 (DEMAND)

LF = CUM % BILLS	LOW 0.320 MONTHLY KW	MONTHLY KWH	PRESENT RATE			PROPOSED RATE			DIFFERENCE	
			TOTAL	SUPPLIER	DELIVERY	TOTAL	SUPPLIER	DELIVERY	AMOUNT	%
10	6	1,546	\$198.17	\$103.41	\$94.76	\$199.87	\$103.41	\$96.46	\$1.70	0.9%
20	10	2,308	\$301.45	\$154.38	\$147.07	\$303.98	\$154.38	\$149.60	\$2.53	0.8%
30	13	3,125	\$410.55	\$209.03	\$201.52	\$413.98	\$209.03	\$204.95	\$3.43	0.8%
40	16	3,872	\$513.41	\$259.00	\$254.41	\$517.67	\$259.00	\$258.67	\$4.26	0.8%
50	20	4,875	\$651.17	\$326.09	\$325.08	\$656.54	\$326.09	\$330.45	\$5.37	0.8%
60	26	6,237	\$845.11	\$417.19	\$427.92	\$851.97	\$417.19	\$434.78	\$6.86	0.8%
70	34	8,024	\$1,101.12	\$536.73	\$564.39	\$1,109.95	\$536.73	\$573.22	\$8.83	0.8%
80	48	11,418	\$1,572.92	\$763.75	\$809.17	\$1,585.48	\$763.75	\$821.73	\$12.56	0.8%
90	73	17,349	\$2,403.84	\$1,160.47	\$1,243.37	\$2,422.92	\$1,160.47	\$1,262.45	\$19.08	0.8%
AVG.USE	37	8,746	\$1,201.75	\$585.02	\$616.73	\$1,211.37	\$585.02	\$626.35	\$9.62	0.8%

PRESENT RATE

GENERAL RATE G-1

DELIVERY SERVICES:

CUSTOMER	\$7.32 PER BILL		
	FIRST 10	OVER 10	
DISTRIBUTION (DEMAND)	\$3.76	\$7.01	PER KW
TRANSITION	\$0.24	\$0.24	" "
TRANSMISSION	\$4.92	\$4.92	" "
TRANSITION RATE ADJ			
DISTRIBUTION (ENERGY)	ALL KWH @	1.200	CENTS/KWH
TRANSMISSION	" "	0.000	" "
TRANSITION	" "	0.000	" "
TRANSITION RATE ADJ	" "	0.000	" "
PAF/RAAF/EERF	" "	0.758	" "
DEFAULT SERV ADJ	" "	(0.029)	" "
DEMAND-SIDE MGT	" "	0.250	" "
RENEWABLE ENERGY	" "	0.050	" "

SUPPLIER SERVICES:

DEFAULT SERVICE - FIXED	ALL KWH @	6.619	CENTS/KWH
DEFAULT SERVICE - ADDER		0.070	

PROPOSED RATE

GENERAL RATE G-1

DELIVERY SERVICES:

CUSTOMER	\$7.32 PER BILL		
	FIRST 10	OVER 10	
DISTRIBUTION (DEMAND)	\$3.76	\$7.01	PER KW
TRANSITION	\$0.24	\$0.24	" "
TRANSMISSION	\$4.92	\$4.92	" "
TRANSITION RATE ADJ	(\$0.09)	(\$0.09)	" "
DISTRIBUTION (ENERGY)	ALL KWH @	1.200	CENTS/KWH
TRANSMISSION	" "	0.000	" "
TRANSITION	" "	0.000	" "
TRANSITION RATE ADJ	" "	0.000	" "
PAF/RAAF/EERF	" "	0.868	" "
DEFAULT SERV ADJ	" "	(0.029)	" "
DEMAND-SIDE MGT	" "	0.250	" "
RENEWABLE ENERGY	" "	0.050	" "

SUPPLIER SERVICES:

DEFAULT SERVICE - FIXED	ALL KWH @	6.619	CENTS/KWH
DEFAULT SERVICE - ADDER		0.070	" "

COMMONWEALTH ELECTRIC COMPANY
 TYPICAL BILL ANALYSIS
 RESIDENTIAL RATE R-1

CUM % BILLS	KW	MONTHLY KWH	PRESENT RATE			PROPOSED RATE			DIFFERENCE	
			TOTAL	SUPPLIER	DELIVERY	TOTAL	SUPPLIER	DELIVERY	AMOUNT	%
10		160	\$29.95	\$10.72	\$19.23	\$30.29	\$10.72	\$19.57	\$0.34	1.1%
20		230	\$41.42	\$15.41	\$26.01	\$41.91	\$15.41	\$26.50	0.49	1.2%
30		306	\$53.89	\$20.51	\$33.38	\$54.53	\$20.51	\$34.02	0.64	1.2%
40		382	\$66.34	\$25.60	\$40.74	\$67.14	\$25.60	\$41.54	0.80	1.2%
50		464	\$79.79	\$31.10	\$48.69	\$80.76	\$31.10	\$49.66	0.97	1.2%
60		555	\$94.70	\$37.20	\$57.50	\$95.86	\$37.20	\$58.66	1.16	1.2%
70		660	\$111.91	\$44.23	\$67.68	\$113.29	\$44.23	\$69.06	1.38	1.2%
80		793	\$133.71	\$53.15	\$80.56	\$135.37	\$53.15	\$82.22	1.66	1.2%
90		997	\$167.15	\$66.82	\$100.33	\$169.23	\$66.82	\$102.41	2.08	1.2%
AVG.USE		584	\$99.45	\$39.14	\$60.31	\$100.67	\$39.14	\$61.53	1.22	1.2%

PRESENT RATE

RESIDENTIAL RATE R-1 (ANNUAL)

DELIVERY SERVICES:

CUSTOMER		\$3.73	PER BILL
DISTRIBUTION	ALL KWH @	4.973	CENTS/KWH
TRANSITION	" "	1.864	" "
TRANSMISSION	" "	1.518	" "
TRANS RATE ADJ	" "	0.000	" "
PENS. ADJ FACT./RAAF/EERF	" "	1.063	" "
DEFAULT SERV ADJ	" "	-0.029	" "
DEMAND-SIDE MGT	" "	0.250	" "
RENEWABLE ENERGY	" "	0.050	" "

SUPPLIER SERVICES:

DEFAULT SERVICE - FIXED	ALL KWH @	6.632	CENTS/KWH
DEFAULT SERVICE - ADDER		0.070	

PROPOSED RATE

RESIDENTIAL RATE R-1 (ANNUAL)

DELIVERY SERVICES:

CUSTOMER		\$3.73	PER BILL
DISTRIBUTION	ALL KWH @	4.973	CENTS/KWH
TRANSITION	" "	1.864	" "
TRANSMISSION	" "	1.518	" "
TRANS RATE ADJ	" "	0.000	" "
PENS. ADJ FACT./RAAF/EERF	" "	1.272	" "
DEFAULT SERV ADJ	" "	-0.029	" "
DEMAND-SIDE MGT	" "	0.250	" "
RENEWABLE ENERGY	" "	0.050	" "

SUPPLIER SERVICES:

DEFAULT SERVICE - FIXED	ALL KWH @	6.632	CENTS/KWH
DEFAULT SERVICE - ADDER		0.070	

COMMONWEALTH ELECTRIC COMPANY
 TYPICAL BILL ANALYSIS
 RESIDENTIAL ASSISTANCE RATE R-2 (R1)

CUM % BILLS	KW	MONTHLY KWH	PRESENT RATE			PROPOSED RATE			DIFFERENCE	
			TOTAL	SUPPLIER	DELIVERY	TOTAL	SUPPLIER	DELIVERY	AMOUNT	%
10		146	\$20.67	\$7.58	\$13.09	\$20.70	\$7.58	\$13.12	\$0.03	0.1%
20		194	\$26.52	\$10.08	\$16.44	\$26.56	\$10.08	\$16.48	0.04	0.2%
30		243	\$32.49	\$12.62	\$19.87	\$32.53	\$12.62	\$19.91	0.04	0.1%
40		293	\$38.58	\$15.22	\$23.36	\$38.63	\$15.22	\$23.41	0.05	0.1%
50		350	\$45.52	\$18.18	\$27.34	\$45.59	\$18.18	\$27.41	0.07	0.2%
60		416	\$53.56	\$21.61	\$31.95	\$53.64	\$21.61	\$32.03	0.08	0.1%
70		497	\$63.42	\$25.81	\$37.61	\$63.51	\$25.81	\$37.70	0.09	0.1%
80		608	\$76.94	\$31.58	\$45.36	\$77.06	\$31.58	\$45.48	0.12	0.2%
90		785	\$98.50	\$40.77	\$57.73	\$98.65	\$40.77	\$57.88	0.15	0.2%
AVG.USE		483	\$61.72	\$25.09	\$36.63	\$61.81	\$25.09	\$36.72	0.09	0.1%

PRESENT RATE

RESIDENTIAL ASSISTANCE RATE R-2 (ANNUAL)

DELIVERY SERVICES:

CUSTOMER		\$3.73	PER BILL
DISTRIBUTION	ALL KWH @	4.973	CENTS/KWH
TRANSITION	" "	1.864	" "
TRANSMISSION	" "	1.518	" "
TRANS RATE ADJ	" "	0.000	" "
PENS. ADJ FACT./RAAF/EERF	" "	0.388	" "
DEFAULT SERV ADJ	" "	-0.029	" "
DEMAND-SIDE MGT	" "	0.250	" "
RENEWABLE ENERGY	" "	0.050	" "

SUPPLIER SERVICES:

DEFAULT SERVICE - FIXED	ALL KWH @	6.632	CENTS/KWH
DEFAULT SERVICE - ADDER		0.070	

LOW INCOME DISCOUNT: 22.5%

PROPOSED RATE

RESIDENTIAL ASSISTANCE RATE R-2 (ANNUAL)

DELIVERY SERVICES:

CUSTOMER		\$3.73	PER BILL
DISTRIBUTION	ALL KWH @	4.973	CENTS/KWH
TRANSITION	" "	1.864	" "
TRANSMISSION	" "	1.518	" "
TRANS RATE ADJ	" "	0.000	" "
PENS. ADJ FACT./RAAF/EERF	" "	0.412	" "
DEFAULT SERV ADJ	" "	-0.029	" "
DEMAND-SIDE MGT	" "	0.250	" "
RENEWABLE ENERGY	" "	0.050	" "

SUPPLIER SERVICES:

DEFAULT SERVICE - FIXED	ALL KWH @	6.632	CENTS/KWH
DEFAULT SERVICE - ADDER		0.070	

LOW INCOME DISCOUNT: 22.5%

COMMONWEALTH ELECTRIC COMPANY
 TYPICAL BILL ANALYSIS
 GENERAL RATE G-1

LF = CUM % BILLS	AVERAGE 0.408		PRESENT RATE			PROPOSED RATE			DIFFERENCE	
	MONTHLY KW	MONTHLY KWH	TOTAL	SUPPLIER	DELIVERY	TOTAL	SUPPLIER	DELIVERY	AMOUNT	%
10	0	13	\$7.54	\$0.87	\$6.67	\$7.55	\$0.87	\$6.68	\$0.01	0.1%
20	0	82	\$18.11	\$5.45	\$12.66	\$18.20	\$5.45	\$12.75	0.09	0.5%
30	1	186	\$34.18	\$12.42	\$21.76	\$34.38	\$12.42	\$21.96	0.20	0.6%
40	1	335	\$57.29	\$22.44	\$34.85	\$57.66	\$22.44	\$35.22	0.37	0.6%
50	2	525	\$86.55	\$35.12	\$51.43	\$87.13	\$35.12	\$52.01	0.58	0.7%
60	3	826	\$132.96	\$55.24	\$77.72	\$133.87	\$55.24	\$78.63	0.91	0.7%
70	4	1,275	\$202.21	\$85.26	\$116.95	\$203.61	\$85.26	\$118.35	1.40	0.7%
80	8	2,351	\$366.84	\$157.28	\$209.56	\$369.43	\$157.28	\$212.15	2.59	0.7%
90	17	4,950	\$725.78	\$331.11	\$394.67	\$731.23	\$331.11	\$400.12	5.45	0.8%
AVG.USE	8	2,396	\$372.42	\$160.27	\$212.15	\$375.06	\$160.27	\$214.79	2.64	0.7%

PRESENT RATE

GENERAL RATE G-1

DELIVERY SERVICES:

CUSTOMER		\$5.53	PER BILL
	FIRST 10	OVER 10	
DISTRIBUTION (DEMAND)	\$0.00	\$4.86	PER KW
TRANSMISSION	\$0.00	\$0.00	PER KW
	< 2300 KWH	>2300 KWH	CENTS/KWH
DISTRIBUTION (ENERGY)	4.140	1.213	
TRANSITION	1.864	1.864	" "
TRANSMISSION	1.544	1.544	" "
TRANS RATE ADJ	-0.002	-0.002	" "
PENS. ADJ FACT./RAAF/EERF	0.924	0.924	" "
DEFAULT SERV ADJ	-0.029	-0.029	" "
DEMAND-SIDE MGT	0.250	0.250	" "
RENEWABLE ENERGY	0.050	0.050	" "

SUPPLIER SERVICES:

DEFAULT SERVICE - FIXED	6.619	6.619	CENTS/KWH
DEFAULT SERVICE - ADDER	0.070	0.070	

PROPOSED RATE

GENERAL RATE G-1

DELIVERY SERVICES:

CUSTOMER		\$5.53	PER BILL
	FIRST 10	OVER 10	
DISTRIBUTION (DEMAND)	\$0.00	\$4.86	PER KW
TRANSMISSION	\$0.00	\$0.00	PER KW
	< 2300 KWH	>2300 KWH	CENTS/KWH
DISTRIBUTION (ENERGY)	4.140	1.213	
TRANSITION	1.864	1.864	" "
TRANSMISSION	1.544	1.544	" "
TRANS RATE ADJ	-0.002	-0.002	" "
PENS. ADJ FACT./RAAF/EERF	1.034	1.034	" "
DEFAULT SERV ADJ	-0.029	-0.029	" "
DEMAND-SIDE MGT	0.250	0.250	" "
RENEWABLE ENERGY	0.050	0.050	" "

SUPPLIER SERVICES:

DEFAULT SERVICE - FIXED	6.619	6.619	CENTS/KWH
DEFAULT SERVICE - ADDER	0.070	0.070	

COMMONWEALTH ELECTRIC COMPANY
 TYPICAL BILL ANALYSIS
 GENERAL RATE G-1

LF = CUM % BILLS	HIGH 0.508 MONTHLY KW	MONTHLY KWH	PRESENT RATE			PROPOSED RATE			DIFFERENCE	
			TOTAL	SUPPLIER	DELIVERY	TOTAL	SUPPLIER	DELIVERY	AMOUNT	%
10	0	13	\$7.54	\$0.87	\$6.67	\$7.55	\$0.87	\$6.68	\$0.01	0.1%
20	0	82	\$18.11	\$5.45	\$12.66	\$18.20	\$5.45	\$12.75	0.09	0.5%
30	1	186	\$34.18	\$12.42	\$21.76	\$34.38	\$12.42	\$21.96	0.20	0.6%
40	1	335	\$57.29	\$22.44	\$34.85	\$57.66	\$22.44	\$35.22	0.37	0.6%
50	1	525	\$86.55	\$35.12	\$51.43	\$87.13	\$35.12	\$52.01	0.58	0.7%
60	2	826	\$132.96	\$55.24	\$77.72	\$133.87	\$55.24	\$78.63	0.91	0.7%
70	3	1,275	\$202.21	\$85.26	\$116.95	\$203.61	\$85.26	\$118.35	1.40	0.7%
80	6	2,351	\$366.84	\$157.28	\$209.56	\$369.43	\$157.28	\$212.15	2.59	0.7%
90	13	4,950	\$706.34	\$331.11	\$375.23	\$711.79	\$331.11	\$380.68	5.45	0.8%
AVG.USE	6	2,396	\$372.42	\$160.27	\$212.15	\$375.06	\$160.27	\$214.79	2.64	0.7%

PRESENT RATE

GENERAL RATE G-1

DELIVERY SERVICES:

CUSTOMER		\$5.53	PER BILL
	<u>FIRST 10</u>	<u>OVER 10</u>	
DISTRIBUTION (DEMAND)	\$0.00	\$4.86	PER KW
TRANSMISSION	\$0.00	\$0.00	PER KW
	<u>< 2300 KWH</u>	<u>>2300 KWH</u>	
DISTRIBUTION (ENERGY)	4.140	1.213	CENTS/KWH
TRANSITION	1.864	1.864	" "
TRANSMISSION	1.544	1.544	" "
TRANS RATE ADJ	-0.002	-0.002	" "
PENS. ADJ FACT./RAAF/EERF	0.924	0.924	" "
DEFAULT SERV ADJ	-0.029	-0.029	" "
DEMAND-SIDE MGT	0.250	0.250	" "
RENEWABLE ENERGY	0.050	0.050	" "

SUPPLIER SERVICES:

DEFAULT SERVICE - FIXED	6.619	6.619	CENTS/KWH
DEFAULT SERVICE - ADDER	0.070	0.070	

PROPOSED RATE

GENERAL RATE G-1

DELIVERY SERVICES:

CUSTOMER		\$5.53	PER BILL
	<u>FIRST 10</u>	<u>OVER 10</u>	
DISTRIBUTION (DEMAND)	\$0.00	\$4.86	PER KW
TRANSMISSION	\$0.00	\$0.00	PER KW
	<u>< 2300 KWH</u>	<u>>2300 KWH</u>	
DISTRIBUTION (ENERGY)	4.140	1.213	CENTS/KWH
TRANSITION	1.864	1.864	" "
TRANSMISSION	1.544	1.544	" "
TRANS RATE ADJ	-0.002	-0.002	" "
PENS. ADJ FACT./RAAF/EERF	1.034	1.034	" "
DEFAULT SERV ADJ	-0.029	-0.029	" "
DEMAND-SIDE MGT	0.250	0.250	" "
RENEWABLE ENERGY	0.050	0.050	" "

SUPPLIER SERVICES:

DEFAULT SERVICE - FIXED	6.619	6.619	CENTS/KWH
DEFAULT SERVICE - ADDER	0.070	0.070	

COMMONWEALTH ELECTRIC COMPANY
 TYPICAL BILL ANALYSIS
 GENERAL RATE G-1

LF = CUM % BILLS	LOW 0.308 MONTHLY KW	MONTHLY KWH	PRESENT RATE			PROPOSED RATE			DIFFERENCE	
			TOTAL	SUPPLIER	DELIVERY	TOTAL	SUPPLIER	DELIVERY	AMOUNT	%
10	0	13	\$7.54	\$0.87	\$6.67	\$7.55	\$0.87	\$6.68	\$0.01	0.1%
20	0	82	\$18.11	\$5.45	\$12.66	\$18.20	\$5.45	\$12.75	0.09	0.5%
30	1	186	\$34.18	\$12.42	\$21.76	\$34.38	\$12.42	\$21.96	0.20	0.6%
40	1	335	\$57.29	\$22.44	\$34.85	\$57.66	\$22.44	\$35.22	0.37	0.6%
50	2	525	\$86.55	\$35.12	\$51.43	\$87.13	\$35.12	\$52.01	0.58	0.7%
60	4	826	\$132.96	\$55.24	\$77.72	\$133.87	\$55.24	\$78.63	0.91	0.7%
70	6	1,275	\$202.21	\$85.26	\$116.95	\$203.61	\$85.26	\$118.35	1.40	0.7%
80	10	2,351	\$366.84	\$157.28	\$209.56	\$369.43	\$157.28	\$212.15	2.59	0.7%
90	22	4,950	\$750.08	\$331.11	\$418.97	\$755.53	\$331.11	\$424.42	5.45	0.7%
AVG.USE	11	2,396	\$377.28	\$160.27	\$217.01	\$379.92	\$160.27	\$219.65	2.64	0.7%

PRESENT RATE

GENERAL RATE G-1

DELIVERY SERVICES:

CUSTOMER			\$5.53	PER BILL
	FIRST 10	OVER 10		
DISTRIBUTION (DEMAND)	\$0.00	\$4.86		PER KW
TRANSMISSION	\$0.00	\$0.00		
	< 2300 KWH	>2300 KWH		CENTS/KWH
DISTRIBUTION (ENERGY)	4.140	1.213		
TRANSITION	1.864	1.864	" "	
TRANSMISSION	1.544	1.544	" "	
TRANS RATE ADJ	-0.002	-0.002	" "	
PENS. ADJ FACT./RAAF/EERF	0.924	0.924	" "	
DEFAULT SERV ADJ	-0.029	-0.029	" "	
DEMAND-SIDE MGT	0.250	0.250	" "	
RENEWABLE ENERGY	0.050	0.050	" "	

SUPPLIER SERVICES:

DEFAULT SERVICE - FIXED	6.619	6.619	CENTS/KWH
DEFAULT SERVICE - ADDER	0.070	0.070	

PROPOSED RATE

GENERAL RATE G-1

DELIVERY SERVICES:

CUSTOMER			\$5.53	PER BILL
	FIRST 10	OVER 10		
DISTRIBUTION (DEMAND)	\$0.00	\$4.86		PER KW
TRANSMISSION	\$0.00	\$0.00		
	< 2300 KWH	>2300 KWH		CENTS/KWH
DISTRIBUTION (ENERGY)	4.140	1.213		
TRANSITION	1.864	1.864	" "	
TRANSMISSION	1.544	1.544	" "	
TRANS RATE ADJ	-0.002	-0.002	" "	
PENS. ADJ FACT./RAAF/EERF	1.034	1.034	" "	
DEFAULT SERV ADJ	-0.029	-0.029	" "	
DEMAND-SIDE MGT	0.250	0.250	" "	
RENEWABLE ENERGY	0.050	0.050	" "	

SUPPLIER SERVICES:

DEFAULT SERVICE - FIXED	6.619	6.619	CENTS/KWH
DEFAULT SERVICE - ADDER	0.070	0.070	

WMECO Bill Impacts 2013-2015 EEP

Sector	Variance w/LI Re-Allocated to All 3 Sectors	2013 Kwh Sales	EEPCA - Change From 2012 MTM	EEPCA Change x 700 kwh/mo	Current Customer Bill using 700 kwh	% Change in Total Bill	EEPCA Change x 2,500 kwh/mo	Current Customer Bill using 2,500 kwh	% Change in Total Bill
Residential	\$3,057,688	990,856,175	\$0.00309	\$2.16	\$109.10	1.98%	N/A	N/A	N/A
Low Income	\$206,807	533,537,941	\$0.00039	\$0.27	\$74.19	0.37%	N/A	N/A	N/A
Small C&I	\$2,843,738	2,102,420,071	\$0.00135	N/A	N/A	N/A	\$3.38	\$382.39	0.88%
Total	\$6,108,233	3,626,814,187							

**Cape Light Compact - Traditional Bill Impacts
 Summary of Total Costs**

Line No.	Description			(3)	(4)
		(1) 2012 MTM	2013 Plan	2013 Plan vs. 2012 MTM \$ Change	2012 MTM % Change
1	Total PA Cost	\$ 18,313,920	\$ 31,334,379	\$ 13,020,459	71.10%
2	Performance Incentives (2)	\$ -	\$ -	\$ -	0.00%
3	Total PA Budget	\$ 18,313,920	\$ 31,334,379	\$ 13,020,459	71.10%

Notes:

- 1) 2012 MTM data from D.P.U. 11-116.
- 2) As the Compact does not have performance incentives, no change to performance incentives is observed.
- 3) 2013 Plan - 2012 MTM
- 4) \$ Change / 2012 MTM

**Cape Light Compact - Traditional Bill Impacts
 2013 Residential R-1 Bill Impacts**

Line No.	Description	Jan. 1, 2012	2013 Plan	(5) \$ Change	(6) % Change
1	Residential EERF (\$/kWh)	\$ 0.00710 (1)	\$ 0.01077 (4)		
2	Avg. Residential Monthly Consumption (kWh) (2)	550	550		
3	Residential Monthly EERF (\$) (3)	\$ 3.91	\$ 5.92	\$ 2.02	51.65%

Notes:

- 1) From 2011 EERF Compliance Filing (D.P.U. 11-40).
- 2) Based on 2011 actual sales and customer data.
- 3) Monthly EERF = EERF * Avg. Monthly Consumption
- 4) Assumes SBC revenues based on 2011 actual sales. Assumes the same FCM and RGGI revenues as received in 2011. No other funding or carryover assumed.
- 5) 2013 Plan Monthly EERF (\$) - Jan. 1, 2012 Monthly EERF (\$)
- 6) \$ Change / Jan. 1, 2012 Monthly EERF (\$)

**Cape Light Compact - Traditional Bill Impacts
 2013 Low Income R-2 Bill Impacts**

Line No.	Description	Jan. 1, 2012	2013 Plan	(5) \$ Change	(6) % Change
1	Low Income EERF (\$/kWh)	\$ 0.00034 (1)	\$ 0.00178 (4)		
2	Avg. Low Income Monthly Consumption (kWh) (2)	550	550		
3	Low Income Monthly EERF (\$) (3)	\$ 0.19	\$ 0.98	\$ 0.79	424.17%

Notes:

- 1) From 2011 EERF Compliance Filing (D.P.U. 11-40).
- 2) Based on 2011 actual sales and customer data.
- 3) Monthly EERF = EERF * Avg. Monthly Consumption
- 4) Assumes SBC revenues based on 2011 actual sales. Assumes the same FCM and RGGI revenues as received in 2011. No other funding or carryover assumed.
- 5) 2013 Plan Monthly EERF (\$) - Jan. 1, 2012 Monthly EERF (\$)
- 6) \$ Change / Jan. 1, 2012 Monthly EERF (\$)

**Cape Light Compact - Traditional Bill Impacts
 2013 C&I Small G-1 Bill Impacts**

Line No.	Description	Jan. 1, 2012	2013 Plan	(5) \$ Change	(6) % Change
1	C&I EERF (\$/kWh)	\$ 0.00675 (1)	\$ 0.01461 (4)		
2	Avg. C&I Monthly Consumption (kWh) (2)	2,000	2,000		
3	C&I Monthly EERF (\$) (3)	\$ 13.50	\$ 29.23	\$ 15.73	116.48%

Notes:

- 1) From 2011 EERF Compliance Filing (D.P.U. 11-40).
- 2) Based on 2011 actual sales and customer data.
- 3) Monthly EERF = EERF * Avg. Monthly Consumption
- 4) Assumes SBC revenues based on 2011 actual sales. Assumes the same FCM and RGGI revenues as received in 2011. No other funding or carryover assumed.
- 5) 2013 Plan Monthly EERF (\$) - Jan. 1, 2012 Monthly EERF (\$)
- 6) \$ Change / Jan. 1, 2012 Monthly EERF (\$)

Fitchburg Gas and Electric Light Company d/b/a Unutil
 Default Service Customer Typical Bill Impacts -- July 2, 2012 Draft 2013-2015 Three Year Plan

	Average Monthly kW	Average Monthly kWh	Present Rates Total Revenue	Proposed Rates Total Revenue	Total Difference	% Total Difference	Assumptions
Residential RD-1:	-	500	\$100.76	\$101.88	\$1.12	1.1%	
Low-Income Residential RD-2:	-	250	\$39.77	\$40.19	\$0.42	1.1%	
Small General GD-1:	-	300	\$67.44	\$67.91	\$0.47	0.7%	
Regular General GD-2:	100	25,550	\$4,718.13	\$4,757.90	\$39.77	0.8%	- Assumes a 35% monthly load factor
Large General GD-3:	2,000	365,000 On Pk 365,000 Off Pk	\$106,214.00	\$107,350.35	\$1,136.35	1.1%	- Assumes a 50% monthly load factor and 50% On Peak Energy Usage

Present Rates: [Approved Rates - January 1, 2012:](#)

Proposed Rates: [Approved Rates - January 1, 2012 w/ estimated 2013 EERF:](#)

Using Regulatory Services Bill Impact Model with updated EERFs from DAJs reconciliation

**Fitchburg Gas and Electric Light Company d/b/a Unutil
 Default Service Customer Typical Bill Impacts -- July 2, 2012 Draft 2013-2015 Three Year Plan
 Impact on RD-1 Rate Customers**

	Average Monthly kWh	Present Rates Total Revenue	Proposed Rates Total Revenue	Total Difference	% Total Difference
	125	\$29.16	\$29.44	\$0.28	1.0%
	250	\$53.02	\$53.58	\$0.56	1.1%
	500	\$100.76	\$101.88	\$1.12	1.1%
	600	\$119.85	\$121.19	\$1.35	1.1%
	750	\$149.05	\$150.73	\$1.68	1.1%
	1000	\$197.72	\$199.96	\$2.24	1.1%
	1250	\$246.38	\$249.19	\$2.80	1.1%
	1500	\$295.05	\$298.42	\$3.36	1.1%
	2000	\$392.39	\$396.87	\$4.49	1.1%

Approved Rates - January 1, 2012:		RD-1	Approved Rates - January 1, 2012 w/ estimated 2013 EERF:		RD-1
<u>Delivery Charges:</u>			<u>Delivery Charges:</u>		
Customer Charge		\$5.29	Customer Charge		\$5.29
		<u>kWh</u>			<u>kWh</u>
Internal Transmission		\$0.00225	Internal Transmission		\$0.00225
External Transmission		<u>\$0.00839</u>	External Transmission		<u>\$0.00839</u>
	Transmission Subtotal	\$0.01064		Transmission Subtotal	\$0.01064
Distribution - First 600 kWh		\$0.05420	Distribution - First 600 kWh		\$0.05420
Distribution - Excess kWh		\$0.05794	Distribution - Excess kWh		\$0.05794
Energy Efficiency Reconciliation Factor		\$0.00929	Energy Efficiency Reconciliation Factor		\$0.01153
Residential Assistance Adjustment Factor		\$0.00342	Residential Assistance Adjustment Factor		\$0.00342
Pension/PBOP Adjustment Factor		\$0.00232	Pension/PBOP Adjustment Factor		\$0.00232
Net Metering Recovery Surcharge		\$0.00002	Net Metering Recovery Surcharge		\$0.00002
Revenue Decoupling Adjustment Factor		(\$0.00066)	Revenue Decoupling Adjustment Factor		(\$0.00066)
AG Consultant Expense Factor		<u>\$0.00077</u>	AG Consultant Expense Factor		<u>\$0.00077</u>
	Distribution Subtotal First Block	\$0.06936		Distribution Subtotal First Block	\$0.07160
	Distribution Subtotal Second Block	\$0.07310		Distribution Subtotal Second Block	\$0.07534
Energy Efficiency Charge		\$0.00250	Energy Efficiency Charge		\$0.00250
Renewable Resources Charge		\$0.00050	Renewable Resources Charge		\$0.00050
Default Service Adjustment		(\$0.00202)	Default Service Adjustment		(\$0.00202)
Transition Charge		\$0.02420	Transition Charge		\$0.02420
Transition Charge Surcharge		\$0.00400	Transition Charge Surcharge		\$0.00400
<u>Supplier Charges:</u>			<u>Supplier Charges:</u>		
Generation Charge*		\$0.08175	Generation Charge*		\$0.08175
	Total First Block	\$0.19093		Total First Block	\$0.19317
	Total Second Block	\$0.19467		Total Second Block	\$0.19691

**Fitchburg Gas and Electric Light Company d/b/a Unutil
 Default Service Customer Typical Bill Impacts -- July 2, 2012 Draft 2013-2015 Three Year Plan
 Impact on RD-2 Rate Customers**

	Average Monthly kWh	Present Rates Total Revenue	Proposed Rates Total Revenue	Total Difference	% Total Difference
	125	\$21.87	\$22.08	\$0.21	1.0%
	250	\$39.77	\$40.19	\$0.42	1.1%
	500	\$75.57	\$76.41	\$0.84	1.1%
	600	\$89.89	\$90.90	\$1.01	1.1%
	750	\$111.79	\$113.05	\$1.26	1.1%
	1,000	\$148.29	\$149.97	\$1.69	1.1%
	1,250	\$184.79	\$186.89	\$2.11	1.1%
	1,500	\$221.29	\$223.81	\$2.53	1.1%
	2,000	\$294.29	\$297.66	\$3.37	1.1%

Approved Rates - January 1, 2012:		RD-2	Approved Rates - January 1, 2012 w/ estimated 2013 EERF:		RD-2
<u>Delivery Charges:</u>			<u>Delivery Charges:</u>		
Customer Charge		\$5.29	Customer Charge		\$5.29
		<u>kWh</u>			<u>kWh</u>
Internal Transmission		\$0.00225	Internal Transmission		\$0.00225
External Transmission		<u>\$0.00839</u>	External Transmission		<u>\$0.00839</u>
	Transmission Subtotal	\$0.01064		Transmission Subtotal	\$0.01064
Distribution - First 600 kWh		\$0.05420	Distribution - First 600 kWh		\$0.05420
Distribution - Excess kWh		\$0.05794	Distribution - Excess kWh		\$0.05794
Energy Efficiency Reconciliation Factor		\$0.00081	Energy Efficiency Reconciliation Factor		\$0.00108
Residential Assistance Adjustment Factor		\$0.00342	Residential Assistance Adjustment Factor		\$0.00342
Pension/PBOP Adjustment Factor		\$0.00232	Pension/PBOP Adjustment Factor		\$0.00232
Net Metering Recovery Surcharge		\$0.00002	Net Metering Recovery Surcharge		\$0.00002
Revenue Decoupling Adjustment Factor		(\$0.00066)	Revenue Decoupling Adjustment Factor		(\$0.00066)
AG Consultant Expense Factor		<u>\$0.00077</u>	AG Consultant Expense Factor		<u>\$0.00077</u>
	Distribution Subtotal First Block	\$0.06088		Distribution Subtotal First Block	\$0.06115
	Distribution Subtotal Second Block	\$0.06462		Distribution Subtotal Second Block	\$0.06489
Energy Efficiency Charge		\$0.00250	Energy Efficiency Charge		\$0.00250
Renewable Resources Charge		\$0.00050	Renewable Resources Charge		\$0.00050
Default Service Adjustment		(\$0.00202)	Default Service Adjustment		(\$0.00202)
Transition Charge		\$0.02420	Transition Charge		\$0.02420
Transition Charge Surcharge		\$0.00400	Transition Charge Surcharge		\$0.00400
<u>Supplier Charges:</u>			<u>Supplier Charges:</u>		
Generation Charge*		\$0.08175	Generation Charge*		\$0.08175
<u>25% Low Income Discount</u>			<u>25% Low Income Discount</u>		
Fixed Charges		(\$1.32)	Fixed Charges		(\$1.32)
Volumetric Charges - First 600 kWh		(\$0.03925)	Volumetric Charges - First 600 kWh		(\$0.03784)
Volumetric Charges - Excess 600 kWh		(\$0.04019)	Volumetric Charges - Excess 600 kWh		(\$0.03878)
	Total First Block	\$0.14320		Total First Block	\$0.14488
	Total Second Block	\$0.14600		Total Second Block	\$0.14768

**Fitchburg Gas and Electric Light Company d/b/a Unutil
 Default Service Customer Typical Bill Impacts -- July 2, 2012 Draft 2013-2015 Three Year Plan
 Impact on GD-1 Rate Customers**

	Average Monthly kWh	Present Rates Total Revenue	Proposed Rates Total Revenue	Total Difference	% Total Difference
	50	\$17.98	\$18.06	\$0.08	0.4%
	100	\$27.74	\$27.89	\$0.16	0.6%
	200	\$47.25	\$47.56	\$0.31	0.7%
	300	\$67.44	\$67.91	\$0.47	0.7%
	400	\$87.63	\$88.26	\$0.62	0.7%
	500	\$107.83	\$108.61	\$0.78	0.7%
	750	\$158.31	\$159.48	\$1.17	0.7%
	1000	\$208.79	\$210.35	\$1.56	0.7%

Approved Rates - January 1, 2012:		GD-1	Approved Rates - January 1, 2012 w/ estimated 2013 EERF:		GD-1
<u>Delivery Charges:</u>			<u>Delivery Charges:</u>		
Customer Charge		\$8.23	Customer Charge		\$8.23
		<u>kWh</u>			<u>kWh</u>
Internal Transmission		\$0.00222	Internal Transmission		\$0.00222
External Transmission		<u>\$0.00839</u>	External Transmission		<u>\$0.00839</u>
	Transmission Subtotal	\$0.01061		Transmission Subtotal	\$0.01061
Distribution - First 200 kWh		\$0.05916	Distribution - First 200 kWh		\$0.05916
Distribution - Excess kWh		\$0.06600	Distribution - Excess kWh		\$0.06600
Energy Efficiency Reconciliation Factor		\$0.00852	Energy Efficiency Reconciliation Factor		\$0.01008
Residential Assistance Adjustment Factor		\$0.00342	Residential Assistance Adjustment Factor		\$0.00342
Pension/PBOP Adjustment Factor		\$0.00232	Pension/PBOP Adjustment Factor		\$0.00232
Net Metering Recovery Surcharge		\$0.00002	Net Metering Recovery Surcharge		\$0.00002
Revenue Decoupling Adjustment Factor		(\$0.00066)	Revenue Decoupling Adjustment Factor		(\$0.00066)
AG Consultant Expense Factor		<u>\$0.00077</u>	AG Consultant Expense Factor		<u>\$0.00077</u>
	Distribution Subtotal First Block	\$0.07355		Distribution Subtotal First Block	\$0.07511
	Distribution Subtotal Second Block	\$0.08039		Distribution Subtotal Second Block	\$0.08195
Energy Efficiency Charge		\$0.00250	Energy Efficiency Charge		\$0.00250
Renewable Resources Charge		\$0.00050	Renewable Resources Charge		\$0.00050
Default Service Adjustment		(\$0.00202)	Default Service Adjustment		(\$0.00202)
Transition Charge		\$0.02420	Transition Charge		\$0.02420
Transition Charge Surcharge		\$0.00400	Transition Charge Surcharge		\$0.00400
<u>Supplier Charges:</u>			<u>Supplier Charges:</u>		
Generation Charge*		\$0.08175	Generation Charge*		\$0.08175
	Total First Block	\$0.19509		Total First Block	\$0.19665
	Total Second Block	\$0.20193		Total Second Block	\$0.20349

Fitchburg Gas and Electric Light Company d/b/a Unutil
Default Service Customer Typical Bill Impacts -- July 2, 2012 Draft 2013-2015 Three Year Plan
Impact on GD-2 Rate Customers

	Average Monthly kW	Average Monthly kWh ⁽¹⁾	Present Rates Total Revenue	Proposed Rates Total Revenue	Total Difference	% Total Difference
	10	2,555	\$479.22	\$483.20	\$3.98	0.8%
	20	5,110	\$950.21	\$958.16	\$7.95	0.8%
	50	12,775	\$2,363.18	\$2,383.06	\$19.89	0.8%
	75	19,163	\$3,540.65	\$3,570.48	\$29.83	0.8%
	100	25,550	\$4,718.13	\$4,757.90	\$39.77	0.8%
	125	31,938	\$5,895.60	\$5,945.32	\$49.72	0.8%
	150	38,325	\$7,073.08	\$7,132.73	\$59.66	0.8%

Approved Rates - January 1, 2012:			Approved Rates - January 1, 2012 w/ estimated 2013 EERF:		
		GD-2			GD-2
Delivery Charges:			Delivery Charges:		
Customer Charge		\$8.23	Customer Charge		\$8.23
Internal Transmission	<u>kW</u>	\$0.29	Internal Transmission	<u>kW</u>	\$0.29
External Transmission	<u>kWh</u>	\$0.00	External Transmission	<u>kWh</u>	\$0.00839
	Transmission Subtotal	\$0.29		Transmission Subtotal	\$0.29
Distribution		\$7.65	Distribution		\$7.65
Energy Efficiency Reconciliation Factor		\$0.00852	Energy Efficiency Reconciliation Factor		\$0.01008
Residential Assistance Adjustment Factor		\$0.00342	Residential Assistance Adjustment Factor		\$0.00342
Pension/PBOP Adjustment Factor		\$0.00232	Pension/PBOP Adjustment Factor		\$0.00232
Net Metering Recovery Surcharge		\$0.00002	Net Metering Recovery Surcharge		\$0.00002
Revenue Decoupling Adjustment Factor		(\$0.00066)	Revenue Decoupling Adjustment Factor		(\$0.00066)
AG Consultant Expense Factor		---	AG Consultant Expense Factor		---
	Distribution Subtotal	\$7.65		Distribution Subtotal	\$7.65
Energy Efficiency Charge		\$0.00250	Energy Efficiency Charge		\$0.00250
Renewable Resources Charge		\$0.00050	Renewable Resources Charge		\$0.00050
Default Service Adjustment		(\$0.00202)	Default Service Adjustment		(\$0.00202)
Transition Charge		\$2.74	Transition Charge		\$2.74
Transition Charge Surcharge		\$0.00400	Transition Charge Surcharge		\$0.00400
Supplier Charges:			Supplier Charges:		
Generation Charge*		\$0.08166	Generation Charge*		\$0.08166
	Totals	\$10.68		Totals	\$10.68
		\$0.14254			\$0.14410

(1) Assumes a monthly load factor of 35%

**Fitchburg Gas and Electric Light Company d/b/a Unitil
 Default Service Customer Typical Bill Impacts -- July 2, 2012 Draft 2013-2015 Three Year Plan
 Impact on GD-3 Rate Customers - 50% Load Factor and 50% On Peak Energy Usage**

	Average Monthly kVa	Average On Peak kWh⁽¹⁾	Average Off Peak kWh⁽¹⁾	Present Rates Total Revenue	Proposed Rates Total Revenue	Total Difference	% Total Difference
	200	36,500	36,500	\$10,891.40	\$11,005.03	\$113.63	1.0%
	400	73,000	73,000	\$21,482.80	\$21,710.07	\$227.27	1.1%
	600	109,500	109,500	\$32,074.20	\$32,415.10	\$340.90	1.1%
	800	146,000	146,000	\$42,665.60	\$43,120.14	\$454.54	1.1%
	1,000	182,500	182,500	\$53,257.00	\$53,825.17	\$568.17	1.1%
	1,500	273,750	273,750	\$79,735.50	\$80,587.76	\$852.26	1.1%
	2,000	365,000	365,000	\$106,214.00	\$107,350.35	\$1,136.35	1.1%
	2,500	456,250	456,250	\$132,692.50	\$134,112.93	\$1,420.43	1.1%
	3,000	547,500	547,500	\$159,171.00	\$160,875.52	\$1,704.52	1.1%

Approved Rates - January 1, 2012:				Approved Rates - January 1, 2012 w/ estimated 2013 EERF:			
GD-3				GD-3			
Delivery Charges:				Delivery Charges:			
Customer Charge		\$300.00		Customer Charge		\$300.00	
Internal Transmission	<u>All kVA</u>	\$0.00122	On Peak	Internal Transmission	<u>All kVA</u>	\$0.00122	On Peak
		\$0.00053	Off Peak			\$0.00053	Off Peak
External Transmission		<u>\$0.00839</u>	All	External Transmission		<u>\$0.00839</u>	All
Transmission Subtotals	\$0.21	\$0.00961	On Peak	Transmission Subtotals	\$0.21	\$0.00961	On Peak
		\$0.00892	Off Peak			\$0.00892	Off Peak
Distribution	\$4.24	\$0.01306	On Peak	Distribution	\$4.24	\$0.01306	On Peak
		\$0.00293	Off Peak			\$0.00293	Off Peak
Residential Assistance Adjustment Factor		\$0.00342	All	Residential Assistance Adjustment Factor		\$0.00342	All
Energy Efficiency Reconciliation Factor		\$0.00852	All	Energy Efficiency Reconciliation Factor		\$0.01008	All
Net Metering Recovery Surcharge		\$0.00002	All	Net Metering Recovery Surcharge		\$0.00002	All
Pension/PBOP Adjustment Factor		\$0.00232	All	Pension/PBOP Adjustment Factor		\$0.00232	All
Revenue Decoupling Adjustment Factor		(\$0.00066)	All	Revenue Decoupling Adjustment Factor		(\$0.00066)	All
AG Consultant Expense Factor		<u>\$0.00077</u>	All	AG Consultant Expense Factor		<u>\$0.00077</u>	All
Distribution Subtotals	\$4.24	\$0.02745	On Peak	Distribution Subtotals	\$4.24	\$0.02901	On Peak
		\$0.01732	Off Peak			\$0.01888	Off Peak
Energy Efficiency Charge		\$0.00250	All	Energy Efficiency Charge		\$0.00250	All
Renewable Resources Charge		\$0.00050	All	Renewable Resources Charge		\$0.00050	All
Default Service Adjustment		(\$0.00202)	All	Default Service Adjustment		(\$0.00202)	All
Transition Charge	\$4.05	\$0.01365	On Peak	Transition Charge	\$4.05	\$0.01365	On Peak
		\$0.01365	Off Peak			\$0.01365	Off Peak
Transition Charge Surcharge		\$0.00400	All	Transition Charge Surcharge		\$0.00400	All
Supplier Charges:				Supplier Charges:			
Generation Charge (2)		<u>\$0.07152</u>	All	Generation Charge (2)		<u>\$0.07152</u>	All
Totals	\$8.50	\$0.12721	On Peak	Totals	\$8.50	\$0.12877	On Peak
		\$0.11639	Off Peak			\$0.11795	Off Peak

(1) Assumes a 50% monthly load factor and 50% On Peak Energy Usage

(2) Market Variable Default Service rate for Sept 2011 including the effective Default Service Costs Adder of \$0.00261/kWh.

Boston Gas Company

Monthly Bill Impact for an Average Residential Heating (R3) Customer

Feb - April 12 (Peak CGA & LDAF effective 2/1/12)

With 2012 MTM EE Budget

	Avg. Winter						
			Month	Peak Month			
Average Monthly Use per Customer - Therms	50	100	122	172	250	300	400
Cust. Charge	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00
Headblock	\$0.3938	\$0.3938	\$0.3938	\$0.3938	\$0.3938	\$0.3938	\$0.3938
Tailblock	\$0.4785	\$0.4785	\$0.4785	\$0.4785	\$0.4785	\$0.4785	\$0.4785
CGA	\$0.6821	\$0.6821	\$0.6821	\$0.6821	\$0.6821	\$0.6821	\$0.6821
LDAF	\$0.1506	\$0.1506	\$0.1506	\$0.1506	\$0.1506	\$0.1506	\$0.1506
Average Use	50	100	122	172	250	300	400
Block Break	40	40	40	40	40	40	40
Head Block	40	40	40	40	40	40	40
Tail Block	10	60	82	132	210	260	360
GAF \$	\$34.11	\$68.21	\$83.26	\$117.15	\$170.53	\$204.63	\$272.84
LDAF \$	\$7.53	\$15.06	\$18.38	\$25.87	\$37.65	\$45.18	\$60.24
Head Block \$	\$15.75	\$15.75	\$15.75	\$15.75	\$15.75	\$15.75	\$15.75
Tail Block \$	\$4.79	\$28.71	\$39.27	\$63.04	\$100.49	\$124.41	\$172.26
Customer Charge	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00
Total Bill	\$72	\$138	\$167	\$232	\$334	\$400	\$531

With 2013 EE Budget

Cust. Charge	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00
Headblock	\$0.3938	\$0.3938	\$0.3938	\$0.3938	\$0.3938	\$0.3938	\$0.3938
Tailblock	\$0.4785	\$0.4785	\$0.4785	\$0.4785	\$0.4785	\$0.4785	\$0.4785
CGA	\$0.6821	\$0.6821	\$0.6821	\$0.6821	\$0.6821	\$0.6821	\$0.6821
LDAF	\$0.1537	\$0.1537	\$0.1537	\$0.1537	\$0.1537	\$0.1537	\$0.1537
Average Use	50	100	122	172	250	300	400
Block Break	40	40	40	40	40	40	40
Head Block	40	40	40	40	40	40	40
Tail Block	10	60	82	132	210	260	360
GAF \$	\$34.11	\$68.21	\$83.26	\$117.15	\$170.53	\$204.63	\$272.84
LDAF \$	\$7.69	\$15.37	\$18.76	\$26.40	\$38.43	\$46.11	\$61.48
Head Block \$	\$15.75	\$15.75	\$15.75	\$15.75	\$15.75	\$15.75	\$15.75
Tail Block \$	\$4.79	\$28.71	\$39.27	\$63.04	\$100.49	\$124.41	\$172.26
Customer Charge	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00
Total Bill	\$72	\$138	\$167	\$232	\$335	\$401	\$532
Variance	\$0.16	\$0.31	\$0.38	\$0.53	\$0.77	\$0.93	\$1.24
Percent Variance	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%

Boston Gas Company

Monthly Bill Impact for an Average Residential Heating (R4) Customer (Assistance)

Feb - April 12 (Peak CGA & LDAF effective 2/1/12)

With 2012 MTM EE Budget

	Avg. Winter						
			Month	Peak Month			
Average Monthly Use per Customer - Therms	50	100	113	141	200	250	300
Cust. Charge	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00
Headblock	\$0.3938	\$0.3938	\$0.3938	\$0.3938	\$0.3938	\$0.3938	\$0.3938
Tailblock	\$0.4785	\$0.4785	\$0.4785	\$0.4785	\$0.4785	\$0.4785	\$0.4785
CGA	\$0.6821	\$0.6821	\$0.6821	\$0.6821	\$0.6821	\$0.6821	\$0.6821
LDAF	\$0.1506	\$0.1506	\$0.1506	\$0.1506	\$0.1506	\$0.1506	\$0.1506
Average Use	50	100	113	141	200	250	300
Block Break	40	40	40	40	40	40	40
Head Block	40	40	40	40	40	40	40
Tail Block	10	60	73	101	160	210	260
GAF \$	\$34.11	\$68.21	\$76.93	\$95.97	\$136.42	\$170.53	\$204.63
LDAF \$	\$7.53	\$15.06	\$16.99	\$21.19	\$30.12	\$37.65	\$45.18
Head Block \$	\$15.75	\$15.75	\$15.75	\$15.75	\$15.75	\$15.75	\$15.75
Tail Block \$	\$4.79	\$28.71	\$34.83	\$48.19	\$76.56	\$100.49	\$124.41
Customer Charge	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00
Total Bill	\$72	\$138	\$155	\$191	\$269	\$334	\$400
25% Discount	\$18	\$34	\$39	\$48	\$67	\$84	\$100
Total Discounted Bill	\$54	\$103	\$116	\$143	\$202	\$251	\$300

With 2013 EE Budget

Cust. Charge	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00
Headblock	\$0.3938	\$0.3938	\$0.3938	\$0.3938	\$0.3938	\$0.3938	\$0.3938
Tailblock	\$0.4785	\$0.4785	\$0.4785	\$0.4785	\$0.4785	\$0.4785	\$0.4785
CGA	\$0.6821	\$0.6821	\$0.6821	\$0.6821	\$0.6821	\$0.6821	\$0.6821
LDAF	\$0.1537	\$0.1537	\$0.1537	\$0.1537	\$0.1537	\$0.1537	\$0.1537
Average Use	50	100	113	141	200	250	300
Block Break	40	40	40	40	40	40	40
Head Block	40	40	40	40	40	40	40
Tail Block	10	60	73	101	160	210	260
GAF \$	\$34.11	\$68.21	\$76.93	\$95.97	\$136.42	\$170.53	\$204.63
LDAF \$	\$7.69	\$15.37	\$17.34	\$21.63	\$30.74	\$38.43	\$46.11
Head Block \$	\$15.75	\$15.75	\$15.75	\$15.75	\$15.75	\$15.75	\$15.75
Tail Block \$	\$4.79	\$28.71	\$34.83	\$48.19	\$76.56	\$100.49	\$124.41
Customer Charge	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00
Total Bill	\$72	\$138	\$155	\$192	\$269	\$335	\$401
25% Discount	\$18	\$35	\$39	\$48	\$67	\$84	\$100
Total Discounted Bill	\$54	\$104	\$116	\$144	\$202	\$251	\$301
Variance	\$0.12	\$0.23	\$0.26	\$0.33	\$0.47	\$0.58	\$0.70
Percent Variance	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%

Boston Gas Company

Monthly Bill Impact for an Average Commercial G41B Customer

February - April 12 (Peak CGA & LDAF effective 2/1/12)

With 2012 MTM EE Budget

	Avg. Winter						
			Month	Peak Month			
Average Monthly Use per Customer - Therms	50	100	186	277	300	400	500
Cust. Charge	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00
Headblock	\$0.3901	\$0.3901	\$0.3901	\$0.3901	\$0.3901	\$0.3901	\$0.3901
Tailblock	\$0.4845	\$0.4845	\$0.4845	\$0.4845	\$0.4845	\$0.4845	\$0.4845
CGA	\$0.6821	\$0.6821	\$0.6821	\$0.6821	\$0.6821	\$0.6821	\$0.6821
LDAF	\$0.1268	\$0.1268	\$0.1268	\$0.1268	\$0.1268	\$0.1268	\$0.1268
Average Use	50	100	186	277	300	400	500
Block Break	60	60	60	60	60	60	60
Head Block	50	60	60	60	60	60	60
Tail Block	0	40	126	217	240	340	440
GAF \$	\$34.11	\$68.21	\$126.78	\$188.85	\$204.63	\$272.84	\$341.05
LDAF \$	\$6.34	\$12.68	\$23.57	\$35.11	\$38.04	\$50.72	\$63.40
Head Block \$	\$19.51	\$23.41	\$23.41	\$23.41	\$23.41	\$23.41	\$23.41
Tail Block \$	\$0.00	\$19.38	\$60.98	\$105.07	\$116.28	\$164.73	\$213.18
Customer Charge	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00
Total Bill	\$81	\$145	\$256	\$373	\$403	\$533	\$662

With 2013 EE Budget

Cust. Charge	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00
Headblock	\$0.3901	\$0.3901	\$0.3901	\$0.3901	\$0.3901	\$0.3901	\$0.3901
Tailblock	\$0.4845	\$0.4845	\$0.4845	\$0.4845	\$0.4845	\$0.4845	\$0.4845
CGA	\$0.6821	\$0.6821	\$0.6821	\$0.6821	\$0.6821	\$0.6821	\$0.6821
LDAF	\$0.1433	\$0.1433	\$0.1433	\$0.1433	\$0.1433	\$0.1433	\$0.1433
Average Use	50	100	186	277	300	400	500
Block Break	60	60	60	60	60	60	60
Head Block	50	60	60	60	60	60	60
Tail Block	0	40	126	217	240	340	440
GAF \$	\$34.11	\$68.21	\$126.78	\$188.85	\$204.63	\$272.84	\$341.05
LDAF \$	\$7.17	\$14.33	\$26.64	\$39.67	\$42.99	\$57.32	\$71.65
Head Block \$	\$19.51	\$23.41	\$23.41	\$23.41	\$23.41	\$23.41	\$23.41
Tail Block \$	\$0.00	\$19.38	\$60.98	\$105.07	\$116.28	\$164.73	\$213.18
Customer Charge	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00
Total Bill	\$82	\$146	\$259	\$378	\$408	\$539	\$670
Variance	\$0.83	\$1.65	\$3.07	\$4.57	\$4.95	\$6.60	\$8.25
Percent Variance	1.0%	1.1%	1.2%	1.2%	1.2%	1.2%	1.2%

Boston Gas Company

Monthly Bill Impact for an Average Commercial G51B Customer

February - April 12 (Peak CGA & LDAF effective 2/1/12)

With 2012 MTM EE Budget

	Avg. Winter						
			Month	Peak Month			
Average Monthly Use per Customer - Therms	50	100	177	203	250	300	400
Cust. Charge	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00
Headblock	\$0.2833	\$0.2833	\$0.2833	\$0.2833	\$0.2833	\$0.2833	\$0.2833
Tailblock	\$0.3571	\$0.3571	\$0.3571	\$0.3571	\$0.3571	\$0.3571	\$0.3571
CGA	\$0.6821	\$0.6821	\$0.6821	\$0.6821	\$0.6821	\$0.6821	\$0.6821
LDAF	\$0.1234	\$0.1234	\$0.1234	\$0.1234	\$0.1234	\$0.1234	\$0.1234
Average Use	50	100	177	203	250	300	400
Block Break	60	60	60	60	60	60	60
Head Block	50	60	60	60	60	60	60
Tail Block	0	40	117	143	190	240	340
GAF \$	\$34.11	\$68.21	\$120.66	\$138.75	\$170.53	\$204.63	\$272.84
LDAF \$	\$6.17	\$12.34	\$21.83	\$25.10	\$30.85	\$37.02	\$49.36
Head Block \$	\$14.17	\$17.00	\$17.00	\$17.00	\$17.00	\$17.00	\$17.00
Tail Block \$	\$0.00	\$14.28	\$41.74	\$51.21	\$67.85	\$85.70	\$121.41
Customer Charge	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00
Total Bill	\$75	\$133	\$222	\$253	\$307	\$365	\$482

With 2013 EE Budget

Cust. Charge	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00
Headblock	\$0.2833	\$0.2833	\$0.2833	\$0.2833	\$0.2833	\$0.2833	\$0.2833
Tailblock	\$0.3571	\$0.3571	\$0.3571	\$0.3571	\$0.3571	\$0.3571	\$0.3571
CGA	\$0.6821	\$0.6821	\$0.6821	\$0.6821	\$0.6821	\$0.6821	\$0.6821
LDAF	\$0.1398	\$0.1398	\$0.1398	\$0.1398	\$0.1398	\$0.1398	\$0.1398
Average Use	50	100	177	203	250	300	400
Block Break	60	60	60	60	60	60	60
Head Block	50	60	60	60	60	60	60
Tail Block	0	40	117	143	190	240	340
GAF \$	\$34.11	\$68.21	\$120.66	\$138.75	\$170.53	\$204.63	\$272.84
LDAF \$	\$6.99	\$13.98	\$24.73	\$28.44	\$34.95	\$41.94	\$55.92
Head Block \$	\$14.17	\$17.00	\$17.00	\$17.00	\$17.00	\$17.00	\$17.00
Tail Block \$	\$0.00	\$14.28	\$41.74	\$51.21	\$67.85	\$85.70	\$121.41
Customer Charge	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00
Total Bill	\$76	\$134	\$225	\$256	\$311	\$370	\$488
Variance	\$0.82	\$1.64	\$2.90	\$3.34	\$4.10	\$4.92	\$6.56
Percent Variance	1.1%	1.2%	1.3%	1.3%	1.3%	1.3%	1.3%

Boston Gas Company

Monthly Bill Impact for an Average Commercial G41E Customer

February - April 12 (Peak CGA & LDAF effective 2/1/12)

With 2012 MTM EE Budget

			Avg. Winter				
	50	100	Month	Peak Month	500	600	700
Average Monthly Use per Customer - Therms	50	100	334	471	500	600	700
Cust. Charge	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00
Headblock	\$0.2288	\$0.2288	\$0.2288	\$0.2288	\$0.2288	\$0.2288	\$0.2288
Tailblock	\$0.2856	\$0.2856	\$0.2856	\$0.2856	\$0.2856	\$0.2856	\$0.2856
CGA	\$0.6821	\$0.6821	\$0.6821	\$0.6821	\$0.6821	\$0.6821	\$0.6821
LDAF	\$0.1268	\$0.1268	\$0.1268	\$0.1268	\$0.1268	\$0.1268	\$0.1268
Average Use	50	100	334	471	500	600	700
Block Break	120	120	120	120	120	120	120
Head Block	50	100	120	120	120	120	120
Tail Block	0	0	214	351	380	480	580
GAF \$	\$34.11	\$68.21	\$227.81	\$320.98	\$341.05	\$409.26	\$477.47
LDAF \$	\$6.34	\$12.68	\$42.35	\$59.67	\$63.40	\$76.08	\$88.76
Head Block \$	\$11.44	\$22.88	\$27.46	\$27.46	\$27.46	\$27.46	\$27.46
Tail Block \$	\$0.00	\$0.00	\$61.12	\$100.13	\$108.53	\$137.09	\$165.65
Customer Charge	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00
Total Bill	\$73	\$125	\$380	\$529	\$561	\$671	\$780

With 2013 EE Budget

Cust. Charge	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00
Headblock	\$0.2288	\$0.2288	\$0.2288	\$0.2288	\$0.2288	\$0.2288	\$0.2288
Tailblock	\$0.2856	\$0.2856	\$0.2856	\$0.2856	\$0.2856	\$0.2856	\$0.2856
CGA	\$0.6821	\$0.6821	\$0.6821	\$0.6821	\$0.6821	\$0.6821	\$0.6821
LDAF	\$0.1433	\$0.1433	\$0.1433	\$0.1433	\$0.1433	\$0.1433	\$0.1433
Average Use	50	100	334	471	500	600	700
Block Break	120	120	120	120	120	120	120
Head Block	50	100	120	120	120	120	120
Tail Block	0	0	214	351	380	480	580
GAF \$	\$34.11	\$68.21	\$227.81	\$320.98	\$341.05	\$409.26	\$477.47
LDAF \$	\$7.17	\$14.33	\$47.86	\$67.43	\$71.65	\$85.98	\$100.31
Head Block \$	\$11.44	\$22.88	\$27.46	\$27.46	\$27.46	\$27.46	\$27.46
Tail Block \$	\$0.00	\$0.00	\$61.12	\$100.13	\$108.53	\$137.09	\$165.65
Customer Charge	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00
Total Bill	\$74	\$126	\$385	\$537	\$570	\$681	\$792
Variance	\$0.83	\$1.65	\$5.51	\$7.76	\$8.25	\$9.90	\$11.55
Percent Variance	1.1%	1.3%	1.4%	1.4%	1.4%	1.5%	1.5%

Boston Gas Company

Monthly Bill Impact for an Average Commercial G51E Customer

February - April 12 (Peak CGA & LDAF effective 2/1/12)

With 2012 MTM EE Budget

	Avg. Winter						
			Month	Peak Month			
Average Monthly Use per Customer - Therms	100	250	516	672	1,000	2,000	5,000
Cust. Charge	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00
Headblock	\$0.2182	\$0.2182	\$0.2182	\$0.2182	\$0.2182	\$0.2182	\$0.2182
Tailblock	\$0.2755	\$0.2755	\$0.2755	\$0.2755	\$0.2755	\$0.2755	\$0.2755
CGA	\$0.6821	\$0.6821	\$0.6821	\$0.6821	\$0.6821	\$0.6821	\$0.6821
LDAF	\$0.1234	\$0.1234	\$0.1234	\$0.1234	\$0.1234	\$0.1234	\$0.1234
Average Use	100	250	516	672	1,000	2,000	5,000
Block Break	200	200	200	200	200	200	200
Head Block	100	200	200	200	200	200	200
Tail Block	0	50	316	472	800	1,800	4,800
GAF \$	\$68.21	\$170.53	\$352.12	\$458.05	\$682.10	\$1,364.20	\$3,410.50
LDAF \$	\$12.34	\$30.85	\$63.70	\$82.87	\$123.40	\$246.80	\$617.00
Head Block \$	\$21.82	\$43.64	\$43.64	\$43.64	\$43.64	\$43.64	\$43.64
Tail Block \$	\$0.00	\$13.78	\$87.12	\$129.91	\$220.40	\$495.90	\$1,322.40
Customer Charge	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00
Total Bill	\$123	\$280	\$568	\$735	\$1,091	\$2,172	\$5,415

With 2013 EE Budget

Cust. Charge	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00
Headblock	\$0.2182	\$0.2182	\$0.2182	\$0.2182	\$0.2182	\$0.2182	\$0.2182
Tailblock	\$0.2755	\$0.2755	\$0.2755	\$0.2755	\$0.2755	\$0.2755	\$0.2755
CGA	\$0.6821	\$0.6821	\$0.6821	\$0.6821	\$0.6821	\$0.6821	\$0.6821
LDAF	\$0.1398	\$0.1398	\$0.1398	\$0.1398	\$0.1398	\$0.1398	\$0.1398
Average Use	100	250	516	672	1,000	2,000	5,000
Block Break	200	200	200	200	200	200	200
Head Block	100	200	200	200	200	200	200
Tail Block	0	50	316	472	800	1,800	4,800
GAF \$	\$68.21	\$170.53	\$352.12	\$458.05	\$682.10	\$1,364.20	\$3,410.50
LDAF \$	\$13.98	\$34.95	\$72.17	\$93.88	\$139.80	\$279.60	\$699.00
Head Block \$	\$21.82	\$43.64	\$43.64	\$43.64	\$43.64	\$43.64	\$43.64
Tail Block \$	\$0.00	\$13.78	\$87.12	\$129.91	\$220.40	\$495.90	\$1,322.40
Customer Charge	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00
Total Bill	\$125	\$284	\$576	\$746	\$1,107	\$2,204	\$5,497
Variance	1.64	4.10	8.47	11.01	16.40	32.80	82.00
Percent Variance	1.3%	1.4%	1.5%	1.5%	1.5%	1.5%	1.5%

Colonial Gas Company

Monthly Bill Impact for an Average Residential Heating (R3) Customer

Feb - April 12 (Peak CGA & LDAF effective 2/1/12)

With 2012 MTM EE Budget

	Avg. Winter						
			Month	Peak Month			
Average Monthly Use per Customer- CCF	50	119	111	155	250	300	400
Cust. Charge	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00
Headblock	\$0.3334	\$0.3334	\$0.3334	\$0.3334	\$0.3334	\$0.3334	\$0.3334
Tailblock	\$0.3995	\$0.3995	\$0.3995	\$0.3995	\$0.3995	\$0.3995	\$0.3995
CGA	\$0.6770	\$0.6770	\$0.6770	\$0.6770	\$0.6770	\$0.6770	\$0.6770
LDAF	\$0.1252	\$0.1252	\$0.1252	\$0.1252	\$0.1252	\$0.1252	\$0.1252
Average Use	50	119	111	155	250	300	400
Block Break	40	40	40	40	40	40	40
Head Block	40	40	40	40	40	40	40
Tail Block	10	79	71	115	210	260	360
GAF \$	\$33.85	\$80.56	\$75.15	\$104.94	\$169.25	\$203.10	\$270.80
LDAF \$	\$6.26	\$14.90	\$13.90	\$19.41	\$31.30	\$37.56	\$50.08
Head Block \$	\$13.34	\$13.34	\$13.34	\$13.34	\$13.34	\$13.34	\$13.34
Tail Block \$	\$4.00	\$31.56	\$28.36	\$45.94	\$83.90	\$103.87	\$143.82
Customer Charge	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00
Total Bill	\$65	\$148	\$139	\$192	\$306	\$366	\$486

With 2013 EE Budget

Cust. Charge	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00
Headblock	\$0.3334	\$0.3334	\$0.3334	\$0.3334	\$0.3334	\$0.3334	\$0.3334
Tailblock	\$0.3995	\$0.3995	\$0.3995	\$0.3995	\$0.3995	\$0.3995	\$0.3995
CGA	\$0.6770	\$0.6770	\$0.6770	\$0.6770	\$0.6770	\$0.6770	\$0.6770
LDAF	\$0.1283	\$0.1283	\$0.1283	\$0.1283	\$0.1283	\$0.1283	\$0.1283
Average Use	50	119	111	155	250	300	400
Block Break	40	40	40	40	40	40	40
Head Block	40	40	40	40	40	40	40
Tail Block	10	79	71	115	210	260	360
GAF \$	\$33.85	\$80.56	\$75.15	\$104.94	\$169.25	\$203.10	\$270.80
LDAF \$	\$6.42	\$15.27	\$14.24	\$19.89	\$32.08	\$38.49	\$51.32
Head Block \$	\$13.34	\$13.34	\$13.34	\$13.34	\$13.34	\$13.34	\$13.34
Tail Block \$	\$4.00	\$31.56	\$28.36	\$45.94	\$83.90	\$103.87	\$143.82
Customer Charge	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00
Total Bill	\$66	\$149	\$139	\$192	\$307	\$367	\$487
Variance	\$0.16	\$0.37	\$0.34	\$0.48	\$0.77	\$0.93	\$1.24
Percent Variance	0.2%	0.2%	0.2%	0.3%	0.3%	0.3%	0.3%

Colonial Gas Company

Monthly Bill Impact for an Average Residential Heating (R4) Customer (Assistance)

Feb - April 12 (Peak CGA & LDAF effective 2/1/12)

<u>With 2012 MTM EE Budget</u>	Avg. Winter						
	Month		Peak Month				
Average Monthly Use per Customer- CCF	50	100	116	145	250	300	400
Cust. Charge	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00
Headblock	\$0.3334	\$0.3334	\$0.3334	\$0.3334	\$0.3334	\$0.3334	\$0.3334
Tailblock	\$0.3995	\$0.3995	\$0.3995	\$0.3995	\$0.3995	\$0.3995	\$0.3995
CGA	\$0.6770	\$0.6770	\$0.6770	\$0.6770	\$0.6770	\$0.6770	\$0.6770
LDAF	\$0.1252	\$0.1252	\$0.1252	\$0.1252	\$0.1252	\$0.1252	\$0.1252
Average Use	50	100	116	145	250	300	400
Block Break	40	40	40	40	40	40	40
Head Block	40	40	40	40	40	40	40
Tail Block	10	60	76	105	210	260	360
GAF \$	\$33.85	\$67.70	\$78.53	\$98.17	\$169.25	\$203.10	\$270.80
LDAF \$	\$6.26	\$12.52	\$14.52	\$18.15	\$31.30	\$37.56	\$50.08
Head Block \$	\$13.34	\$13.34	\$13.34	\$13.34	\$13.34	\$13.34	\$13.34
Tail Block \$	\$4.00	\$23.97	\$30.36	\$41.95	\$83.90	\$103.87	\$143.82
Customer Charge	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00
Total Bill	\$65	\$126	\$145	\$180	\$306	\$366	\$486
25% Discount	\$16	\$31	\$36	\$45	\$76	\$91	\$122
Total Discounted Bill	\$49	\$94	\$109	\$135	\$229	\$274	\$365

With 2013 EE Budget

Cust. Charge	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00
Headblock	\$0.3334	\$0.3334	\$0.3334	\$0.3334	\$0.3334	\$0.3334	\$0.3334
Tailblock	\$0.3995	\$0.3995	\$0.3995	\$0.3995	\$0.3995	\$0.3995	\$0.3995
CGA	\$0.6770	\$0.6770	\$0.6770	\$0.6770	\$0.6770	\$0.6770	\$0.6770
LDAF	\$0.1283	\$0.1283	\$0.1283	\$0.1283	\$0.1283	\$0.1283	\$0.1283
Average Use	50	100	116	145	250	300	400
Block Break	40	40	40	40	40	40	40
Head Block	40	40	40	40	40	40	40
Tail Block	10	60	76	105	210	260	360
GAF \$	\$33.85	\$67.70	\$78.53	\$98.17	\$169.25	\$203.10	\$270.80
LDAF \$	\$6.42	\$12.83	\$14.88	\$18.60	\$32.08	\$38.49	\$51.32
Head Block \$	\$13.34	\$13.34	\$13.34	\$13.34	\$13.34	\$13.34	\$13.34
Tail Block \$	\$4.00	\$23.97	\$30.36	\$41.95	\$83.90	\$103.87	\$143.82
Customer Charge	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00
Total Bill	\$66	\$126	\$145	\$180	\$307	\$367	\$487
25% Discount	\$16	\$31	\$36	\$45	\$77	\$92	\$122
Total Discounted Bill	\$49	\$94	\$109	\$135	\$230	\$275	\$365
Variance	\$0.12	\$0.23	\$0.27	\$0.34	\$0.58	\$0.70	\$0.93
Percent Variance	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%

Colonial Gas Company

Monthly Bill Impact for an Average Commercial G41 Customer

Feb - April 12 (Peak CGA & LDAF effective 2/1/12)

With 2012 MTM EE Budget

	Avg. Winter						
		Month	Peak Month				
Average Monthly Use per Customer- therm	50	100	283	416	700	800	1,000
Cust. Charge	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00
Headblock	\$0.2823	\$0.2823	\$0.2823	\$0.2823	\$0.2823	\$0.2823	\$0.2823
Tailblock	\$0.3473	\$0.3473	\$0.3473	\$0.3473	\$0.3473	\$0.3473	\$0.3473
CGA	\$0.6770	\$0.6770	\$0.6770	\$0.6770	\$0.6770	\$0.6770	\$0.6770
LDAF	\$0.1022	\$0.1022	\$0.1022	\$0.1022	\$0.1022	\$0.1022	\$0.1022
Average Use	50	100	283	416	700	800	1,000
Block Break	120	120	120	120	120	120	120
Head Block	50	100	120	120	120	120	120
Tail Block	0	0	163	296	580	680	880
GAF \$	\$33.85	\$67.70	\$191.30	\$281.74	\$473.90	\$541.60	\$677.00
LDAF \$	\$5.11	\$10.22	\$28.88	\$42.53	\$71.54	\$81.76	\$102.20
Head Block \$	\$14.12	\$28.23	\$33.88	\$33.88	\$33.88	\$33.88	\$33.88
Tail Block \$	\$0.00	\$0.00	\$56.46	\$102.86	\$201.43	\$236.16	\$305.62
Customer Charge	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00
Total Bill	\$64	\$117	\$322	\$472	\$792	\$904	\$1,130

With 2013 EE Budget

Cust. Charge	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00
Headblock	\$0.2823	\$0.2823	\$0.2823	\$0.2823	\$0.2823	\$0.2823	\$0.2823
Tailblock	\$0.3473	\$0.3473	\$0.3473	\$0.3473	\$0.3473	\$0.3473	\$0.3473
CGA	\$0.6770	\$0.6770	\$0.6770	\$0.6770	\$0.6770	\$0.6770	\$0.6770
LDAF	\$0.1186	\$0.1186	\$0.1186	\$0.1186	\$0.1186	\$0.1186	\$0.1186
Average Use	50	100	283	416	700	800	1,000
Block Break	120	120	120	120	120	120	120
Head Block	50	100	120	120	120	120	120
Tail Block	0	0	163	296	580	680	880
GAF \$	\$33.85	\$67.70	\$191.30	\$281.74	\$473.90	\$541.60	\$677.00
LDAF \$	\$5.93	\$11.86	\$33.51	\$49.36	\$83.02	\$94.88	\$118.60
Head Block \$	\$14.12	\$28.23	\$33.88	\$33.88	\$33.88	\$33.88	\$33.88
Tail Block \$	\$0.00	\$0.00	\$56.46	\$102.86	\$201.43	\$236.16	\$305.62
Customer Charge	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00
Total Bill	\$65	\$119	\$326	\$479	\$803	\$918	\$1,146
Variance	\$0.82	\$1.64	\$4.63	\$6.83	\$11.48	\$13.12	\$16.40
Percent Variance	1.3%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%

Colonial Gas Company

Monthly Bill Impact for an Average Commercial G51 Customer

Feb - April 12 (Peak CGA & LDAF effective 2/1/12)

With 2012 MTM EE Budget

	Avg. Winter							
	Average Monthly Use per Customer- therm	100	250	365	418	1,000	2,000	5,000
Cust. Charge	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00
Headblock	\$0.2233	\$0.2233	\$0.2233	\$0.2233	\$0.2233	\$0.2233	\$0.2233	\$0.2233
Tailblock	\$0.2763	\$0.2763	\$0.2763	\$0.2763	\$0.2763	\$0.2763	\$0.2763	\$0.2763
CGA	\$0.6770	\$0.6770	\$0.6770	\$0.6770	\$0.6770	\$0.6770	\$0.6770	\$0.6770
LDAF	\$0.1017	\$0.1017	\$0.1017	\$0.1017	\$0.1017	\$0.1017	\$0.1017	\$0.1017
Average Use	100	250	365	418	1,000	2,000	5,000	
Block Break	175	175	175	175	175	175	175	
Head Block	100	175	175	175	175	175	175	
Tail Block	0	75	190	243	825	1,825	4,825	
GAF \$	\$67.70	\$169.25	\$246.95	\$283.19	\$677.00	\$1,354.00	\$3,385.00	
LDAF \$	\$10.17	\$25.43	\$37.10	\$42.54	\$101.70	\$203.40	\$508.50	
Head Block \$	\$22.33	\$39.08	\$39.08	\$39.08	\$39.08	\$39.08	\$39.08	
Tail Block \$	\$0.00	\$20.72	\$52.43	\$67.22	\$227.95	\$504.25	\$1,333.15	
Customer Charge	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	
Total Bill	\$111	\$265	\$387	\$443	\$1,057	\$2,112	\$5,277	

Total Bill

Cust. Charge	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00
Headblock	\$0.2233	\$0.2233	\$0.2233	\$0.2233	\$0.2233	\$0.2233	\$0.2233
Tailblock	\$0.2763	\$0.2763	\$0.2763	\$0.2763	\$0.2763	\$0.2763	\$0.2763
CGA	\$0.6770	\$0.6770	\$0.6770	\$0.6770	\$0.6770	\$0.6770	\$0.6770
LDAF	\$0.1181	\$0.1181	\$0.1181	\$0.1181	\$0.1181	\$0.1181	\$0.1181
Average Use	100	250	365	418	1,000	2,000	5,000
Block Break	175	175	175	175	175	175	175
Head Block	100	175	175	175	175	175	175
Tail Block	0	75	190	243	825	1,825	4,825
GAF \$	\$67.70	\$169.25	\$246.95	\$283.19	\$677.00	\$1,354.00	\$3,385.00
LDAF \$	\$11.81	\$29.53	\$43.08	\$49.40	\$118.10	\$236.20	\$590.50
Head Block \$	\$22.33	\$39.08	\$39.08	\$39.08	\$39.08	\$39.08	\$39.08
Tail Block \$	\$0.00	\$20.72	\$52.43	\$67.22	\$227.95	\$504.25	\$1,333.15
Customer Charge	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00
Total Bill	\$113	\$270	\$393	\$450	\$1,073	\$2,145	\$5,359
Variance	1.64	4.10	5.98	6.86	16.40	32.80	82.00
Percent Variance	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%

NSTAR GAS COMPANY
 WINTER BILL COMPARISON
 DOMESTIC HEATING RATE R-3

WINTER USAGE & RATES

BILL PERCENTILE	MONTHLY THERMS	TOTAL	-----2012 MTM -----			DIST.	----- 2013 - 2015 EEP Plan -----				---- CHANGE ----	
			CGA (1)	CC/LDAC (3)			TOTAL	CGA (2)	CC/LDAC (4)		AMOUNT	% OF TOTAL
10	32	\$ 51.20	\$ 22.43	\$ 4.41	\$ 24.36	\$ 51.64	\$ 22.43	\$ 4.85	\$ 24.36	\$ 0.44	0.9%	
20	54	80.38	37.85	7.44	35.09	81.13	37.85	8.19	35.09	0.75	0.9%	
30	72	99.91	50.47	9.91	39.53	100.92	50.47	10.92	39.53	1.01	1.0%	
40	90	119.44	63.09	12.39	43.96	120.69	63.09	13.64	43.96	1.25	1.0%	
50	110	141.16	77.11	15.15	48.90	142.69	77.11	16.68	48.90	1.53	1.1%	
60	130	162.86	91.13	17.90	53.83	164.67	91.13	19.71	53.83	1.81	1.1%	
70	160	195.42	112.16	22.03	61.23	197.65	112.16	24.26	61.23	2.23	1.1%	
80	190	227.97	133.19	26.16	68.62	230.61	133.19	28.80	68.62	2.64	1.2%	
90	250	293.10	175.25	34.43	83.42	296.57	175.25	37.90	83.42	3.47	1.2%	
Avg Use	131	163.94	91.83	18.04	54.07	165.76	91.83	19.86	54.07	1.82	1.1%	

PRESENT RATE R-3				PROPOSED RATE R-3					
		WINTER	SUMMER			WINTER	SUMMER		
CUSTOMER CHARGE:		\$ 7.05	\$ 7.05	CUSTOMER CHARGE:		\$ 7.05	\$ 7.05		
ENERGY CHARGE:				ENERGY CHARGE:					
	THERM		THERM		THERM	RATE	THERM	RATE	
FIRST	50	\$ 0.5410	20	\$ 0.5410	FIRST	50	\$ 0.5410	20	\$ 0.5410
OVER	50	\$ 0.2466	20	\$ 0.2466	OVER	50	\$ 0.2466	20	\$ 0.2466

PRESENT RATE ADJUSTMENTS	CENTS/THERM
(1) WINTER CGA	70.100
SUMMER CGA	68.720
(3) LDAC FACTOR	13.770

PROPOSED RATE ADJUSTMENTS	CENTS/THERM
(2) WINTER CGA	70.100
SUMMER CGA	68.720
(4) LDAC FACTOR	15.160

NSTAR GAS COMPANY
 WINTER BILL COMPARISON
 DOMESTIC HEATING LOW INCOME RATE R-4

WINTER USAGE & RATES

BILL PERCENTILE	MONTHLY THERMS	-----2012 MTM -----				----- 2013 - 2015 EEP Plan -----				---- CHANGE ----	
		TOTAL	CGA (1)	CC/LDAC (3)	DIST.	TOTAL	CGA (2)	CC/LDAC (4)	DIST.	AMOUNT	% OF TOTAL
10	40	\$ 44.88	\$ 28.04	\$ 5.51	\$ 11.33	\$ 45.43	\$ 28.04	\$ 6.06	\$ 11.33	\$ 0.55	1.2%
20	57	61.57	39.96	7.85	13.76	62.36	39.96	8.64	13.76	0.79	1.3%
30	73	76.02	51.17	10.05	14.80	77.04	51.17	11.07	14.80	1.02	1.3%
40	88	89.58	61.69	12.12	15.77	90.80	61.69	13.34	15.77	1.22	1.4%
50	100	100.42	70.10	13.77	16.55	101.81	70.10	15.16	16.55	1.39	1.4%
60	120	118.48	84.12	16.52	17.84	120.15	84.12	18.19	17.84	1.67	1.4%
70	145	141.08	101.65	19.97	19.46	143.09	101.65	21.98	19.46	2.01	1.4%
80	170	163.66	119.17	23.41	21.08	166.02	119.17	25.77	21.08	2.36	1.4%
90	220	208.83	154.22	30.29	24.32	211.89	154.22	33.35	24.32	3.06	1.5%
Avg Use	120	118.48	84.12	16.52	17.84	120.15	84.12	18.19	17.84	1.67	1.4%

PRESENT RATE R-4				PROPOSED RATE R-4						
		WINTER		SUMMER		WINTER		SUMMER		
CUSTOMER CHARGE:		\$	3.41	\$	3.41	\$ 3.41		\$ 3.41		
ENERGY CHARGE:										
	THERM			THERM		THERM	RATE	THERM	RATE	
FIRST	50	\$	0.1979	20	\$	0.1979		20	\$	0.1979
OVER	50	\$	0.0648	20	\$	0.0648		20	\$	0.0648

PRESENT RATE ADJUSTMENTS
 (1) WINTER CGA
 SUMMER CGA
 (3) LDAC FACTOR

CENTS/THERM
 70.100
 68.720
 13.770

PROPOSED RATE ADJUSTMENTS
 (2) WINTER CGA
 SUMMER CGA
 (4) LDAC FACTOR

CENTS/THERM
 70.100
 68.720
 15.160

NSTAR GAS COMPANY
 WINTER BILL COMPARISON
 LOW LOAD FACTOR - SMALL GENERAL- RATE G-41

WINTER USAGE & RATES

BILL PERCENTILE	MONTHLY THERMS	-----2012 MTM -----				----- 2013 - 2015 EEP Plan -----				---- CHANGE ----	
		TOTAL	CGA (1)	CC/LDAC (3)	DIST.	TOTAL	CGA (2)	CC/LDAC (4)	DIST.	AMOUNT	% OF TOTAL
10	7	\$ 22.80	\$ 4.91	\$ 0.57	\$ 17.32	\$ 22.93	\$ 4.91	\$ 0.70	\$ 17.32	\$ 0.13	0.6%
20	28	44.55	19.63	2.29	22.63	45.06	19.63	2.80	22.63	0.51	1.1%
30	56	73.56	39.26	4.59	29.71	74.58	39.26	5.61	29.71	1.02	1.4%
40	90	108.77	63.09	7.37	38.31	110.41	63.09	9.01	38.31	1.64	1.5%
50	135	155.39	94.64	11.06	49.69	157.84	94.64	13.51	49.69	2.45	1.6%
60	200	222.71	140.20	16.38	66.13	226.35	140.20	20.02	66.13	3.64	1.6%
70	290	315.93	203.29	23.75	88.89	321.21	203.29	29.03	88.89	5.28	1.7%
80	450	481.67	315.45	36.86	129.36	489.86	315.45	45.05	129.36	8.19	1.7%
90	800	844.19	560.80	65.52	217.87	858.75	560.80	80.08	217.87	14.56	1.7%
Avg Use	296	322.15	207.50	24.24	90.41	327.54	207.50	29.63	90.41	5.39	1.7%

PRESENT RATE G-41				PROPOSED RATE G-41			
		WINTER	SUMMER			WINTER	SUMMER
CUSTOMER CHARGE:		\$ 15.55	\$ 15.55	CUSTOMER CHARGE:		\$ 15.55	\$ 15.55
ENERGY CHARGE:				ENERGY CHARGE:			
	PER THERM	\$ 0.2529	\$ 0.1712		PER THERM	\$ 0.2529	\$ 0.1712

PRESENT RATE ADJUSTMENTS
 (1) WINTER CGA
 SUMMER CGA
 (3) LDAC FACTOR

CENTS/THERM
 70.100
 68.720
 8.190

PROPOSED RATE ADJUSTMENTS
 (2) WINTER CGA
 SUMMER CGA
 (4) LDAC FACTOR

CENTS/THERM
 70.100
 68.720
 10.010

COLUMBIA GAS OF MASSACHUSETTS
Typical Residential Heating Bill (R-3)
 Energy Efficiency Non-participant and Participant Bill Impacts re: EE Surcharge and Therm Savings
 Effective May 2012

Attach. A
 Page 1 of 2

Typical Usage In Therms													Total May - Apr (13)	Total Off-Peak (14)	Total Peak (15)		
Line No.	Residential Heating (R-3)	Jan (1)	Feb (2)	Mar (3)	Apr (4)	May (5)	Jun (6)	Jul (7)	Aug (8)	Sep (9)	Oct (10)	Nov (11)				Dec (12)	
1	Average Monthly Use	<u>Input</u>	185	157	132	75	41	22	20	20	23	50	91	150	966	176	790
2	Participant Average Therm Savings @ 15.0%		28	24	20	11	6	3	3	3	3	8	14	23	145	26	119
3	Participant Average Monthly Use		157	133	112	64	35	19	17	17	20	43	77	128	821	150	205
5	Base Rates Effective 11/01/09 --- Nonparticipant																
6	Off-Peak																
7	Cust. Chg	\$10.94				\$10.94	\$10.94	\$10.94	\$10.94	\$10.94	\$10.94				\$66	\$66	
8	First 10 therms @	\$0.3044				\$3.04	\$3.04	\$3.04	\$3.04	\$3.04	\$3.04				\$18	\$18	
9	Over 10 therms @	\$0.3546				\$10.99	\$4.26	\$3.55	\$3.55	\$4.61	\$14.18				\$41	\$41	
11	Peak																
12	Cust. Chg	\$10.94	\$10.94	\$10.94	\$10.94	\$10.94						\$10.94	\$10.94		\$66		\$66
13	First 50 therms @	\$0.3044	\$15.22	\$15.22	\$15.22	\$15.22						\$15.22	\$15.22		\$91		\$91
14	Over 50 therms @	\$0.3546	\$47.87	\$37.94	\$29.08	\$8.87						\$14.54	\$35.46		\$174		\$174
16	Base Rate Amount -- Nonparticipant		\$74.03	\$64.10	\$55.24	\$35.03	\$24.98	\$18.24	\$17.53	\$17.53	\$18.59	\$28.17	\$40.70	\$61.62	\$456	\$125	\$331
18	Base Rates Effective 11/01/09 --- Participant Costs																
19	Off-Peak																
20	Cust. Chg	\$10.94				\$10.94	\$10.94	\$10.94	\$10.94	\$10.94	\$10.94				\$66	\$66	
21	First 10 therms @	\$0.3044				\$3.04	\$3.04	\$3.04	\$3.04	\$3.04	\$3.04				\$18	\$18	
22	Over 10 therms @	\$0.3546				\$8.81	\$3.09	\$2.48	\$2.48	\$3.39	\$11.53				\$32	\$32	
24	Peak																
25	Cust. Chg	\$10.94	\$10.94	\$10.94	\$10.94	\$10.94						\$10.94	\$10.94		\$66		\$66
26	First 50 therms @	\$0.3044	\$15.22	\$15.22	\$15.22	\$15.22						\$15.22	\$15.22		\$91		\$91
27	Over 50 therms @	\$0.3546	\$38.03	\$29.59	\$22.06	\$4.88						\$9.70	\$27.48		\$132		\$132
29	Base Rate Amount -- Participant		\$64.19	\$55.75	\$48.22	\$31.04	\$22.80	\$17.07	\$16.47	\$16.47	\$17.37	\$25.51	\$35.86	\$53.64	\$404	\$116	\$289
32	Nov. 2011 - May 2012 -- Year 1																
33	Proposed CGA Rates - May 2012 & Nov 2011		\$0.7929	\$0.6551	\$0.6551	\$0.6551	\$0.3644	\$0.3644	\$0.3644	\$0.3644	\$0.3644	\$0.3644	\$0.7929	\$0.7929			
34	Proposed LDF - Annual eff. Nov. 1, 2011 *		\$0.1202	\$0.1202	\$0.1202	\$0.1202	\$0.1204	\$0.1204	\$0.1204	\$0.1204	\$0.1204	\$0.1204	\$0.1202	\$0.1202			
35	Including EES * of:		\$0.0715	\$0.0715	\$0.0715	\$0.0715	\$0.0715	\$0.0715	\$0.0715	\$0.0715	\$0.0715	\$0.0715	\$0.0715	\$0.0715			
36	Revenue Decoupling Adj. Factor (RDAF) - Annual *																
37	EE Program Therm Savings Impact on RDAF		\$0.0018	\$0.0018	\$0.0018	\$0.0018	\$0.0018	\$0.0018	\$0.0018	\$0.0018	\$0.0018	\$0.0018	\$0.0018	\$0.0018			
39	Non-participant																
40	Total Bill Without EES and without EE Impact on RDAF		\$229.40	\$174.32	\$147.91	\$87.68	\$41.85	\$27.29	\$25.76	\$25.76	\$28.06	\$48.75	\$117.13	\$187.60	\$1,142	\$197.47	\$944
41	Total Bill With EES		<u>\$242.95</u>	<u>\$185.82</u>	<u>\$157.58</u>	<u>\$93.17</u>	<u>\$44.85</u>	<u>\$28.90</u>	<u>\$27.23</u>	<u>\$27.23</u>	<u>\$29.74</u>	<u>\$52.41</u>	<u>\$123.79</u>	<u>\$198.58</u>	<u>\$1,212</u>	<u>\$210.36</u>	<u>\$1,002</u>
42	Difference		\$13.55	\$11.50	\$9.67	\$5.49	\$3.00	\$1.61	\$1.46	\$1.46	\$1.68	\$3.66	\$6.66	\$10.99	\$71	\$13	\$58
44	% Change in Total Bill - Non-participant		5.91%	6.60%	6.54%	6.26%	7.18%	5.90%	5.69%	5.69%	6.00%	7.51%	5.69%	5.86%	6.20%	6.53%	6.13%
46	Participant																
47	Total Bill Without EES, Therm Savings and RDAF Impact		\$229.40	\$174.32	\$147.91	\$87.68	\$41.85	\$27.29	\$25.76	\$25.76	\$28.06	\$48.75	\$117.13	\$187.60	\$1,142	\$197.47	\$944
48	Total Bill With EES & With Therm Savings & RDAF Impact		<u>\$207.77</u>	<u>\$159.21</u>	<u>\$135.20</u>	<u>\$80.46</u>	<u>\$39.69</u>	<u>\$26.13</u>	<u>\$24.71</u>	<u>\$24.71</u>	<u>\$26.85</u>	<u>\$46.11</u>	<u>\$106.49</u>	<u>\$170.06</u>	<u>\$1,047</u>	<u>\$188.20</u>	<u>\$859</u>
49	Difference		(\$21.63)	(\$15.11)	(\$12.70)	(\$7.22)	(\$2.16)	(\$1.16)	(\$1.05)	(\$1.05)	(\$1.21)	(\$2.63)	(\$10.64)	(\$17.54)	(\$94)	(\$9)	(\$85)
51	% Change in Total Bill - Non-participant		-9.43%	-8.67%	-8.59%	-8.23%	-5.16%	-4.24%	-4.09%	-4.09%	-4.32%	-5.40%	-9.08%	-9.35%	-8.24%	-4.69%	-8.99%
52	Net Savings / Cost -- Combined Participant and Nonparticipant: Based on Participant level of:					<u>input</u>											
53						25%									2.59%	3.72%	2.35%

* Use Calculated annualized EE-based RDAF instead of actual RDAFs.

Columbia Gas of Massachusetts
 Derivation of EE Savings Impact on Rates
 and EES Rate Calculation During 3-Year Plan

Attachment A
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1	<u>RDAF re: EE Program Therm Savings:</u>		<u>BENCHMARK</u>		
2	Volumetric Benchmark (2008) Base Revenue		\$ 125,581,146	- rev 12-21-11	
3	Test Year 2008 Therms		516,576,411		
4	Average Rev per Therm	(1) / (2)	\$ 0.2431		
5					
6	EE Savings Rate Impact		<u>YEAR 1 - 2013</u>	<u>YEAR 2 - 2014</u>	<u>YEAR 3 - 2015</u>
7	EE Therm Savings		3,694,842	3,818,715	3,919,078
8	Reduced Year 1 Annual Therms	(3) - (7)	512,881,569	512,757,696	512,657,333
9	Reduced Avg Rev per Therm	(2) / (8)	\$ 0.2449	\$ 0.2449	\$ 0.2450
10					
11	Rate Impact (LBR-type Rate)	(9) - (4)	\$ 0.0018	\$ 0.0018	\$ 0.0019
12					
13					
14	EES Rate:		<u>YEAR 1 - 2013</u>	<u>YEAR 2 - 2014</u>	<u>YEAR 3 - 2015</u>
15	Res Htg Annual Budget *		\$ 16,518,375	\$17,376,331	\$18,345,401
16	Annual Vols - Therms		231,065,000	232,220,325	233,381,427
17	EES Rate	(15) / (16)	\$ 0.0715	\$0.0748	\$0.0786

* From 3-Year Plan

COLUMBIA GAS OF MASSACHUSETTS
 Typical Residential Heating Bill (R-4)
 Energy Efficiency Non-participant and Participant Bill Impacts re: EE Surcharge and Therm Savings
 Effective May 2012

Typical Usage In Therms														Total	Total	Total	
Line No.	Residential Heating Low Income (R-4)													May - Apr	Off-Peak	Peak	
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	(13)	(14)	(15)		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)					
1	Average Monthly Use	<i>Input</i>	179	151	131	74	43	23	21	22	25	54	93	151	967	188	779
2	Participant Average Therm Savings @	15.0%	27	23	20	11	6	3	3	3	4	8	14	23	145	28	117
3	Participant Average Monthly Use		152	128	111	63	37	20	18	19	21	46	79	128	822	160	207
4																	
5	Base Rates Effective 11/01/09 --- Nonparticipant																
6	Off-Peak																
7	Cust. Chg					\$10.94	\$10.94	\$10.94	\$10.94	\$10.94	\$10.94	\$10.94			\$66	\$66	
8	First	10	therms @			\$3.04	\$3.04	\$3.04	\$3.04	\$3.04	\$3.04	\$3.04			\$18	\$18	
9	Over	10	therms @			\$0.3546	\$0.3546	\$0.3546	\$0.3546	\$0.3546	\$0.3546	\$0.3546			\$45	\$45	
10																	
11	Peak																
12	Cust. Chg					\$10.94	\$10.94	\$10.94	\$10.94		\$10.94	\$10.94			\$66		\$66
13	First	50	therms @			\$0.3044	\$0.3044	\$0.3044	\$0.3044		\$0.3044	\$0.3044			\$91		\$91
14	Over	50	therms @			\$0.3546	\$0.3546	\$0.3546	\$0.3546		\$0.3546	\$0.3546			\$170		\$170
15																	
16	Base Rate Amount -- Nonparticipant																
17			\$71.90	\$61.98	\$54.88	\$34.67	\$25.69	\$18.59	\$17.89	\$18.24	\$19.30	\$29.59	\$41.41	\$61.98	\$456	\$129	\$327
18	Base Rates Effective 11/01/09 --- Participant Costs																
19	Off-Peak																
20	Cust. Chg					\$10.94	\$10.94	\$10.94	\$10.94	\$10.94	\$10.94	\$10.94			\$66	\$66	
21	First	10	therms @			\$0.3044	\$0.3044	\$0.3044	\$0.3044	\$0.3044	\$0.3044	\$0.3044			\$18	\$18	
22	Over	10	therms @			\$0.3546	\$0.3546	\$0.3546	\$0.3546	\$0.3546	\$0.3546	\$0.3546			\$35	\$35	
23																	
24	Peak																
25	Cust. Chg					\$10.94	\$10.94	\$10.94	\$10.94		\$10.94	\$10.94			\$66		\$66
26	First	50	therms @			\$0.3044	\$0.3044	\$0.3044	\$0.3044		\$0.3044	\$0.3044			\$91		\$91
27	Over	50	therms @			\$0.3546	\$0.3546	\$0.3546	\$0.3546		\$0.3546	\$0.3546			\$128		\$128
28																	
29	Base Rate Amount -- Participant																
30			\$62.38	\$53.94	\$47.92	\$30.73	\$23.40	\$17.37	\$16.77	\$17.07	\$17.97	\$26.71	\$36.46	\$53.94	\$405	\$119	\$285
31																	
32	Nov. 2011 - May 2012 -- Year 1																
33	Proposed CGA Rates - May 2012 & Nov 2011																
34			\$0.7929	\$0.6551	\$0.6551	\$0.6551	\$0.3644	\$0.3644	\$0.3644	\$0.3644	\$0.3644	\$0.3644	\$0.7929	\$0.7929	\$0.7929	\$0.7929	\$0.7929
35	Proposed LDAF - Annual eff. Nov. 1, 2011 *																
36			\$0.1202	\$0.1202	\$0.1202	\$0.1202	\$0.1204	\$0.1204	\$0.1204	\$0.1204	\$0.1204	\$0.1204	\$0.1202	\$0.1202	\$0.1202	\$0.1202	\$0.1202
37	Including EES * of:																
38			\$0.0715	\$0.0715	\$0.0715	\$0.0715	\$0.0715	\$0.0715	\$0.0715	\$0.0715	\$0.0715	\$0.0715	\$0.0715	\$0.0715	\$0.0715	\$0.0715	\$0.0715
39	Revenue Decoupling Adj. Factor (RDAF) - Annual *																
40			\$0.0018	\$0.0018	\$0.0018	\$0.0018	\$0.0018	\$0.0018	\$0.0018	\$0.0018	\$0.0018	\$0.0018	\$0.0018	\$0.0018	\$0.0018	\$0.0018	\$0.0018
41	EE ProgramTherm Savings Impact on RDAF																
42			\$0.0018	\$0.0018	\$0.0018	\$0.0018	\$0.0018	\$0.0018	\$0.0018	\$0.0018	\$0.0018	\$0.0018	\$0.0018	\$0.0018	\$0.0018	\$0.0018	\$0.0018
43	Non-participant - Reflects Discount of: 20.9%																
44	Total Bill Without EES and without EE Impact on RDAF		\$175.79	\$132.88	\$116.16	\$68.52	\$34.32	\$22.20	\$20.98	\$21.59	\$23.41	\$40.98	\$94.54	\$149.33	\$901	\$163.47	\$737
45	Total Bill With EES		\$186.16	\$141.62	\$123.75	\$72.80	\$36.81	\$23.53	\$22.20	\$22.86	\$24.86	\$44.11	\$99.92	\$158.08	\$957	\$174.36	\$782
46	Difference		\$10.37	\$8.75	\$7.59	\$4.29	\$2.49	\$1.33	\$1.22	\$1.27	\$1.45	\$3.13	\$5.39	\$8.75	\$56	\$11	\$45
47	% Change in Total Bill - Non-participant		5.90%	6.58%	6.53%	6.26%	7.26%	6.00%	5.80%	5.90%	6.19%	7.63%	5.70%	5.86%	6.22%	6.66%	6.12%
48	Participant - Reflects Discount of: 20.9%																
49	Total Bill Without EES, Therm Savings and RDAF Impact		\$175.79	\$132.88	\$116.16	\$68.52	\$34.32	\$22.20	\$20.98	\$21.59	\$23.41	\$40.98	\$94.54	\$149.33	\$901	\$163.47	\$737
50	Total Bill With EES & With Therm Savings & RDAF Impact		\$159.23	\$121.38	\$106.19	\$62.88	\$32.52	\$21.24	\$20.11	\$20.67	\$22.37	\$38.73	\$85.93	\$135.37	\$827	\$155.64	\$671
51	Difference		(\$16.55)	(\$11.50)	(\$9.97)	(\$5.63)	(\$1.79)	(\$0.96)	(\$0.87)	(\$0.92)	(\$1.04)	(\$2.25)	(\$8.60)	(\$13.96)	(\$74)	(\$8)	(\$66)
52	% Change in Total Bill - Non-participant		-9.42%	-8.65%	-8.59%	-8.22%	-5.22%	-4.32%	-4.17%	-4.24%	-4.45%	-5.49%	-9.10%	-9.35%	-8.22%	-4.79%	-8.98%
53	Net Savings / Cost -- Combined Participant and Nonparticipant: Based on Participant level of: <i>input</i> 25%																
															2.61%	3.80%	2.35%

* Use Calculated annualized EE-based RDAF instead of actual RDAFs.

Columbia Gas of Massachusetts
 Derivation of EE Savings Impact on Rates
 and EES Rate Calculation During 3-Year Plan

Attachment B
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1	RDAF re: EE Program Therm Savings:	BENCHMARK		
2	Volumetric Benchmark (2008) Base Revenue	\$ 125,581,146	- rev 12-21-11	
3	Test Year 2008 Therms	516,576,411		
4	Average Rev per Therm (1) / (2)	\$ 0.2431		
5				
6	EE Savings Rate Impact	<u>YEAR 1 - 2013</u>	<u>YEAR 2 - 2014</u>	<u>YEAR 3 - 2015</u>
7	EE Therm Savings	3,694,842	3,818,715	3,919,078
8	Reduced Year 1 Annual Therms (3) - (7)	512,881,569	512,757,696	512,657,333
9	Reduced Avg Rev per Therm (2) / (8)	\$ 0.2449	\$ 0.2449	\$ 0.2450
10				
11	Rate Impact (LBR-type Rate) (9) - (4)	\$ 0.0018	\$ 0.0018	\$ 0.0019
12				
13				
14	EES Rate:	<u>YEAR 1 - 2013</u>	<u>YEAR 2 - 2014</u>	<u>YEAR 3 - 2015</u>
15	Res Htg Annual Budget *	\$ 16,518,375	\$17,376,331	\$18,345,401
16	Annual Vols - Therms	231,065,000	232,220,325	233,381,427
17	EES Rate (15) / (16)	\$ 0.0715	\$0.0748	\$0.0786

* From 3-Year Plan

COLUMBIA GAS OF MASSACHUSETTS
 Typical Low Annual / High Winter (G-40)
 Energy Efficiency Non-participant and Participant Bill Impacts re: EE Surcharge and Therm Savings
 Effective May 2012

Line No.	C&I Low Annual/High Winter (G-40)	Typical Usage In Therms												Total May - Apr (13)	Total Off-Peak (14)	Total Peak (15)
		Jan (1)	Feb (2)	Mar (3)	Apr (4)	May (5)	Jun (6)	Jul (7)	Aug (8)	Sep (9)	Oct (10)	Nov (11)	Dec (12)			
1	Average Monthly Use	291	247	189	88	33	11	10	10	15	40	105	204	1,243	119	1,124
2	Participant Average Therm Savings @ 15.0%	44	37	28	13	5	2	2	2	2	6	16	31	186	18	169
3	Participant Average Monthly Use	247	210	161	75	28	9	9	9	13	34	89	173	1,057	101	263
5	Base Rates Effective 11/01/09 -- Nonparticipant															
6	Off-Peak															
7	Cust. Chg					\$17.51	\$17.51	\$17.51	\$17.51	\$17.51	\$17.51			\$105	\$105	
8	First 8 therms @					\$0.2963	\$2.37	\$2.37	\$2.37	\$2.37	\$2.37			\$14	\$14	
9	Over 8 therms @					\$0.3477	\$8.69	\$1.04	\$0.70	\$0.70	\$2.43	\$11.13		\$25	\$25	
11	Peak															
12	Cust. Chg	\$17.51	\$17.51	\$17.51	\$17.51							\$17.51	\$17.51	\$105		\$105
13	First 50 therms @	\$0.2963	\$14.82	\$14.82	\$14.82	\$14.82						\$14.82	\$14.82	\$89		\$89
14	Over 50 therms @	\$0.3477	\$83.80	\$68.50	\$48.33	\$13.21						\$19.12	\$53.55	\$287		\$287
16	Base Rate Amount -- Nonparticipant	\$116.12	\$100.82	\$80.66	\$45.54	\$28.57	\$20.92	\$20.58	\$20.58	\$22.31	\$31.01	\$51.45	\$85.87	\$624	\$144	\$480
18	Base Rates Effective 11/01/09 -- Participant Costs															
19	Off-Peak															
20	Cust. Chg					\$17.51	\$17.51	\$17.51	\$17.51	\$17.51	\$17.51			\$105	\$105	
21	First 8 therms @					\$0.2963	\$2.37	\$2.37	\$2.37	\$2.37	\$2.37			\$14	\$14	
22	Over 8 therms @					\$0.3477	\$6.97	\$0.47	\$0.17	\$0.17	\$1.65	\$9.04		\$18	\$18	
24	Peak															
25	Cust. Chg	\$17.51	\$17.51	\$17.51	\$17.51							\$17.51	\$17.51	\$105		\$105
26	First 50 therms @	\$0.2963	\$14.82	\$14.82	\$14.82	\$14.82						\$14.82	\$14.82	\$89		\$89
27	Over 50 therms @	\$0.3477	\$68.62	\$55.62	\$38.47	\$8.62						\$13.65	\$42.91	\$228		\$228
29	Base Rate Amount -- Participant	\$100.94	\$87.94	\$70.80	\$40.95	\$26.85	\$20.35	\$20.05	\$20.05	\$21.53	\$28.92	\$45.97	\$75.23	\$560	\$138	\$422
32	Nov. 2011 - May 2012 -- Year 1															
33	Proposed CGA Rates - May 2012 & Nov 2011	\$0.7929	\$0.6551	\$0.6551	\$0.6551	\$0.3644	\$0.3644	\$0.3644	\$0.3644	\$0.3644	\$0.3644	\$0.7929	\$0.7929			
34	Proposed LDF - Annual eff. Nov. 1, 2011 *	\$0.0865	\$0.0865	\$0.0865	\$0.0865	\$0.0537	\$0.0537	\$0.0537	\$0.0537	\$0.0537	\$0.0537	\$0.0865	\$0.0865			
35	Including EES * of:	\$0.0048	\$0.0048	\$0.0048	\$0.0048	\$0.0048	\$0.0048	\$0.0048	\$0.0048	\$0.0048	\$0.0048	\$0.0048	\$0.0048			
36	Revenue Decoupling Adj. Factor (RDAF) - Annual *															
37	EE ProgramTherm Savings Impact on RDAF	\$0.0018	\$0.0018	\$0.0018	\$0.0018	\$0.0018	\$0.0018	\$0.0018	\$0.0018	\$0.0018	\$0.0018	\$0.0018	\$0.0018			
39	Non-participant															
40	Total Bill Without EES and without EE Impact on RDAF	\$370.11	\$282.37	\$219.57	\$110.22	\$42.15	\$25.45	\$24.69	\$24.69	\$28.49	\$47.47	\$143.09	\$263.92	\$1,582	\$192.94	\$1,389
41	Total Bill With EES	\$372.03	\$284.00	\$220.82	\$110.80	\$42.37	\$25.52	\$24.76	\$24.76	\$28.59	\$47.73	\$143.79	\$265.27	\$1,590	\$193.72	\$1,397
42	Difference	\$1.92	\$1.63	\$1.25	\$0.58	\$0.22	\$0.07	\$0.07	\$0.07	\$0.10	\$0.26	\$0.69	\$1.34	\$8	\$1	\$7
44	% Change in Total Bill - Non-participant	0.52%	0.58%	0.57%	0.53%	0.52%	0.28%	0.27%	0.27%	0.35%	0.56%	0.48%	0.51%	0.52%	0.41%	0.53%
46	Participant															
47	Total Bill Without EES, Therm Savings and RDAF Impact	\$370.11	\$282.37	\$219.57	\$110.22	\$42.15	\$25.45	\$24.69	\$24.69	\$28.49	\$47.47	\$143.09	\$263.92	\$1,582	\$192.94	\$1,389
48	Total Bill With EES & With Therm Savings & RDAF Impact	\$318.46	\$243.64	\$189.94	\$96.42	\$38.58	\$24.26	\$23.61	\$23.61	\$26.86	\$43.14	\$124.46	\$227.72	\$1,381	\$180.05	\$1,201
49	Difference	(\$51.64)	(\$38.73)	(\$29.64)	(\$13.80)	(\$3.57)	(\$1.19)	(\$1.08)	(\$1.08)	(\$1.62)	(\$4.33)	(\$18.64)	(\$36.20)	(\$202)	(\$13)	(\$189)
51	% Change in Total Bill - Non-participant	-13.95%	-13.72%	-13.50%	-12.52%	-8.48%	-4.68%	-4.38%	-4.38%	-5.70%	-9.12%	-13.02%	-13.72%	-12.74%	-6.68%	-13.58%
52	Net Savings / Cost -- Combined Participant and Nonparticipant: Based on Participant level of: <i>input</i> 25%															
53														-2.80%	-1.36%	-2.99%

* Use Calculated annualized EE-based RDAF instead of actual RDAFs.

Columbia Gas of Massachusetts
 Derivation of EE Savings Impact on Rates
 and EES Rate Calculation During 3-Year Plan

Attachment C
 Page 2 of 2

1	<u>RDAF re: EE Program Therm Savings:</u>		<u>BENCHMARK</u>		
2	Benchmark (2008) Base Revenue		\$ 125,581,146		
3	Test Year 2008 Therms		516,576,411		
4	Average Rev per Therm	(1) / (2)	\$ 0.2431		
5					
6	<u>EE Savings Rate Impact</u>		<u>YEAR 1 - 2013</u>	<u>YEAR 2 - 2014</u>	<u>YEAR 3 - 2015</u>
7	EE Therm Savings		3,694,842	3,818,715	3,919,078
8	Reduced Year 1 Annual Therms	(3) - (7)	512,881,569	512,757,696	512,657,333
9	Reduced Avg Rev per Therm	(2) / (8)	\$ 0.2449	\$ 0.2449	\$ 0.2450
10					
11	<u>Rate Impact (LBR-type Rate)</u>	(9) - (4)	\$ 0.0018	\$ 0.0018	\$ 0.0019
12					
13					
14	<u>EES Rate:</u>		<u>YEAR 1 - 2013</u>	<u>YEAR 2 - 2014</u>	<u>YEAR 3 - 2015</u>
15	C&I Annual Budget *		\$ 1,170,533	\$1,211,675	\$1,245,068
16	Annual Vols - Therms **		241,807,230	240,969,470	241,807,230
17	<u>EES Rate</u>	(15) / (16)	\$ 0.0048	\$0.0050	\$0.0051

* From 3-Year Plan

	Annual			Average Monthly		
	Average Usage	EES/Therm	Total EES	Usage	EES/Therm	Total EES
Current Model run with 2012 MTM Budget/Savings¹						
R-3 (Residential Heat)	966	\$ 0.0567	\$ 54.77	81	\$ 0.0567	\$ 4.56
R-4 (LI Heat)	967	\$ 0.0567	\$ 54.83	81	\$ 0.0567	\$ 4.57
G-40 (Small C&I Heat)	1,243	\$ 0.0034	\$ 4.25	104	\$ 0.0034	\$ 0.35
Current Model run with 2013 Budget/Savings						
R-3 (Residential Heat)	966	\$0.0715	\$ 69.06	81	\$ 0.0715	\$ 5.75
R-4 (LI Heat)	967	\$0.0715	\$ 69.13	81	\$ 0.0715	\$ 5.76
G-40 (Small C&I Heat)	1,243	\$0.0048	\$ 6.02	104	\$ 0.0048	\$ 0.50
Change (from 2012 MTM)						
R-3 (Residential Heat)		\$0.0148	\$14.28		\$0.0148	\$1.19
R-4 (LI Heat)		\$0.0148	\$14.30		\$0.0148	\$1.19
G-40 (Small C&I Heat)		\$0.0014	\$1.77		\$0.0014	\$0.15
Percentage Change			R-3	26.08%		
			R-4	26.08%		
			G-40	41.60%		

¹ Previous MTM Model has multiple different assumptions including a different average annual use. To get an accurate comparison, these values were calculated by running the current Bill Impact Model with 2012 MTM savings and budget figures. Values will not match 2012 MTM filing.

	Annual					Average Monthly				
	Usage	Total Bill	Total EE	Unit Rate Total	Unit Rate EE	Usage	Total Bill	Total EE	Unit Rate Total	Unit Rate EE
As of 6/2012										
R-3	907	\$ 1,267.41	\$ 37.28	\$1.3975	\$0.0411	76	\$ 105.62	\$ 3.11	\$ 1.3975	\$ 0.0411
R-4	827	\$ 950.56	\$ 25.51	\$1.1488	\$0.0308	69	\$ 79.21	\$ 2.13	\$ 1.1488	\$ 0.0308
G-41	1,646	\$ 1,356.53	\$ 21.07	\$0.8240	\$0.0128	137	\$ 113.04	\$ 1.76	\$ 0.8240	\$ 0.0128
G-51	3,023	\$ 1,302.90	\$ 38.70	\$0.4310	\$0.0128	252	\$ 108.57	\$ 3.22	\$ 0.4310	\$ 0.0128
With 2012 MTM										
R-3	907	\$ 1,272.94	\$ 42.81	\$1.4036	\$0.0472	76	\$ 106.08	\$ 3.57	\$ 1.4036	\$ 0.0472
R-4	827	\$ 954.71	\$ 29.29	\$1.1538	\$0.0354	69	\$ 79.56	\$ 2.44	\$ 1.1538	\$ 0.0354
G-41	1,646	\$ 1,354.72	\$ 17.78	\$0.8229	\$0.0108	137	\$ 112.89	\$ 1.48	\$ 0.8229	\$ 0.0108
G-51	3,023	\$ 1,301.08	\$ 32.65	\$0.4304	\$0.0108	252	\$ 108.42	\$ 2.72	\$ 0.4304	\$ 0.0108
Change										
R-3		\$ 5.53					\$ 0.46			
R-4		\$ 4.15					\$ 0.35			
G-41		\$ (1.81)					\$ (0.15)			
G-51		\$ (1.81)					\$ (0.15)			
Percentage Change										
R-3		0.44%					0.44%			
R-4		0.44%					0.44%			
G-41		-0.13%					-0.13%			
G-51		-0.14%					-0.14%			
with 2013 Budget										
R-3	907	\$ 1,270.68	\$ 40.54	\$1.4011	\$0.0447	76	\$ 105.89	\$ 3.38	\$ 1.4011	\$ 0.0447
R-4	827	\$ 953.01	\$ 27.74	\$1.1517	\$0.0335	69	\$ 79.42	\$ 2.31	\$ 1.1517	\$ 0.0335
G-41	1,646	\$ 1,373.31	\$ 63.38	\$0.8342	\$0.0385	137	\$ 114.44	\$ 5.28	\$ 0.8342	\$ 0.0385
G-51	3,023	\$ 1,326.21	\$ 116.39	\$0.4387	\$0.0385	252	\$ 110.52	\$ 9.70	\$ 0.4387	\$ 0.0385
Change (from 2012 MTM)										
R-3		\$ (2.27)					\$ (0.19)			
R-4		\$ (1.70)					\$ (0.14)			
G-41		\$ 18.59					\$ 1.55			
G-51		\$ 25.12					\$ 2.09			
Percentage Change										
R-3		-0.18%					-0.18%			
R-4		-0.18%					-0.18%			
G-41		1.37%					1.37%			
G-51		1.93%					1.93%			
with 2014 Budget										
R-3	907	\$ 1,273.67	\$ 43.53	\$1.4044	\$0.0480	76	\$ 106.14	\$ 3.63	\$ 1.4044	\$ 0.0480
R-4	827	\$ 955.25	\$ 29.79	\$1.1545	\$0.0360	69	\$ 79.60	\$ 2.48	\$ 1.1545	\$ 0.0360
G-41	1,646	\$ 1,373.22	\$ 63.21	\$0.8342	\$0.0384	137	\$ 114.44	\$ 5.27	\$ 0.8342	\$ 0.0384
G-51	3,023	\$ 1,326.12	\$ 116.09	\$0.4387	\$0.0384	252	\$ 110.51	\$ 9.67	\$ 0.4387	\$ 0.0384
Change (from 2013)										
R-3		\$ 2.99					\$ 0.25			
R-4		\$ 2.24					\$ 0.19			
G-41		\$ (0.09)					\$ (0.01)			
G-51		\$ (0.09)					\$ (0.01)			
Percentage Change										
R-3		0.24%					0.24%			
R-4		0.24%					0.24%			
G-41		-0.01%					-0.01%			
G-51		-0.01%					-0.01%			
with 2015 Budget										
R-3	907	\$ 1,275.75	\$ 45.62	\$1.4067	\$0.0503	76	\$ 106.31	\$ 3.80	\$ 1.4067	\$ 0.0503
R-4	827	\$ 956.82	\$ 31.22	\$1.1563	\$0.0377	69	\$ 79.73	\$ 2.60	\$ 1.1563	\$ 0.0377
G-41	1,646	\$ 1,380.30	\$ 76.88	\$0.8385	\$0.0467	137	\$ 115.02	\$ 6.41	\$ 0.8385	\$ 0.0467
G-51	3,023	\$ 1,333.19	\$ 141.18	\$0.4410	\$0.0467	252	\$ 111.10	\$ 11.77	\$ 0.4410	\$ 0.0467
Change (from 2014)										
R-3		\$ 2.09					\$ 0.17			
R-4		\$ 1.56					\$ 0.13			
G-41		\$ 7.07					\$ 0.59			
G-51		\$ 7.07					\$ 0.59			
Percentage Change										
R-3		0.16%					0.16%			
R-4		0.16%					0.16%			
G-41		0.52%					0.52%			
G-51		0.53%					0.53%			

THE BERKSHIRE GAS COMPANY RESIDENTIAL HEATING BILL IMPACT RATE CODE R3						
SEASON	BILL PERCENTILE	THERM LEVEL	TOTAL REVENUES		DOLLAR INCREASE	PERCENT INCREASE
			CURRENT	PROPOSED		
ANNUAL 2013	25.00%	39	\$60.49	\$61.34	\$0.84	1.39%
	50.00%	67	\$89.42	\$90.87	\$1.45	1.62%
	75.00%	108	\$132.23	\$134.59	\$2.36	1.78%
CURRENT RATE			PROPOSED RATE			
CUSTOMER CHARGE		\$11.74	CUSTOMER CHARGE		\$11.74	
WINTER			WINTER			
FIRST	60	\$0.6169	FIRST	60	\$0.6169	
OVER	60	\$0.3265	OVER	60	\$0.3265	
CGA and LDA		\$0.7110	CGA and LDA		\$0.7330	
SUMMER			SUMMER			
FIRST	60	\$0.6169	FIRST	60	\$0.6169	
OVER	60	\$0.3265	OVER	60	\$0.3265	
CGA and LDA		\$0.3920	CGA and LDA		\$0.4130	
THE BERKSHIRE GAS COMPANY RES'L LOW INC. HEATING BILL IMPACT RATE CODE R4						
SEASON	BILL PERCENTILE	THERM LEVEL	TOTAL REVENUES		DOLLAR INCREASE	PERCENT INCREASE
			CURRENT	PROPOSED		
ANNUAL 2013	25.00%	40	\$50.14	\$50.84	\$0.71	1.41%
	50.00%	64	\$70.16	\$71.29	\$1.13	1.61%
	75.00%	98	\$98.51	\$100.23	\$1.73	1.75%
CURRENT RATE with 19.18% Discount			PROPOSED RATE with 19.18% Discount			
CUSTOMER CHARGE		\$11.74	CUSTOMER CHARGE		\$12.01	
WINTER			WINTER			
FIRST	60	\$0.6169	FIRST	60	\$0.6169	
OVER	60	\$0.3265	OVER	60	\$0.3265	
CGA and LDA		\$0.7110	CGA and LDA		\$0.7330	
SUMMER			SUMMER			
FIRST	60	\$0.6169	FIRST	60	\$0.6169	
OVER	60	\$0.3265	OVER	60	\$0.3265	
CGA and LDA		\$0.3920	CGA and LDA		\$0.4130	
THE BERKSHIRE GAS COMPANY RES'L LOW INC. HEATING BILL IMPACT RATE CODE G41						
SEASON	BILL PERCENTILE	THERM LEVEL	TOTAL REVENUES		DOLLAR INCREASE	PERCENT INCREASE
			CURRENT	PROPOSED		
ANNUAL 2013	25.00%	29	\$50.64	\$50.61	(\$0.03)	-0.06%
	50.00%	84	\$111.25	\$111.16	(\$0.08)	-0.08%
	75.00%	211	\$241.05	\$240.84	(\$0.21)	-0.09%
CURRENT RATE			PROPOSED RATE			
CUSTOMER CHARGE		\$13.10	CUSTOMER CHARGE		\$13.10	
WINTER			WINTER			
FIRST	90	\$0.6425	FIRST	90	\$0.6425	
OVER	90	\$0.3763	OVER	90	\$0.3763	
CGA and LDA		\$0.6520	CGA and LDA		\$0.6510	
SUMMER			SUMMER			
FIRST	90	\$0.6425	FIRST	90	\$0.6425	
OVER	90	\$0.3763	OVER	90	\$0.3763	
CGA and LDA		\$0.3330	CGA and LDA		\$0.3320	

THE BERKSHIRE GAS COMPANY RESIDENTIAL HEATING BILL IMPACT RATE CODE R3						
SEASON	BILL PERCENTILE	THERM LEVEL	TOTAL REVENUES		DOLLAR INCREASE	PERCENT INCREASE
			CURRENT	PROPOSED		
ANNUAL 2014	25.00%	39	\$60.49	\$61.42	\$0.92	1.53%
	50.00%	67	\$89.42	\$91.01	\$1.60	1.78%
	75.00%	108	\$132.23	\$134.82	\$2.59	1.96%
CURRENT RATE			PROPOSED RATE			
CUSTOMER CHARGE		\$11.74	CUSTOMER CHARGE		\$11.74	
WINTER			WINTER			
FIRST	60	\$0.6169	FIRST	60	\$0.6169	
OVER	60	\$0.3265	OVER	60	\$0.3265	
CGA and LDA		\$0.7110	CGA and LDA		\$0.7350	
SUMMER			SUMMER			
FIRST	60	\$0.6169	FIRST	60	\$0.6169	
OVER	60	\$0.3265	OVER	60	\$0.3265	
CGA and LDA		\$0.3920	CGA and LDA		\$0.4160	
THE BERKSHIRE GAS COMPANY RES'L LOW INC. HEATING BILL IMPACT RATE CODE R4						
SEASON	BILL PERCENTILE	THERM LEVEL	TOTAL REVENUES		DOLLAR INCREASE	PERCENT INCREASE
			CURRENT	PROPOSED		
ANNUAL 2014	25.00%	40	\$50.14	\$50.91	\$0.78	1.55%
	50.00%	64	\$70.16	\$71.40	\$1.24	1.77%
	75.00%	98	\$98.51	\$100.41	\$1.90	1.93%
CURRENT RATE with 19.18% Discount			PROPOSED RATE with 19.18% Discount			
CUSTOMER CHARGE		\$11.74	CUSTOMER CHARGE		\$11.74	
WINTER			WINTER			
FIRST	60	\$0.6169	FIRST	60	\$0.6169	
OVER	60	\$0.3265	OVER	60	\$0.3265	
CGA and LDA		\$0.7110	CGA and LDA		\$0.7350	
SUMMER			SUMMER			
FIRST	60	\$0.6169	FIRST	60	\$0.6169	
OVER	60	\$0.3265	OVER	60	\$0.3265	
CGA and LDA		\$0.3920	CGA and LDA		\$0.4160	
THE BERKSHIRE GAS COMPANY RES'L LOW INC. HEATING BILL IMPACT RATE CODE G41						
SEASON	BILL PERCENTILE	THERM LEVEL	TOTAL REVENUES		DOLLAR INCREASE	PERCENT INCREASE
			CURRENT	PROPOSED		
ANNUAL 2014	25.00%	29	\$50.64	\$50.73	\$0.09	0.17%
	50.00%	84	\$111.25	\$111.49	\$0.25	0.22%
	75.00%	211	\$241.05	\$241.66	\$0.61	0.25%
CURRENT RATE			PROPOSED RATE			
CUSTOMER CHARGE		\$13.10	CUSTOMER CHARGE		\$13.10	
WINTER			WINTER			
FIRST	90	\$0.6425	FIRST	90	\$0.6425	
OVER	90	\$0.3763	OVER	90	\$0.3763	
CGA and LDA		\$0.6520	CGA and LDA		\$0.6550	
SUMMER			SUMMER			
FIRST	90	\$0.6425	FIRST	90	\$0.6425	
OVER	90	\$0.3763	OVER	90	\$0.3763	
CGA and LDA		\$0.3330	CGA and LDA		\$0.3350	

THE BERKSHIRE GAS COMPANY RESIDENTIAL HEATING BILL IMPACT RATE CODE R3						
SEASON	BILL PERCENTILE	THERM LEVEL	TOTAL REVENUES		DOLLAR INCREASE	PERCENT INCREASE
			CURRENT	PROPOSED		
ANNUAL 2015	25.00%	39	\$60.49	\$61.53	\$1.03	1.71%
	50.00%	67	\$89.42	\$91.20	\$1.79	2.00%
	75.00%	108	\$132.23	\$135.13	\$2.90	2.19%
CURRENT RATE			PROPOSED RATE			
CUSTOMER CHARGE		\$11.74	CUSTOMER CHARGE		\$11.74	
WINTER			WINTER			
FIRST	60	\$0.6169	FIRST	60	\$0.6169	
OVER	60	\$0.3265	OVER	60	\$0.3265	
CGA and LDA		\$0.7110	CGA and LDA		\$0.7380	
SUMMER			SUMMER			
FIRST	60	\$0.6169	FIRST	60	\$0.6169	
OVER	60	\$0.3265	OVER	60	\$0.3265	
CGA and LDA		\$0.3920	CGA and LDA		\$0.4180	
THE BERKSHIRE GAS COMPANY RES'L LOW INC. HEATING BILL IMPACT RATE CODE R4						
SEASON	BILL PERCENTILE	THERM LEVEL	TOTAL REVENUES		DOLLAR INCREASE	PERCENT INCREASE
			CURRENT	PROPOSED		
ANNUAL 2015	25.00%	40	\$50.14	\$51.01	\$0.87	1.73%
	50.00%	64	\$70.16	\$71.55	\$1.39	1.98%
	75.00%	98	\$98.51	\$100.63	\$2.12	2.16%
CURRENT RATE with 19.18% Discount			PROPOSED RATE with 19.18% Discount			
CUSTOMER CHARGE		\$11.74	CUSTOMER CHARGE		\$12.01	
WINTER			WINTER			
FIRST	60	\$0.6169	FIRST	60	\$0.6169	
OVER	60	\$0.3265	OVER	60	\$0.3265	
CGA and LDA		\$0.7110	CGA and LDA		\$0.7380	
SUMMER			SUMMER			
FIRST	60	\$0.6169	FIRST	60	\$0.6169	
OVER	60	\$0.3265	OVER	60	\$0.3265	
CGA and LDA		\$0.3920	CGA and LDA		\$0.4180	
THE BERKSHIRE GAS COMPANY RES'L LOW INC. HEATING BILL IMPACT RATE CODE G41						
SEASON	BILL PERCENTILE	THERM LEVEL	TOTAL REVENUES		DOLLAR INCREASE	PERCENT INCREASE
			CURRENT	PROPOSED		
ANNUAL 2015	25.00%	29	\$50.64	\$50.81	\$0.17	0.34%
	50.00%	84	\$111.25	\$111.75	\$0.50	0.45%
	75.00%	211	\$241.05	\$242.31	\$1.27	0.53%
CURRENT RATE			PROPOSED RATE			
CUSTOMER CHARGE		\$13.10	CUSTOMER CHARGE		\$13.10	
WINTER			WINTER			
FIRST	90	\$0.6425	FIRST	90	\$0.6425	
OVER	90	\$0.3763	OVER	90	\$0.3763	
CGA and LDA		\$0.6520	CGA and LDA		\$0.6580	
SUMMER			SUMMER			
FIRST	90	\$0.6425	FIRST	90	\$0.6425	
OVER	90	\$0.3763	OVER	90	\$0.3763	
CGA and LDA		\$0.3330	CGA and LDA		\$0.3390	

**Fitchburg Gas and Electric Light Company d/b/a Unitil
 Typical Bill Impacts - 7/2/2012 Draft 2013-2015 Three Year Plan
 Rates Effective 2/1/12 (incl 2012 Approved EEC) vs Estimated 2013 EEC**

Service	Load Factor / Demand	Average Monthly Usage (Therms)	Monthly Bills @ Rates Effective 2/1/12	Monthly Bills Including Estimated 2013 EEC Rates	\$ Difference	% Difference
R1		25	\$47.84	\$48.39	\$0.55	1.1%
R2		30	\$41.88	\$42.37	\$0.49	1.2%
R3		125	\$191.28	\$194.02	\$2.74	1.4%
R4		125	\$143.45	\$145.51	\$2.06	1.4%
G-41		300	\$444.86	\$451.73	\$6.87	1.5%
G-51		300	\$390.06	\$396.93	\$6.87	1.8%
G-42		3,000	\$3,698.64	\$3,767.36	\$68.72	1.9%
G-52		1,500	\$1,751.74	\$1,786.10	\$34.36	2.0%
G-43	LF: 60% Demand	20,000 1,096	\$22,828.20	\$23,286.35	\$458.15	2.0%
G-53	LF: 70% Demand	30,000 1,410	\$30,572.14	\$31,259.37	\$687.23	2.2%

Present Rates: Rates Effective 2/1/12 (incl 2012 Approved EEC)
 Proposed Rates: Rates Effective 2/1/12 Revised for Estimated 2013 EEC

**Fitchburg Gas and Electric Light Company d/b/a Unitil
 Residential Non-Heating Customer - R1
 Rates Effective 2/1/12 (incl 2012 Approved EEC) vs Estimated 2013 EEC**

Monthly Usage (Therms)	Monthly Bills @ Rates Effective 2/1/12	Monthly Bills Including Estimated 2013 EEC Rates	\$ Difference	% Difference
0	\$8.94	\$8.94	\$0.00	0.0%
5	\$16.38	\$16.49	\$0.11	0.7%
10	\$23.82	\$24.04	\$0.22	0.9%
15	\$31.83	\$32.16	\$0.33	1.0%
20	\$39.83	\$40.27	\$0.44	1.1%
25	\$47.84	\$48.39	\$0.55	1.1%
30	\$55.84	\$56.50	\$0.66	1.2%
40	\$71.85	\$72.73	\$0.88	1.2%
50	\$87.86	\$88.96	\$1.09	1.2%
60	\$103.87	\$105.19	\$1.31	1.3%
70	\$119.88	\$121.41	\$1.53	1.3%
80	\$135.89	\$137.64	\$1.75	1.3%
90	\$151.90	\$153.87	\$1.97	1.3%
100	\$167.91	\$170.10	\$2.19	1.3%
200	\$328.01	\$332.39	\$4.38	1.3%
300	\$488.11	\$494.68	\$6.57	1.3%
400	\$648.21	\$656.97	\$8.75	1.4%
500	\$808.31	\$819.26	\$10.94	1.4%
750	\$1,208.56	\$1,224.98	\$16.41	1.4%
1000	\$1,608.81	\$1,630.70	\$21.88	1.4%

Rates Effective 2/1/12 (incl 2012 Approved EEC) vs Estimated 2013 EEC

Customer Charge (\$/customer)	\$8.50
Distribution Charge (\$/therm)	
First 10 therms	\$0.8091
Excess 10 therms	\$0.9218
CGA (\$/therm) - all therms	\$0.5185
LDAC (\$/therm) - all therms	\$0.1607
ECS (\$/customer)	\$0.44

Rates Effective 2/1/12 Revised for Estimated 2013 EEC

Customer Charge (\$/customer)	\$8.50
Distribution Charge (\$/therm)	
First 10 therms	\$0.8091
Excess 10 therms	\$0.9218
CGA (\$/therm) - all therms	\$0.5185
LDAC (\$/therm) - all therms	\$0.1826
ECS (\$/customer)	\$0.44

indicates approximate average monthly use

**Fitchburg Gas and Electric Light Company d/b/a Unitil
 Residential Gas Low-Income Non-Heating Customer - R2
 Rates Effective 2/1/12 (incl 2012 Approved EEC) vs Estimated 2013 EEC**

Monthly Usage (Therms)	Monthly Bills @	Monthly Bills	\$ Difference	% Difference
	Rates Effective 2/1/12	Including Estimated 2013 EEC Rates		
0	\$6.70	\$6.70	\$0.00	0.0%
5	\$12.28	\$12.36	\$0.08	0.7%
10	\$17.86	\$18.03	\$0.16	0.9%
15	\$23.87	\$24.11	\$0.25	1.0%
20	\$29.87	\$30.20	\$0.33	1.1%
25	\$35.87	\$36.28	\$0.41	1.1%
30	\$41.88	\$42.37	\$0.49	1.2%
40	\$53.89	\$54.54	\$0.66	1.2%
50	\$65.89	\$66.71	\$0.82	1.2%
60	\$77.90	\$78.89	\$0.98	1.3%
70	\$89.91	\$91.06	\$1.15	1.3%
80	\$101.92	\$103.23	\$1.31	1.3%
90	\$113.93	\$115.40	\$1.48	1.3%
100	\$125.93	\$127.57	\$1.64	1.3%
200	\$246.01	\$249.29	\$3.28	1.3%
300	\$366.09	\$371.01	\$4.92	1.3%
400	\$486.17	\$492.73	\$6.55	1.3%
500	\$606.25	\$614.45	\$8.19	1.4%
750	\$906.45	\$918.74	\$12.29	1.4%
1000	\$1,206.65	\$1,223.04	\$16.39	1.4%

**Rates Effective 2/1/12 (incl 2012
 Approved EEC) vs Estimated 2013
 EEC**

Customer Charge (\$/customer)	\$8.50
Distribution Charge (\$/therm)	
First 10 therms	\$0.8091
Excess 10 therms	\$0.9218
CGA (\$/therm) - all therms	\$0.5185
LDAC (\$/therm) - all therms	\$0.1607
ECS (\$/customer)	\$0.44
25% LI Discount Fixed Charges	(\$2.24)
25% LI Discount - First 10 therms	(\$0.3721)
25% LI Discount - Excess 10 therms	(\$0.4002)

**Rates Effective 2/1/12 Revised for Estimated 2013
 EEC**

Customer Charge (\$/customer)	\$8.50
Distribution Charge (\$/therm)	
First 10 therms	\$0.8091
Excess 10 therms	\$0.9218
CGA (\$/therm) - all therms	\$0.5185
LDAC (\$/therm) - all therms	\$0.1826
ECS (\$/customer)	\$0.44
25% LI Discount Fixed Charges	(\$2.24)
25% LI Discount - First 10 therms	(\$0.3775)
25% LI Discount - Excess 10 therms	(\$0.4057)

indicates approximate average monthly use

**Fitchburg Gas and Electric Light Company d/b/a Unitil
 Residential Heating Customer - R3
 Rates Effective 2/1/12 (incl 2012 Approved EEC) vs Estimated 2013 EEC**


Monthly Usage (Therms)	Monthly Bills @ Rates Effective 2/1/12	Monthly Bills Including Estimated 2013 EEC Rates	\$ Difference	% Difference
0	\$8.94	\$8.94	\$0.00	0.0%
10	\$22.36	\$22.58	\$0.22	1.0%
25	\$43.18	\$43.73	\$0.55	1.3%
50	\$80.21	\$81.30	\$1.09	1.4%
75	\$117.23	\$118.87	\$1.64	1.4%
100	\$154.26	\$156.45	\$2.19	1.4%
125	\$191.28	\$194.02	\$2.74	1.4%
150	\$228.31	\$231.59	\$3.28	1.4%
175	\$265.33	\$269.16	\$3.83	1.4%
200	\$302.36	\$306.73	\$4.38	1.4%
225	\$339.38	\$344.31	\$4.92	1.5%
250	\$376.41	\$381.88	\$5.47	1.5%
275	\$413.43	\$419.45	\$6.02	1.5%
300	\$450.46	\$457.02	\$6.57	1.5%
350	\$524.51	\$532.17	\$7.66	1.5%
400	\$598.56	\$607.31	\$8.75	1.5%
500	\$746.66	\$757.60	\$10.94	1.5%
750	\$1,116.91	\$1,133.32	\$16.41	1.5%
1000	\$1,487.16	\$1,509.04	\$21.88	1.5%
2000	\$2,968.16	\$3,011.93	\$43.77	1.5%

Rates Effective 2/1/12 (incl 2012 Approved EEC) vs Estimated 2013 EEC

Customer Charge (\$/customer)	\$8.50
Distribution Charge (\$/therm)	
First 20 therms	\$0.5736
Excess 20 therms	\$0.7127
CGA (\$/therm) - all therms	\$0.6076
LDAC (\$/therm) - all therms	\$0.1607
ECS (\$/customer)	\$0.44

Rates Effective 2/1/12 Revised for Estimated 2013 EEC

Customer Charge (\$/customer)	\$8.50
Distribution Charge (\$/therm)	
First 20 therms	\$0.5736
Excess 20 therms	\$0.7127
CGA (\$/therm) - all therms	\$0.6076
LDAC (\$/therm) - all therms	\$0.1826
ECS (\$/customer)	\$0.44

 indicates approximate average monthly use

**Fitchburg Gas and Electric Light Company d/b/a Unitil
 Residential Gas Low-Income Heating Customer - R4
 Rates Effective 2/1/12 (incl 2012 Approved EEC) vs Estimated 2013 EEC**

Monthly Usage (Therms)	Monthly Bills @ Rates Effective 2/1/12	Monthly Bills Including Estimated 2013 EEC Rates	\$ Difference	% Difference
0	\$6.70	\$6.70	\$0.00	0.0%
10	\$16.76	\$16.93	\$0.16	1.0%
25	\$32.38	\$32.79	\$0.41	1.3%
50	\$60.15	\$60.97	\$0.82	1.4%
75	\$87.92	\$89.15	\$1.24	1.4%
100	\$115.68	\$117.33	\$1.65	1.4%
125	\$143.45	\$145.51	\$2.06	1.4%
150	\$171.22	\$173.69	\$2.47	1.4%
175	\$198.99	\$201.87	\$2.88	1.4%
200	\$226.75	\$230.05	\$3.30	1.5%
225	\$254.52	\$258.23	\$3.71	1.5%
250	\$282.29	\$286.41	\$4.12	1.5%
275	\$310.06	\$314.59	\$4.53	1.5%
300	\$337.82	\$342.77	\$4.95	1.5%
350	\$393.36	\$399.13	\$5.77	1.5%
400	\$448.89	\$455.49	\$6.59	1.5%
500	\$559.96	\$568.21	\$8.24	1.5%
750	\$837.64	\$850.00	\$12.36	1.5%
1000	\$1,115.31	\$1,131.80	\$16.48	1.5%
2000	\$2,226.01	\$2,258.98	\$32.97	1.5%

Rates Effective 2/1/12 (incl 2012 Approved EEC) vs Estimated 2013 EEC

Customer Charge (\$/customer)	\$8.50
Distribution Charge (\$/therm)	
First 20 therms	\$0.5736
Excess 20 therms	\$0.7127
CGA (\$/therm) - all therms	\$0.6076
LDAC (\$/therm) - all therms	\$0.1607
ECS (\$/customer)	\$0.44
25% LI Discount Fixed Charges	(\$2.24)
25% LI Discount - First 20 therms	(\$0.3355)
25% LI Discount - Excess 20 therms	(\$0.3703)

Rates Effective 2/1/12 Revised for Estimated 2013 EEC

Customer Charge (\$/customer)	\$8.50
Distribution Charge (\$/therm)	
First 20 therms	\$0.5736
Excess 20 therms	\$0.7127
CGA (\$/therm) - all therms	\$0.6076
LDAC (\$/therm) - all therms	\$0.1826
ECS (\$/customer)	\$0.44
25% LI Discount Fixed Charges	(\$2.24)
25% LI Discount - First 20 therms	(\$0.3409)
25% LI Discount - Excess 20 therms	(\$0.3757)

 indicates approximate average monthly use

**Fitchburg Gas and Electric Light Company d/b/a Unitil
 General Service - Small, High Winter Use - G41
 Rates Effective 2/1/12 (incl 2012 Approved EEC) vs Estimated 2013 EEC**

Monthly Usage (Therms)	Monthly Bills @ Rates Effective 2/1/12	Monthly Bills Including Estimated 2013 EEC Rates	\$ Difference	% Difference
0	\$24.44	\$24.44	\$0.00	0.0%
10	\$36.43	\$36.66	\$0.23	0.6%
25	\$54.42	\$55.00	\$0.57	1.1%
50	\$86.74	\$87.88	\$1.15	1.3%
75	\$122.55	\$124.27	\$1.72	1.4%
100	\$158.36	\$160.65	\$2.29	1.4%
150	\$229.99	\$233.42	\$3.44	1.5%
200	\$301.61	\$306.19	\$4.58	1.5%
250	\$373.24	\$378.96	\$5.73	1.5%
300	\$444.86	\$451.73	\$6.87	1.5%
350	\$516.49	\$524.50	\$8.02	1.6%
400	\$588.11	\$597.28	\$9.16	1.6%
500	\$731.36	\$742.82	\$11.45	1.6%
750	\$1,089.49	\$1,106.67	\$17.18	1.6%
1000	\$1,447.61	\$1,470.52	\$22.91	1.6%
1500	\$2,163.86	\$2,198.22	\$34.36	1.6%
2000	\$2,880.11	\$2,925.93	\$45.82	1.6%
3000	\$4,312.61	\$4,381.33	\$68.72	1.6%
4000	\$5,745.11	\$5,836.74	\$91.63	1.6%
5000	\$7,177.61	\$7,292.15	\$114.54	1.6%

**Rates Effective 2/1/12 (incl 2012
 Approved EEC) vs Estimated 2013 EEC**

Customer Charge (\$/customer)	\$24.00
Distribution Charge (\$/therm)	
First 40 therms	\$0.4433
Excess 40 therms	\$0.6765
CGA (\$/therm) - all therms	\$0.6076
LDAC (\$/therm) - all therms	\$0.1484
ECS (\$/customer)	\$0.44

**Rates Effective 2/1/12 Revised for Estimated 2013
 EEC**

Customer Charge (\$/customer)	\$24.00
Distribution Charge (\$/therm)	
First 40 therms	\$0.4433
Excess 40 therms	\$0.6765
CGA (\$/therm) - all therms	\$0.6076
LDAC (\$/therm) - all therms	\$0.1713
ECS (\$/customer)	\$0.44

indicates approximate average monthly use

**Fitchburg Gas and Electric Light Company d/b/a Unitil
 General Service - Small, Low Winter Use - G51
 Rates Effective 2/1/12 (incl 2012 Approved EEC) vs Estimated 2013 EEC**


Monthly Usage (Therms)	Monthly Bills @ Rates Effective 2/1/12	Monthly Bills Including Estimated 2013 EEC Rates	\$ Difference	% Difference
0	\$24.44	\$24.44	\$0.00	0.0%
10	\$35.08	\$35.30	\$0.23	0.7%
25	\$51.03	\$51.60	\$0.57	1.1%
50	\$79.41	\$80.55	\$1.15	1.4%
75	\$110.47	\$112.19	\$1.72	1.6%
100	\$141.54	\$143.83	\$2.29	1.6%
125	\$172.60	\$175.46	\$2.86	1.7%
150	\$203.67	\$207.10	\$3.44	1.7%
200	\$265.80	\$270.38	\$4.58	1.7%
250	\$327.93	\$333.65	\$5.73	1.7%
300	\$390.06	\$396.93	\$6.87	1.8%
350	\$452.19	\$460.20	\$8.02	1.8%
400	\$514.32	\$523.48	\$9.16	1.8%
500	\$638.58	\$650.03	\$11.45	1.8%
750	\$949.23	\$966.41	\$17.18	1.8%
1000	\$1,259.88	\$1,282.78	\$22.91	1.8%
1500	\$1,881.18	\$1,915.54	\$34.36	1.8%
2000	\$2,502.48	\$2,548.29	\$45.82	1.8%
3000	\$3,745.08	\$3,813.80	\$68.72	1.8%
4000	\$4,987.68	\$5,079.31	\$91.63	1.8%
5000	\$6,230.28	\$6,344.81	\$114.54	1.8%

Rates Effective 2/1/12 (incl 2012 Approved EEC) vs Estimated 2013 EEC

Customer Charge (\$/customer)	\$24.00
Distribution Charge (\$/therm)	
First 40 therms	\$0.3966
Excess 40 therms	\$0.5757
CGA (\$/therm) - all therms	\$0.5185
LDAC (\$/therm) - all therms	\$0.1484
ECS (\$/customer)	\$0.44

Rates Effective 2/1/12 Revised for Estimated 2013 EEC

Customer Charge (\$/customer)	\$24.00
Distribution Charge (\$/therm)	
First 40 therms	\$0.3966
Excess 40 therms	\$0.5757
CGA (\$/therm) - all therms	\$0.5185
LDAC (\$/therm) - all therms	\$0.1713
ECS (\$/customer)	\$0.44

 indicates approximate average monthly use

**Fitchburg Gas and Electric Light Company d/b/a Unitil
 General Service - Medium, High Winter Use - G42
 Rates Effective 2/1/12 (incl 2012 Approved EEC) vs Estimated 2013 EEC**


Monthly Usage (Therms)	Monthly Bills @ Rates Effective 2/1/12	Monthly Bills Including Estimated 2013 EEC Rates	\$ Difference	% Difference
0	\$120.44	\$120.44	\$0.00	0.0%
250	\$398.92	\$404.64	\$5.73	1.4%
500	\$677.39	\$688.84	\$11.45	1.7%
750	\$979.52	\$996.70	\$17.18	1.8%
1,000	\$1,281.64	\$1,304.55	\$22.91	1.8%
1,250	\$1,583.77	\$1,612.40	\$28.63	1.8%
1,500	\$1,885.89	\$1,920.25	\$34.36	1.8%
2,000	\$2,490.14	\$2,535.96	\$45.82	1.8%
2,500	\$3,094.39	\$3,151.66	\$57.27	1.9%
3,000	\$3,698.64	\$3,767.36	\$68.72	1.9%
3,500	\$4,302.89	\$4,383.07	\$80.18	1.9%
4,000	\$4,907.14	\$4,998.77	\$91.63	1.9%
4,500	\$5,511.39	\$5,614.47	\$103.08	1.9%
5,000	\$6,115.64	\$6,230.18	\$114.54	1.9%
5,500	\$6,719.89	\$6,845.88	\$125.99	1.9%
6,000	\$7,324.14	\$7,461.59	\$137.45	1.9%
7,500	\$9,136.89	\$9,308.70	\$171.81	1.9%
10,000	\$12,158.14	\$12,387.22	\$229.08	1.9%
15,000	\$18,200.64	\$18,544.25	\$343.61	1.9%
20,000	\$24,243.14	\$24,701.29	\$458.15	1.9%

Rates Effective 2/1/12 (incl 2012 Approved EEC) vs Estimated 2013 EEC

Customer Charge (\$/customer)	\$120.00
Distribution Charge (\$/therm)	
First 500 therms	\$0.3579
Excess 500 therms	\$0.4525
CGA (\$/therm) - all therms	\$0.6076
LDAC (\$/therm) - all therms	\$0.1484
ECS (\$/customer)	\$0.44

Rates Effective 2/1/12 Revised for Estimated 2013 EEC

Customer Charge (\$/customer)	\$120.00
Distribution Charge (\$/therm)	
First 500 therms	\$0.3579
Excess 500 therms	\$0.4525
CGA (\$/therm) - all therms	\$0.6076
LDAC (\$/therm) - all therms	\$0.1713
ECS (\$/customer)	\$0.44

 indicates approximate average monthly use

**Fitchburg Gas and Electric Light Company d/b/a Unitil
 General Service - Medium, Low Winter Use - G52
 Rates Effective 2/1/12 (incl 2012 Approved EEC) vs Estimated 2013 EEC**

Monthly Usage (Therms)	Monthly Bills @ Rates Effective 2/1/12	Monthly Bills Including Estimated 2013 EEC Rates	\$ Difference	% Difference
0	\$120.44	\$120.44	\$0.00	0.0%
250	\$383.84	\$389.57	\$5.73	1.5%
500	\$647.24	\$658.69	\$11.45	1.8%
750	\$923.37	\$940.55	\$17.18	1.9%
1,000	\$1,199.49	\$1,222.40	\$22.91	1.9%
1,250	\$1,475.62	\$1,504.25	\$28.63	1.9%
1,500	\$1,751.74	\$1,786.10	\$34.36	2.0%
2,000	\$2,303.99	\$2,349.81	\$45.82	2.0%
2,500	\$2,856.24	\$2,913.51	\$57.27	2.0%
3,000	\$3,408.49	\$3,477.21	\$68.72	2.0%
3,500	\$3,960.74	\$4,040.92	\$80.18	2.0%
4,000	\$4,512.99	\$4,604.62	\$91.63	2.0%
4,500	\$5,065.24	\$5,168.32	\$103.08	2.0%
5,000	\$5,617.49	\$5,732.03	\$114.54	2.0%
5,500	\$6,169.74	\$6,295.73	\$125.99	2.0%
6,000	\$6,721.99	\$6,859.44	\$137.45	2.0%
7,500	\$8,378.74	\$8,550.55	\$171.81	2.1%
10,000	\$11,139.99	\$11,369.07	\$229.08	2.1%
15,000	\$16,662.49	\$17,006.10	\$343.61	2.1%
20,000	\$22,184.99	\$22,643.14	\$458.15	2.1%

**Rates Effective 2/1/12 (incl 2012 Approved
 EEC) vs Estimated 2013 EEC**

Customer Charge (\$/customer)	\$120.00
Distribution Charge (\$/therm)	
First 500 therms	\$0.3867
Excess 500 therms	\$0.4376
CGA (\$/therm) - all therms	\$0.5185
LDAC (\$/therm) - all therms	\$0.1484
ECS (\$/customer)	\$0.44

**Rates Effective 2/1/12 Revised for Estimated 2013
 EEC**

Customer Charge (\$/customer)	\$120.00
Distribution Charge (\$/therm)	
First 500 therms	\$0.3867
Excess 500 therms	\$0.4376
CGA (\$/therm) - all therms	\$0.5185
LDAC (\$/therm) - all therms	\$0.1713
ECS (\$/customer)	\$0.44

indicates approximate average monthly use

**Fitchburg Gas and Electric Light Company d/b/a Unitil
 General Service - Large, High Winter Use - G43
 Rates Effective 2/1/12 (incl 2012 Approved EEC) vs Estimated 2013 EEC**

Load Factor	Monthly Usage (Therms)	Demand (Therms)	Monthly Bills @ Rates Effective 2/1/12	Monthly Bills Including Estimated 2013 EEC Rates	\$ Difference	% Difference
10.00%	0	0	\$500.44	\$500.44	\$0.00	0.00%
10.00%	3,000	1,000	\$5,153.14	\$5,221.86	\$68.72	1.3%
10.00%	5,000	1,667	\$8,254.95	\$8,369.48	\$114.54	1.4%
10.00%	10,000	3,333	\$16,009.43	\$16,238.51	\$229.08	1.4%
10.00%	20,000	6,667	\$31,518.45	\$31,976.60	\$458.15	1.5%
10.00%	40,000	13,333	\$62,536.43	\$63,452.74	\$916.31	1.5%
10.00%	100,000	33,333	\$155,590.43	\$157,881.20	\$2,290.77	1.5%
20.00%	0	0	\$500.44	\$500.44	\$0.00	0.00%
20.00%	3,000	500	\$4,373.14	\$4,441.86	\$68.72	1.6%
20.00%	5,000	833	\$6,954.93	\$7,069.47	\$114.54	1.6%
20.00%	10,000	1,667	\$13,409.43	\$13,638.51	\$229.08	1.7%
20.00%	20,000	3,333	\$26,318.43	\$26,776.59	\$458.15	1.7%
20.00%	40,000	6,667	\$52,136.43	\$53,052.74	\$916.31	1.8%
20.00%	100,000	16,667	\$129,590.43	\$131,881.20	\$2,290.77	1.8%
40.00%	0	0	\$500.44	\$500.44	\$0.00	0.00%
40.00%	3,000	250	\$3,983.14	\$4,051.86	\$68.72	1.7%
40.00%	5,000	411	\$6,296.10	\$6,410.64	\$114.54	1.8%
40.00%	10,000	822	\$12,091.76	\$12,320.84	\$229.08	1.9%
40.00%	20,000	1,645	\$23,684.64	\$24,142.79	\$458.15	1.9%
40.00%	40,000	3,289	\$46,867.28	\$47,783.59	\$916.31	2.0%
40.00%	100,000	8,224	\$116,419.88	\$118,710.65	\$2,290.77	2.0%
60.00%	0	0	\$500.44	\$500.44	\$0.00	0.00%
60.00%	3,000	167	\$3,853.15	\$3,921.87	\$68.72	1.8%
60.00%	5,000	274	\$6,082.38	\$6,196.92	\$114.54	1.9%
60.00%	10,000	548	\$11,664.32	\$11,893.40	\$229.08	2.0%
60.00%	20,000	1,096	\$22,828.20	\$23,286.35	\$458.15	2.0%
60.00%	40,000	2,193	\$45,157.52	\$46,073.83	\$916.31	2.0%
60.00%	100,000	5,482	\$112,142.36	\$114,433.13	\$2,290.77	2.0%
80.00%	0	0	\$500.44	\$500.44	\$0.00	0.00%
80.00%	3,000	125	\$3,788.14	\$3,856.86	\$68.72	1.8%
80.00%	5,000	206	\$5,976.30	\$6,090.84	\$114.54	1.9%
80.00%	10,000	411	\$11,450.60	\$11,679.68	\$229.08	2.0%
80.00%	20,000	822	\$22,400.76	\$22,858.91	\$458.15	2.0%
80.00%	40,000	1,645	\$44,302.64	\$45,218.95	\$916.31	2.1%
80.00%	100,000	4,112	\$110,005.16	\$112,295.93	\$2,290.77	2.1%

Rates Effective 2/1/12 (incl 2012 Approved EEC) vs Estimated 2013 EEC

Customer Charge (\$/customer)	\$500.00
Distribution Charge (\$/therm)	\$0.2749
CGA (\$/therm) - all therms	\$0.6076
LDAC (\$/therm) - all therms	\$0.1484
ECS (\$/customer)	\$0.44
Demand (\$/therm)	\$1.56

Rates Effective 2/1/12 Revised for Estimated 2013 EEC

Customer Charge (\$/customer)	\$500.00
Distribution Charge (\$/therm)	\$0.2749
CGA (\$/therm) - all therms	\$0.6076
LDAC (\$/therm) - all therms	\$0.1713
ECS (\$/customer)	\$0.44
Demand (\$/therm)	\$1.56

indicates approximate average monthly use

**Fitchburg Gas and Electric Light Company d/b/a Unutil
 General Service - Large, Low Winter Use - G53
 Rates Effective 2/1/12 (incl 2012 Approved EEC) vs Estimated 2013 EEC**


Load Factor	Usage (Therms)	Demand (Therms)	Monthly Bills @ Rates Effective 2/1/12	Monthly Bills Including Estimated 2013 EEC Rates	\$ Difference	% Difference
50.00%	0	0	\$500.44	\$500.44	\$0.00	0.00%
50.00%	5,000	329	\$5,697.57	\$5,812.11	\$114.54	2.0%
50.00%	10,000	658	\$10,894.70	\$11,123.78	\$229.08	2.1%
50.00%	20,000	1,316	\$21,288.96	\$21,747.11	\$458.15	2.2%
50.00%	30,000	1,974	\$31,683.22	\$32,370.45	\$687.23	2.2%
50.00%	40,000	2,632	\$42,077.48	\$42,993.79	\$916.31	2.2%
50.00%	100,000	6,579	\$104,441.07	\$106,731.84	\$2,290.77	2.2%
70.00%	0	0	\$500.44	\$500.44	\$0.00	0.00%
70.00%	5,000	235	\$5,512.39	\$5,626.93	\$114.54	2.1%
70.00%	10,000	470	\$10,524.34	\$10,753.42	\$229.08	2.2%
70.00%	20,000	940	\$20,548.24	\$21,006.39	\$458.15	2.2%
70.00%	30,000	1,410	\$30,572.14	\$31,259.37	\$687.23	2.2%
70.00%	40,000	1,880	\$40,596.04	\$41,512.35	\$916.31	2.3%
70.00%	100,000	4,699	\$100,737.47	\$103,028.24	\$2,290.77	2.3%
90.00%	0	0	\$500.44	\$500.44	\$0.00	0.00%
90.00%	5,000	183	\$5,409.95	\$5,524.49	\$114.54	2.1%
90.00%	10,000	365	\$10,317.49	\$10,546.57	\$229.08	2.2%
90.00%	20,000	731	\$20,136.51	\$20,594.66	\$458.15	2.3%
90.00%	30,000	1,097	\$29,955.53	\$30,642.76	\$687.23	2.3%
90.00%	40,000	1,462	\$39,772.58	\$40,688.89	\$916.31	2.3%
90.00%	100,000	3,655	\$98,680.79	\$100,971.56	\$2,290.77	2.3%

Rates Effective 2/1/12 (incl 2012 Approved EEC) vs Estimated 2013 EEC

Customer Charge (\$/customer)	\$500.00
Distribution Charge (\$/therm)	\$0.2429
CGA (\$/therm) - all therms	\$0.5185
LDAC (\$/therm) - all therms	\$0.1484
ECS (\$/customer)	\$0.44
Demand (\$/therm)	\$1.97

Rates Effective 2/1/12 Revised for Estimated 2013 EEC

Customer Charge (\$/customer)	\$500.00
Distribution Charge (\$/therm)	\$0.2429
CGA (\$/therm) - all therms	\$0.5185
LDAC (\$/therm) - all therms	\$0.1713
ECS (\$/customer)	\$0.44
Demand (\$/therm)	\$1.97

 indicates approximate average monthly use

C. **State by State Comparison of Energy Efficiency Savings Requirements**

2011's Top Ten States

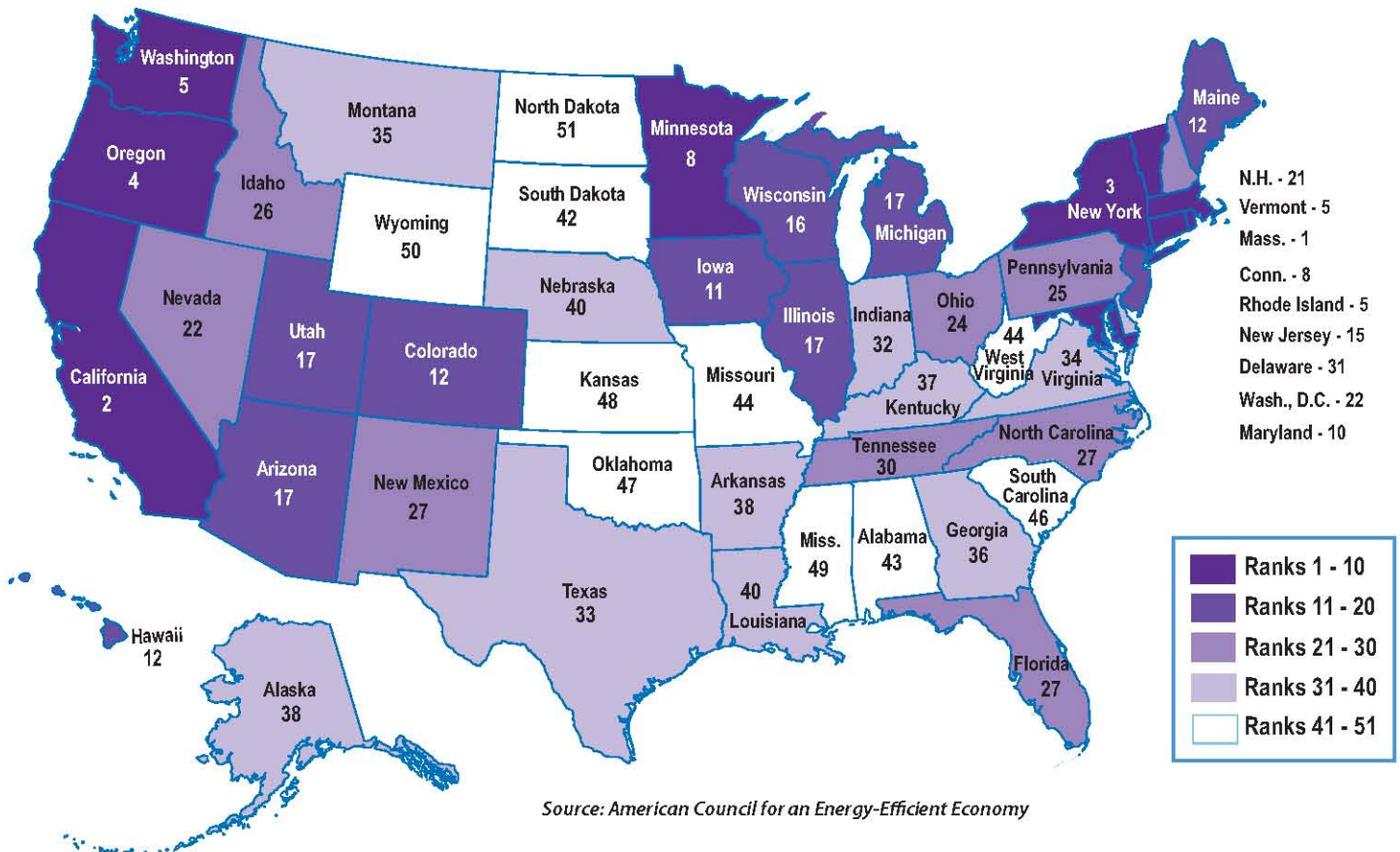
Rank	State	Aprox. Annual Savings Target (Electric) ¹	Aprox. Annual Savings Target (Natural Gas) ¹	Are Changes to Deemed Values Applied Prospectively or Retrospectively? ²	Report Gross or Net Program Savings or Both? ²	Adjust for the Effects of Free-Riders? ²	Adjust for the Effects of Free-Drivers/Spillover? ²
1	Massachusetts	2.0% in 2011; 2.4% in 2012	0.83% in 2011; 1.15% in 2012	Retrospectively	Both	Yes	Yes
2	California	~ 1% annual savings through 2020	150 gross MMTh by 2012	Prospectively	Both	Yes	No
3	New York	15% Cumulative savings by 2015	~ 14.7% Cumulative savings by 2020	Prospectively	Net	Yes	Yes
4	Oregon	~ 0.8% of 2009 electric sales in 2010, ramping up to 1% in 2013 and 2014	0.2% of sales in 2010 ramping up to 0.4% in 2014	Retrospectively	Net	Yes	Yes
5 (tie)	Vermont	~ 6.75% cumulative savings from 2009 to 2011	n/a	Prospectively	Both	Yes	Yes
5 (tie)	Washington	Biennial and Ten-Year Goals vary by utility. Law requires savings targets to be based on the Northwest Power Plan, which estimates potential savings of about 1.5% savings annually through 2030 for Washington utilities.		Prospectively	Gross	No	No
5 (tie)	Rhode Island	1.5% in 2011; 1.7% in 2012, 2.1% in 2013, and 2.5% in 2014	~0.4% of sales in 2011; 0.6% in 2012, 0.8% in 2013, and 1.0% in 2014	Prospectively	Net	Yes	Yes

¹ American Council for an Energy-Efficient Economy. *The 2011 State Energy Efficiency Scorecard* , October 2011.

² American Council for an Energy-Efficient Economy. *A National Survey of State Policies and Practices for the Evaluation of Ratepayer-Funded EE Programs* , February 2012.

Fact Sheet

Key Findings From ACEEE's 2011 State Energy Efficiency Scorecard



Earning the #1 ranking, Massachusetts has overtaken California, which had placed atop the rankings the last four years. Central to Massachusetts' success is the continued implementation of the 2008 Green Communities Act, which laid the foundation for greater investment in energy efficiency programs.

Not far behind Massachusetts and California, a group of states including New York, Vermont, Oregon, Washington, Connecticut, Minnesota, and Rhode Island remain in the top ten and continue to lead the nation in energy efficiency policy and program implementation across all economic sectors.

2011's Top Ten States	
1	Massachusetts
2	California
3	New York
4	Oregon
5 (tie)	Vermont
5 (tie)	Washington
5 (tie)	Rhode Island
8 (tie)	Minnesota
8 (tie)	Connecticut
10	Maryland

POLICY TRENDS

Facing uncertain economic times, states are continuing to use energy efficiency as a key strategy to generate cost-savings, promote technological innovation, and stimulate growth. Energy efficiency is also a pragmatic, bipartisan solution that political leaders from both sides of the aisle have supported over the past year.

Total budgets for electricity efficiency programs increased to \$4.5 billion in 2010, up from \$3.4 billion in 2009. Combined with natural gas program budgets of about \$1 billion, total energy efficiency budgets in 2010 equal about 5.5 billion dollars. Given the increasing regulatory commitments to energy efficiency, this growth will likely continue over the next decade.

Twenty-four states have adopted Energy Efficiency Resource Standards, which set long-term energy savings targets and drives utility-sector investments in energy efficiency programs. States that adopted EERS policies in 2007 and 2008 are realizing significant energy savings and moving ahead in the Scorecard rankings.

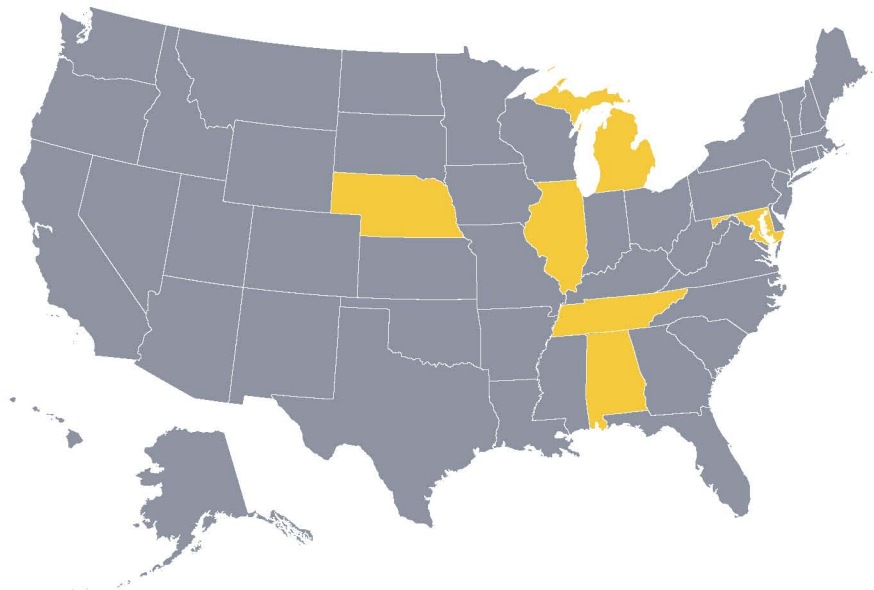
States continue to improve policies to reduce financial, technical, and regulatory barriers to adoption and deployment of combined heat and power (CHP) systems, which generate electricity and thermal energy in an integrated system. Tremendous potential remains for CHP, particularly in states with heavy industrial and manufacturing bases.

Twenty-nine states have either adopted or have made significant progress toward the adoption of the latest energy-saving building codes for homes and commercial properties — up from twenty in 2010 and ten in 2009.

A group of leading states remains ahead of the curve in adopting policies to reduce vehicle miles traveled and promote the purchase and manufacture of efficient vehicles. A major gap exists, however, as over half the states have minimal or no policies to encourage efficiency in the transportation sector.

MOST IMPROVED

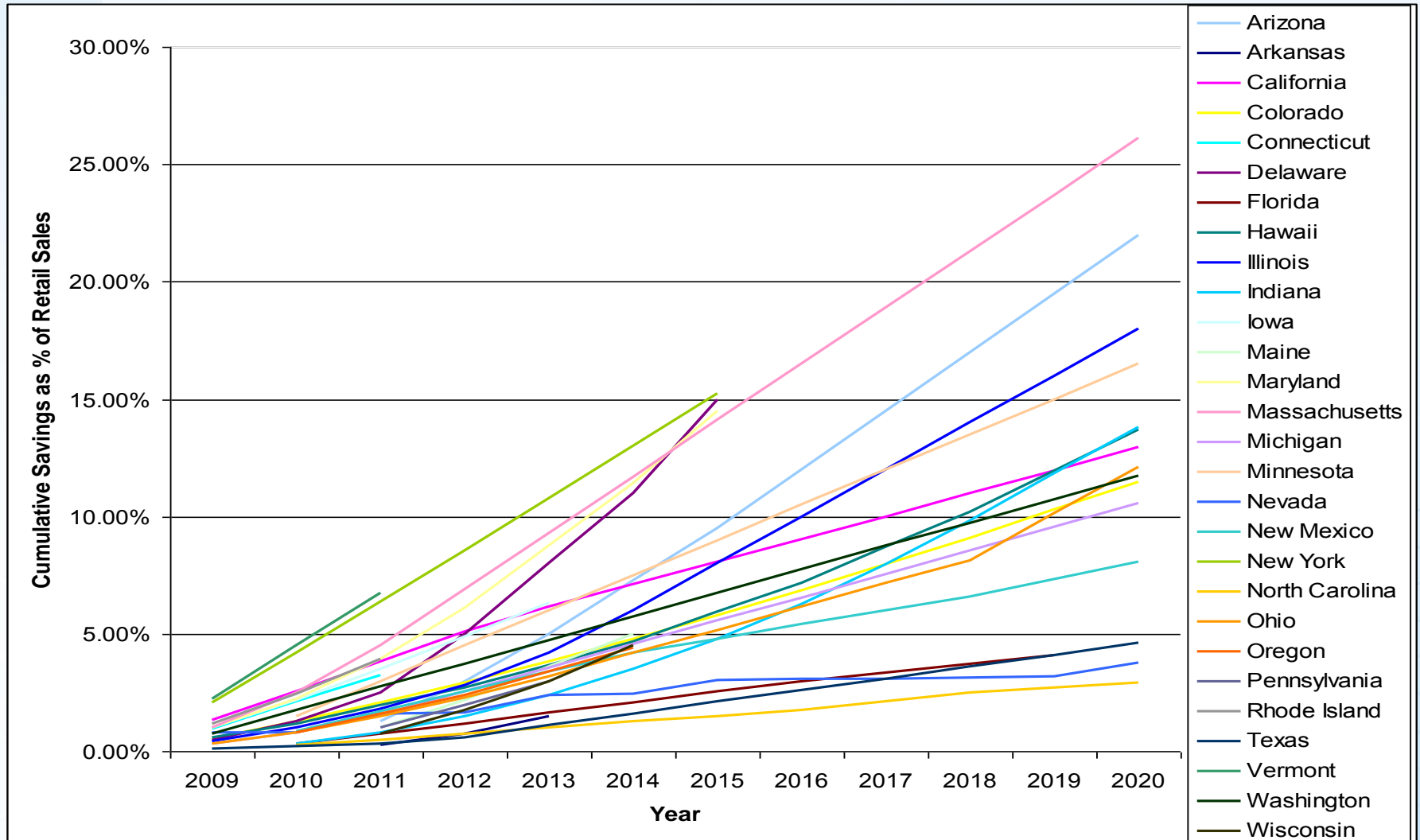
This year's most improved states include Michigan, Illinois, Nebraska, Tennessee, Alabama, and Maryland. Michigan, Illinois, and Maryland have significantly increased utility-sector energy efficiency efforts in order to meet energy savings targets established in Energy Efficiency Resource Standards (EERS) passed in 2008. Illinois and Maryland also recently adopted energy-efficient transportation policies and Michigan has become a leader in the research and development of energy-efficient technologies. Tennessee, Nebraska, and Alabama saw improvements across categories, particularly in the adoption of stringent building codes.



2011's Most Improved States

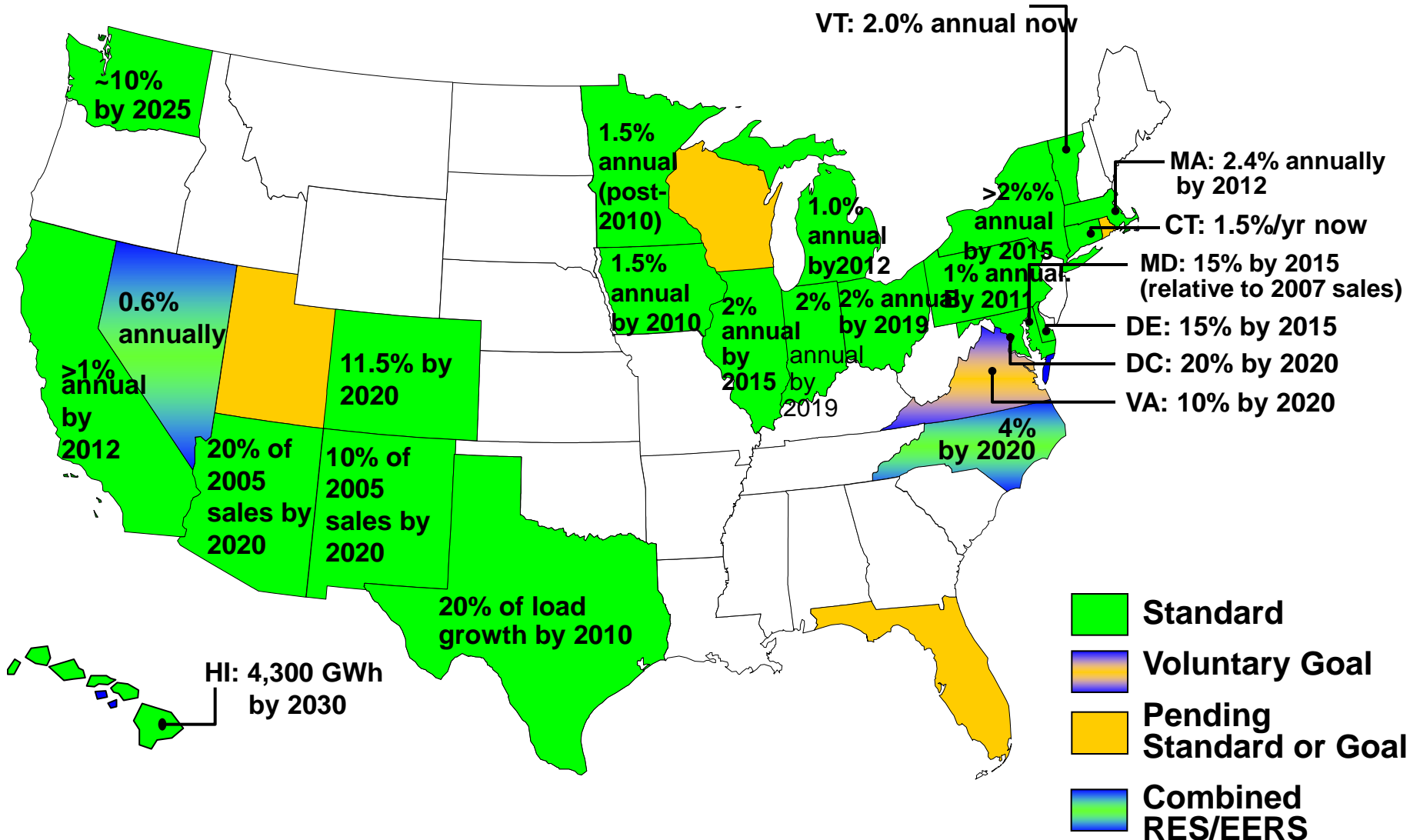
State	2011 Rank	2010 Rank	Change in Rank (from 2010)
Michigan	17	27	^10
Illinois	17	25	^8
Nebraska	40	47	^7
Alabama	43	49	^6
Maryland	10	16	^6
Tennessee	30	35	^5

State EERS Policies



Energy Efficiency Resource Standards

➤ 22 States – February 2010



D. Counselor Comment Matrix

E. Appreciative Inquiry Summit Recommendations

QUESTIONS/COMMENTS ON THE APRIL 30TH DRAFT OF THE THREE-YEAR PLAN

Category	Question/Comment	Councilor	✓
General	Lack of clarity on specific commitments; it is unclear precisely what the PAs are committing to do (e.g., street lighting, codes & standards, new financing products, gas-electric integration)	ENE	
General	PAs should be clear and consistent that the overall statutorily mandated goal is to have a plan that “provide[s] for the acquisition of all available energy efficiency and demand reduction resources that are cost effective or less expensive than supply”- NOT “realistically achievable.”	ENE	
General	PAs must offer concrete details as to hope-for outcome, additional savings, participation, budget, EM&V, for any efforts noted.	AG	
General	Seek update from the RMC on program design enhancements and ways to capture deeper savings and share PA best practices – update to include a progress report, explanation of differences of opinion, timeline, etc.	AG	
Savings Goals	How do the goals contribute to the sustainability of EE in Massachusetts, while still remaining aggressive?	AG	
Savings Goals	Seek narrative re: how the PAs reached the goals. Describe “review process” noted on p. 18 (how it was conducted, what factors were relied upon to build both the individual and statewide goals, and what weight the factors were given in determining the goals.)	AG	
Savings Goals	Gas goals appear to be essentially the same/lower than 2012 MTM levels and significantly lower than the consultant recommendations in their most recent assessment. Plan is not aggressive (Loh).	ENE, Loh, GJC	
Savings Goals	Electric and gas savings levels could be increased slightly to mirror the EEAC consultant recommendations in their April 10, 2012 presentation to the EEAC. The proposed savings goals are at or below the low end of savings ranges put forth by the EEAC consultants in March.	ENE, Loh, GJC	
Savings Goals	Savings goals fall below the trajectory envisioned in the state’s Clean Energy and Climate Plan (2.6% electricity savings and 1.6% gas savings by 2015).	Loh, GJC	

Category	Question/Comment	Councilor	✓
Savings Goals	Considerable variance in savings targets among individual PAs – seeks: <ul style="list-style-type: none"> • greater consistency where possible • more detailed explanation of unique circumstances that could conceivably necessitate lower savings targets. 	ENE	
Savings Goals	It is not clear what portion of savings will be achieved through scaling up current programs and making them more efficient and what portion will require more innovation and investment in capacity to acquire savings from harder to reach/serve segments and underserved markets.	Loh	
Savings Goals	Benefit cost ratios for electric sector are very high (residential is at 3.75); could significantly more savings be achieved with greater expenditures?	Loh	
Savings Goals	Goals should be set high enough so that performance incentives do not accrue for doing more of the same; should be a reward.	GJC	
Savings Goals	Suggests thinking of savings goals “comfort zone” as analogous to 75% threshold, such that the probability of achieving over 75% of goal should be less than 100%	GJC	
Savings Goals (NSTAR)	Why does NSTAR’s annual savings for electricity decline in 2014 from 2013?	Loh	
Costs/Budgets	Costs per unit of energy are considerably higher than actual costs reported in 2010 and 2011, and the Draft Plan does not contain enough explanation about how the PAs determined the overall costs. Overall costs should be considerably lower than proposed in the Draft Plan.	ENE	
Costs/Budgets	Identify ways to reduce overall program costs while maintaining and even enhancing the savings goals.	ENE	
Costs/Budgets	Seek further explanation of the “economies” that were realized through prior efforts. How will PAs continue to increase these economies and develop new economies to achieve better cost-efficiency for the programs?	ENE, AG	
Costs/Budgets	Why are the gas budgets significantly higher for 2013-2015 than 2012, while the savings are roughly the same?	Loh	
Costs/Budgets	Are increased incentives the sole driver of the increased gas budgets? If not, what else was driving them?	AG	

Category	Question/Comment	Councilor	✓
Costs/Budgets	Seek detailed reasons for large cost difference other than just “service territory differences.”		
Costs/Budgets	How much of large cost increases over 2011 are related to CHP?	AG	
Benefits	Overall net benefits could be improved by reducing program costs to make them more consistent with actual performance in past years.	ENE	
Benefits	Seek to understand how and why the PAs are “placing an increased focus on benefits”.	ENE	
BCRs	Why do electric BCRs vary so much across PAs (from 2.77 to 6.5)?	Loh	
Non-Electricity Energy Savings	Seek targets for non-electricity energy savings, namely for oil heat. The state Clean Energy and Climate Plan does set savings for heating oil (.97% by 2015), need detail on heating oil savings (since savings are embedded in the electric program benefits.)	Loh, GJC	
Non-Electricity Energy Savings/Performance Incentives	Tie performance incentives more close to \$ per MMBTu and \$ per ton of carbon avoided (to take oil savings into account).	GJC	
Performance Incentives	Performance incentives are warranted to help spur innovation and building the infrastructure necessary to acquire all cost-effective energy efficiency, but should not be offered merely to keep operating programs as they are. Without progressing further up the overall savings curve and without explanation of what infrastructure and innovation they are undertaking, these incentives are not justified.	Loh	
Performance Incentives	Discussion should wait until we have much more information on Plan.	AG	
Participation/Customer Incentives	If, to compensate for the low cost of gas, the PAs intend to increase customer incentives, how did PAs reach this determination, what other avenues were explored in an effort to increase participation in the gas programs, and what are the new incentive amounts PAs are proposing, and how did PAs arrive at those amounts.	AG	
Participation	Seek concrete details as to how the PAs intend to bring customers into the programs beyond the traditional routes taken in the past. This is particularly important as we move through successive three year plans.	AG	
Customer Incentives	Seeks information about potential packaging of initiatives.	AG	

Category	Question/Comment	Councilor	✓
Assessment	Seek information on how the PAs will use the Point 380 study to approach customers.	AG	
Assessment	Seek discussion of the Synapse economic conditions study and its findings- how PAs used/will use the information in the study to develop C&I goals and reach out to customers/market the programs.	AG	
Assessment	Seek information as to how the PAs reviewed the different types of potential, their relationship to the GCA, GWSA and the Council Priorities and how, in the end, their findings related to potential were used to develop the savings goals and budgets.	AG	
Consolidation/Data Reporting	How will consolidation be done, and how will PAs track and report spending, savings, and participation among “initiatives” and the proposed consolidated programs, and what will be public? For sake of transparency, all of that data should be publicly available in a timely fashion (or at least available when aggregate reports are submitted) (Loh).	ENE, Loh, AG	
Consolidation	What, if any, effect will consolidation have on cost-effectiveness and cost-efficiency, how will PAs plan EM&V to determine success of consolidation versus the current programs’ success, what if any changes need to be made in terms of marketing the programs to customers, how PAs plan to track and analyze customer feedback regarding their experience with consolidated programs.	AG	
Consolidation	Why did the PAs consolidate the LI programs without DPU approval.	AG	
Gas/Electric Integration	What specific activities will the PAs engage in over the course of the next three years to accomplish gas-electric integration? Seek concrete plans, timeline to fully seamless program designs and delivery strategies (full integration). It is particularly important on the C&I side to present customers (who have a wide variety of issues competing for their attention and effort) with simultaneous and coordinated EE plans for their business (AG).	ENE, AG	
Statewide Consistency	Seek details on “long-term goal” of providing consistent programs and strategies state-wide – how to achieve and how to demonstrate achievement. Timeframe for consistency?	ENE	
Administrative Efficiencies/Enhancements	Expect uniform treatment among all PAs by the end of this three year period.	ENE	

Category	Question/Comment	Councilor	✓
Administrative Efficiencies/Enhancements	Continued need for excellence in PA program and administrative staff.	ENE	
Data Management/Analytics	Seek specific details of data management and analytics. Seek to use to streamline administrative costs and developing targets and program offerings for hard-to-reach/serve segments. PAs should include detail on which programs and activities may use more data management and analytics.	Loh	
Data Management/Analytics	Seeks data analytics and reporting to carry out mandates of GCA and council priorities. Seeks information on participants served and geographic distribution of EE participants (timely reported geo-coded data, central data management system at census tract or zip code level). Seeks specific targets (report by census tract or zip code by 2012 AR, develop statewide database by 2014), naming conventions, common methodology, timely reporting, web-based query, and assurance that consolidation does not diminish quality of data.	GJC	
Efforts Remain Challenging	“Efforts Remain Challenging” section not clear- should be explained or removed	ENE	
Hard-to-reach / Hard-to-Serve / Hard-to-Measure	Seek details regarding how the PAs intend to target and reach hard to reach/hard to serve customers. Aspects to serving these customer segments to address include messaging/marketing and leveraging the positive experiences of the CMIs to create a permanent platform within the Plan to address the needs of this customer segment. Seek an update on tier incentives- what is happening, how the PAs are progressing, what is under discussion.	AG	
Hard-to-reach / Hard-to-Serve / Hard-to-Measure	How are PAs planning to serve condo owners given identified barriers?	AG	
Hard-to-reach / Hard-to-Serve / Hard-to-Measure	For all of the areas in the Plan where the PAs have not been able to develop a solution, such as landlord-tenant, outside funding/financing, seek a progress report on PA actions, proposed plans to address the issues, timelines, and hoped-for goals.	AG	

Category	Question/Comment	Councilor	✓
Hard-to-reach / Hard-to-Serve / Hard-to-Measure	A number of customer segments will require significant investment and innovation in order to effectively be reached and served, most notably renters, moderate-income (60-120%), non-English speaking, and oil-heated homes. Plan doesn't set targets set or propose program designs. Seek detail about what staffing, expertise, and partnerships will need to be built in order to develop effective programs. Set major milestones to achieve.	Loh	
Hard-to-reach / Hard-to-Serve / Hard-to-Measure	<p>Seek to set targets and develop program offerings for hard-to-reach/serve beyond marketing and education.</p> <ul style="list-style-type: none"> • Pre-weatherization – project potential savings and expenses if 2012 offering were in place entire 3-year period. • Tiered incentives for hard-to-reach/serve – project potential savings and expenses of geographically-targeted and possibly time limited offerings for various hard-to-reach/serve segments. The C&I Main Streets initiative (p. 49) proposes this method for small businesses. • Renters – though tenants-landlords are mentioned a number of times in the plan, there are no details about specific program offerings or how these may be developed. Targets should be set for reaching renters in 1-4 unit and 5+ unit buildings. • Oil heat homes - Can PAs set targets for serving oil-heated homes? Is Mass Save already “fuel blind” as is being explored for low income multifamily (p. 46)? 	Loh	
Hard-to-reach / Hard-to-Serve / Hard-to-Measure	Seek more detail on programs and infrastructure to serve tenants (commit to working group, test program offerings, customer service, statewide goal for renters).	GJC	
Hard-to-reach / Hard-to-Serve / Hard-to-Measure	On bottom of page 50, the subsection title refers to “Hard-to-Measure”, but in the text, it refers to “hard-to-reach”. Is this a typo? If this is correct, then I am concerned about the commitment to develop methods for reaching and serving “hard-to-reach”.	Loh	

Category	Question/Comment	Councilor	✓
Pilots/Hard-to-Measure	AG is concerned that the PAs have not yet finalized what is to be done with these efforts, some of which have been running for 2+ years. AG suggests attaching time limits to pilots and hard to measure efforts.	AG	
Moderate Income (60-120)	Seeks ways to overcome financial barriers for 60-120% of state median income (lighting, appliance and HVAC programs in addition to weatherization, testing 4-6 geo-targeted incentives, target “Environmental Justice Communities,” establish goal to serve this group, pilot no-cost weatherization, build loan loss reserve for HEAT loan).	GJC	
Pre-Weatherization	Seeks additional details on pre-weatherization proposal.	ENE	
Pre-Weatherization	Set specific targets and budget; give priority to customers who received CMI audit, increase limit per household, increase total pre-weatherization budget, track and report conversion rate from audit to work.	GJC	
Community Engagement	Seek additional details on how the PAs will engage communities.	ENE	
Community Engagement	Seeks specific targets and budgets (25% Mass Save marketing budget to community outreach; 12-15 community based initiatives per year, earmarked funds for translating materials).	GJC	
Community Engagement/Marketing	Seek more details on how community based outreach and marketing will be integrated. How much do PAs anticipate budgeting? Which methods will be applied where? Who will be involved in shaping the evolution of these approaches?	Loh	
Marketing	Have PAs already started developing tailored marketing campaigns for certain industries? What are the plans? How is Point 380 being used?	AG	
Education	Seek an education program to create energy literacy, with specific budget (priority for funds to Title I schools or schools in Environmental Justice Communities).	GJC	
Education	Support any-age education, such as carbon class offered by community based and faith based organizations.	GJC	
January Public Comments Meeting	Seek meaningful treatment of the ideas shared at the public comment session (e.g., health care sector, large commercial office space). Seek seamless gas/electric integration as noted in public comments.	ENE, AG	

Category	Question/Comment	Councilor	✓
Market Barriers/Increased Penetration	What do the PAs plan to do to address/overcome the identified market barriers? (other than just increase incentives) What strategies will be used to increase awareness? What will PAs do to go deeper/broader?	ENE	
Regulatory Guidance	What is meant by the term “regulatory guidance” (p. 27)?	ENE	
Financing	What do the PAs expect to be the level of demand for financing over the next three years (p.32)?	ENE	
Financing	Seek additional details on which types of financing options the PAs are exploring (p.33).	ENE	
Financing	What is the level of consistency in financing offerings among the PAs? Among gas and electric?	ENE	
Financing	Seek details on the PAs’ work regarding customer barriers to accessing capital. What are the identified barriers by segment and how are PAs planning to address them, including a timeline for resolution (partial or full).	AG	
Funding (FCM)	Regarding FCM, seek some discussion of the work the NE ISO is currently doing to forecast energy efficiency savings for its purposes, and the effect, if any, that work has on the savings goals contained in the Plan and how the ISO work will affect, if at all, the PAs FCM bids.	AG	
Funding (FCM)	What is PAs’ perceived risk to program funding if PAs are unable to deliver on their FCM bids.	AG	
Funding (RGI)	Seek detail on potential delays in the receipt of RGGI funds; explain how PAs developed the assumptions in the RGGI table on page 31.	AG	
HEAT Loan	Proposal to expand HEAT loans to gas customers in municipal light districts is good.	ENE	
HEAT Loan	Isn’t HEAT Loan already available to gas customers?	Loh	
HEAT Loan	Seek additional information on proposal for expanding HEAT loans to gas programs, including the budget for the interest pay-down, anticipated participation, how this will be marketed to gas customers, whether or not the potential for HEAT loans increasing participation in the gas programs was factored in to the gas savings goals.	AG	
EM&V	On page 33, the PAs discuss EM&V factors and trends relied on to develop the savings goals- what were they and how were they used in goal development?	AG	
EM&V	Seeks information on the basis for the 4% budget determination	AG	

Category	Question/Comment	Councilor	✓
Bill Impacts	When will EEAC see new bill impacts?	AG	
Bill Impacts	Consideration of bill impacts must be a priority, specifically since the priorities require sustainability which is difficult to achieve if we overburden ratepayers' bills. Additionally, the PAs must be mindful of bill impacts as the DPU is required to consider them when approving the Plan and the EERFs.	AG	
Carbon Compliance	PAs should produce a table of BCRs showing a range of values for avoided cost of compliance cost.	GJC	
HES Program	Seeks additional details.	Loh	
Residential LED Lighting	Seeks details on how PAs plan to promote residential LED.	Loh	
Residential HVAC	Does promotion of central a/c make sense? Do PAs have performance and cost-effectiveness data on heat pumps (for space or water heating)? What budgets are proposed for residential gas and electric HVAC equipment?	Loh	
Multi-Family	Seek details on multi-family strategy; commit to working group, expand offerings for fuel-blind improvements.	GJC	
Lighting	What progress have the PAs made on mitigating program attribution issues related to lighting? How and when will PAs refine incentive levels?	AG	
HVAC Cool Smart	Seek more info on the early replacement package offer, including how PAs plan to address the loss of savings when changing from an efficient product (before the end of its useful life) to a more efficient product (Page 44-45).	AG	
LIMF	Pleased to see the proposed expansion of low-income multi-family program efforts to serve "for profit" properties	ENE	
LIMF	"For Profit Properties" – seek more information as to the additional budget dollars needed to do this, the increased savings, anticipated participation and how the PAs intend to reach and interact with this segment (Page 46).	AG	
C&I New Construction	How are the PAs intending to educate C&I customers about energy efficient equipment prior to equipment failure? When equipment fails, C&I customers need to act fast to get their business back on track – that's not really the time to be educating them about efficient equipment.	AG	
Upstream Initiatives	How are the PAs intending to expand upstream initiatives to the replacement-on-failure market?	AG	

Category	Question/Comment	Councilor	✓
Property Management/Real Estate	What's the plan? Have PAs reached out to the real estate community? How are PAs going to address barriers like split incentives? When will this go to market strategy be finished and brought online? How will it be tracked with an eye towards gauging its success?	AG	
C&I Retrofit	When will PAs decide whether to increase incentives? What's the process for determining by how much they should be increased? What's the process for decreasing them if/when gas prices rise?	AG	
CHP	Are the PAs "shopping" CHP to customers or are they relying on customers to approach them?	AG	
Street Lighting	While understanding obstacles is necessary, finding ways to overcome those obstacles is the key to developing this initiative- more detail should be provided. What's the timeline? Who are the stakeholders the PAs are working with?	ENE, AG	
Expanded Service Offerings	Seek details, e.g., when these offerings will be online, how PAs intend to notify customers of these options, cost, anticipated participation through these options.	AG	
Main Street Implementation	Seek budgets, anticipated savings and participation and how PAs will track this initiative for success.	AG	
Market Segmentation	Are PAs intending to tailor MOUs for smaller customers or "chain" customers?	AG	
Behavior Feedback	Seek clarification on savings attributable to this program (consultants indicate large savings, National Grid indicated difficulty in savings attribution).	AG	
Workforce Training	What exactly are PAs looking to do?	ENE	
New Technologies	Pleased with focus on new technologies in MTAC.	ENE	
New Technologies	Explain how PAs will proactively pursue new technologies and incentive structures.	ENE	
New Technologies	What is the plan for reviewing emerging technologies for inclusion in the programs?	AG	
Codes & Standards	Need details on program. What value will the PAs will add to ongoing efforts related to building codes and appliance standards? Need more details about what the PA role is, proposed budgets, and formulas/methodology for attributing savings. PAs role needs to be well defined and clearly justified.	ENE, Loh, AG	

Category	Question/Comment	Councilor	✓
Codes & Standards	Seek information given that Codes and Standards are supposed to be such a huge driver of savings. Why are the PAs “considering” support of DOER’s stretch code? Is this related to whether or not PAs can claim savings related to stretch codes (in AG’s opinion, PAs cannot)?	AG	
TRM	When the TRM is updated in August/September, will the proposed 2013-2015 Plan be updated to reflect any changes? Will this be brought back before the Council for its review/approval if there are significant changes?	AG	
Smart Grid	Can anything be used from the pilots done on Smart Grid? Seeks some acknowledgement that some pilots have been done and where it may fit over the next few years.	AIM (Bob Rio)	

AI SUMMIT PARTICIPANTS' RECOMMENDATIONS

NOTE: RECOMMENDATIONS ARE IN DRAFT FORM

INCLUSION OF RECOMMENDATION ON LIST REFLECTS PLAN FOR REVIEW BY APPLICABLE COMMITTEES- ANY ADOPTION OF RECOMMENDATION TO BE BASED ON SUCH REVIEW AND ANY NECESSARY FOLLOW- UP RESEARCH AND ANALYSIS

Recommendation	Issues/Comments	Statement	Responsibility
1. Small C&I	<ul style="list-style-type: none"> • Inform customer of their options beyond DI • Single point of contact for gas and electric measures, contractor can do a walk through on all electric and all gas technologies • All new customers to a space allowed to participate even though billing history is unknown (make an estimate) • Put live phone numbers on the website 	Develop a one-stop-shopping program for all gas and electric technologies.	Commercial & Industrial Management Committee (C&I MC)
2. Large Corporate Campus Complexes	<ul style="list-style-type: none"> • Examples – education, health care, big hi-tech (such as Microsoft in Redmond, WA; the old Digital Equipment complex in Marlborough), municipalities • Lack of sub-metering/check meters: Investigate allowing participation as DI customer for individual buildings • Look at U.S. versus European End Use Intensity (EUI) performance 	Evaluate challenges and complexities and develop strategies to comprehensively serve customers with large campus based facilities.	Commercial & Industrial Management Committee (C&I MC)
3. Large C&I – ENERGY STAR® Benchmarking	<ul style="list-style-type: none"> • Currently no widely employed and easily identifiable way to assess a buildings' energy efficiency as compared to others 	Review ENERGY STAR benchmarking as a possible statewide building labeling approach and coordinate where	Commercial & Industrial Management Committee (C&I MC)

Recommendation	Issues/Comments	Statement	Responsibility
	<ul style="list-style-type: none"> • ENERGY STAR Benchmarking – not widely employed – minimizing its effectiveness • Some concerns with benchmarking 	appropriate with DOER	
4. Healthcare	<ul style="list-style-type: none"> • Connect with experts to determine EE equipment vs. non EE equipment if any. • Explore potential upstream opportunities to incorporate efficient components in medical equipment. • Work with industry groups for marketing collaboration 	Determine if energy efficient medical equipment exists and explore collaborative marketing opportunities.	Commercial & Industrial Management Committee (C&I MC) and Statewide Marketing
5. Multifamily	<ul style="list-style-type: none"> • Complexity of players needed to be involved – gas and electric Program Administrators, residential, C&I, etc. • Tenant/landlord issues • Need greater simplicity – single point of contact. Customers want to make one phone call, while PAs work out complexity behind the scenes • Possibly use single statewide contractor to handle all aspects of Multi-family 	Determine best methodology to resolve and overcome the most commonly faced challenges facing multi-family and commercial office customers.	Residential Multi-Family Group & designees from Commercial & Industrial Management Committee (C&I MC)
6. Tenant/Landlord (C&I)	<ul style="list-style-type: none"> • Split incentive challenge • CLC has offer (will pay 100% up to \$2,000) 	Research and evaluate successful tenant/landlord programs for potential adoption in Massachusetts for master-metered buildings.	Commercial & Industrial Management Committee (C&I MC)
7. Tenant/Landlord (RESI)	<ul style="list-style-type: none"> • Split incentive challenge • CLC has offer (will pay 100% up to \$2,000) 	Research and evaluate successful tenant/landlord programs for potential adoption in	Residential Management Committee (RMC)

Recommendation	Issues/Comments	Statement	Responsibility
		Massachusetts for individually metered buildings.	
8. Residential	<ul style="list-style-type: none"> • Moderate income customers challenged to participate. • Determine if \$2,000 Cap plus \$800 in air sealing is a sufficient incentive to motivate deeper savings, and to prevent repeated audits/projects at the same location • Review possible opportunities for HES assessment enrollment at home improvement and hardware stores/similar locations (follow-on from research presented at January 12 Council meeting) 	Consider revised incentive structure or alternative program designs to increase accessibility to programs by low to moderate income customers and research incentive cap for other customers.	Residential Management Committee (RMC)
9. Low Income	<ul style="list-style-type: none"> • Eligibility • Incentive cap - should this be raised or waved in certain circumstances 	Determine if incentive cap should be raised or waived in certain circumstances for Low Income customers.	Residential Management Committee (RMC)/ Low Income Best Practices
10. Education	<ul style="list-style-type: none"> • Focus on K-12 • Effort across the Commonwealth– look at engaging existing organization/organizations with off-the-shelf capability • Work to eventually have adopted as part 	Explore & implement a standardized K-12 energy education program, meeting Massachusetts Comprehensive Assessment System (MCAS) criteria, encompassing both the	Residential Management Committee (RMC)

Recommendation	Issues/Comments	Statement	Responsibility
	of standard statewide curricula <ul style="list-style-type: none"> • Set-aside specific % of budget to fund standardized curricula (science/economics of energy) • Contributes to culture of sustainability by developing energy experts of the future 	science and economics of energy generally and energy efficiency specifically.	
11. Professional Development & Training	<ul style="list-style-type: none"> • Focused on working professionals • Lack sufficient number of qualified energy engineers in general • Specific lack of fuel-blind expertise – impediment to gas/electric integration in the field • Pertinent to both internal Program Administrators’ staff and trade allies • Could have impact in relative near-term • Model after Continuing Professional Education (CPE) – maybe certificate program • Possibly reward trade allies for having staff who complete training/achieve certification 	Explore and implement a curriculum or specific training and development programs designed to expand the number of qualified energy professionals/engineers capable of expertly servicing efficiency customers on a fuel blind basis.	Commercial & Industrial Management Committee (C&IMC)
12. Community Initiatives	<ul style="list-style-type: none"> • Greater use of various existing channels/organizations – religious organizations, Elks, American Legion, Local Government, Chambers of Commerce, etc. to reach customers • Helps to “have an ally in City Hall” 	Explore releasing RFP/RFI to organizations that can assist in engaging hard to reach/hard to serve populations.	Residential Management Committee (RMC) and Statewide Marketing teams
13. Marketing	<ul style="list-style-type: none"> • Has thus far not had full impact – 	Evaluate and determine how to	Statewide Marketing

Recommendation	Issues/Comments	Statement	Responsibility
	increase broad-based awareness <ul style="list-style-type: none"> • Compared to other Program Administrators in other states, are less \$ budgeted to marketing? • Does it require more investment/budget or does it need different tactics, or both? 	improve awareness of availability and value of energy efficiency offerings.	
14. Train the Trainers	<ul style="list-style-type: none"> • Use AI attendees as ambassadors to spread the EE message(s) • Reimburse for mileage, stipend? 	Develop and implement a plan to engage AI Summit participants in an outreach communication and education campaign.	Statewide Marketing
15. Process Improvements	<ul style="list-style-type: none"> • Forms – fewer, simpler, fuel-blind • Need to make it easier – faster, fewer steps -- to participate • Research innovation from organizations outside MA • Research using a test besides total resource cost (TRC) • Sharing of best practices 	Conduct process review of programs to identify opportunities for streamlining and simplifying the customer experience.	Evaluation Management Committee, Residential Management Committee (RMC), Commercial & Industrial Management Committee (C&I MC)
16. Financing	<ul style="list-style-type: none"> • Whole building performance based loans • Investigate developing a mechanism for those that don't qualify for a loan 	Investigate developing a mechanism for those that don't qualify for a loan.	Commercial & Industrial Management Committee (C&I MC) and Residential Management Committee (RMC)
17. Smart Grid	<ul style="list-style-type: none"> • Smart Homes and Buildings • Appliances 	Determine feasibility and benefits of integrating Smart Grid enabled measures into energy efficiency programs.	Massachusetts Technical Advisory Committee (MTAC)

F. Glossary

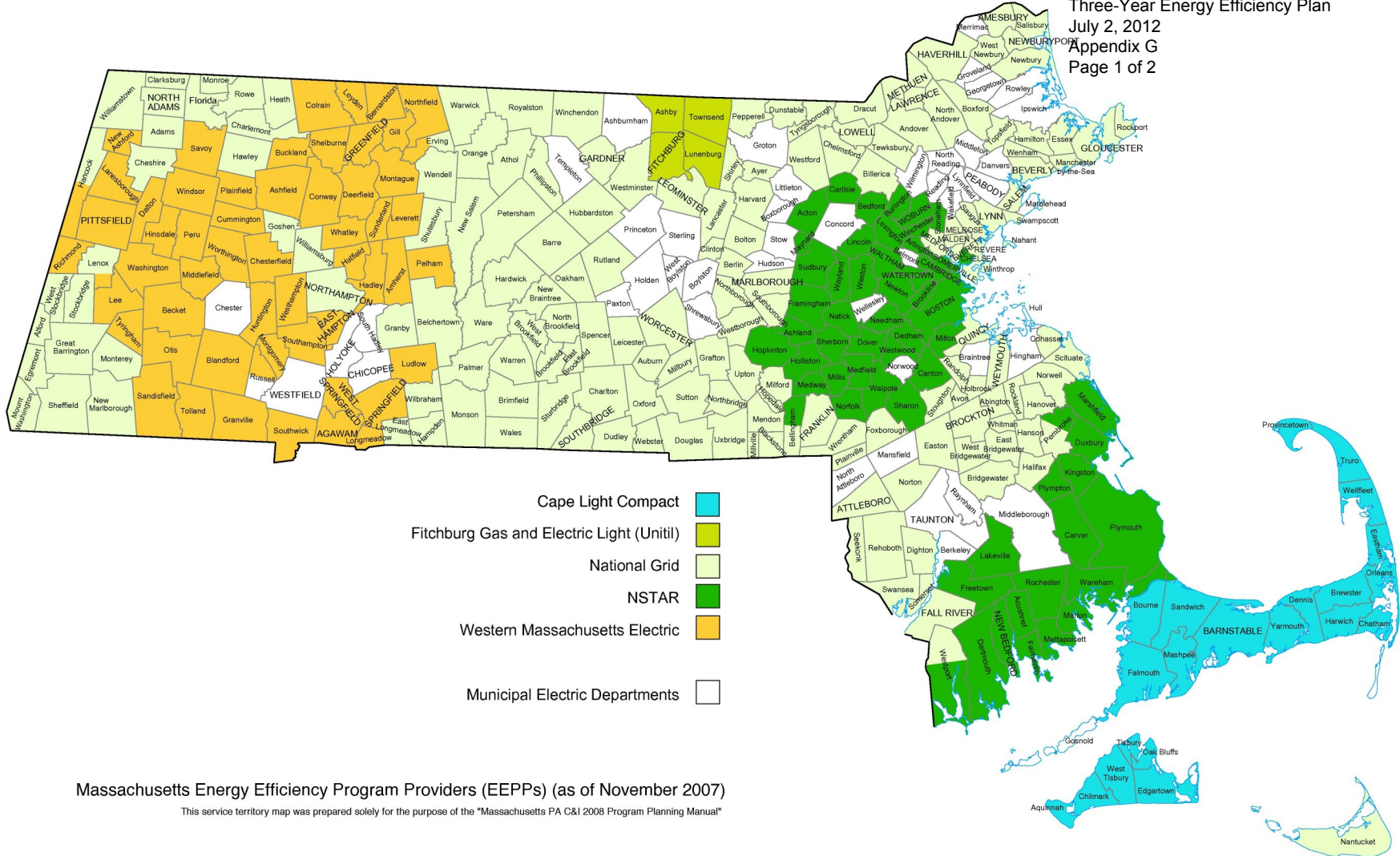
GLOSSARY OF TERMS AND ABBREVIATIONS	
AB	Advanced Buildings
ABCD	Action for Boston Community Development
ACEEE	American Council for an Energy-Efficient Economy
AE	Account Executive
AESC	Avoided Energy Supply Component
AESP	Association of Energy Service Professionals
AFUE	Annual Fuel Utilization Efficiency
AIA	American Institute of Architects
ARRA	American Recovery and Reinvestment Act
BCR	Benefit/Cost Ratio
BPI	Building Performance Institute
C&F	Chain & Franchise
C&I	Commercial and Industrial
C&IMC	Commercial and Industrial Management Committee
CAP	Community Action Program
CDA	Comprehensive Design Approach
CFL	Compact Fluorescent Light
CHP	Combined Heat and Power
CMI	Community Mobilization Initiatives
Consultants	Consultants employed by the Energy Efficiency Advisory Council
Council	Energy Efficiency Advisory Council
Department	Massachusetts Department of Public Utilities
DER	Deep Energy Retrofit
DHCD	Massachusetts Department of Housing and Community Development
DOE	Department of Energy
DOER	Massachusetts Department of Energy Resources
DPU	Massachusetts Department of Public Utilities
DSM	Demand-Side Management
ECM	Electronically Commutated Motor
EEAC	Energy Efficiency Advisory Council
EMC	Evaluation Management Committee
EM&V	Evaluation, Monitoring, and Verification
ENERGY STAR®	Brand name for the voluntary energy efficiency labeling initiative sponsored by the U.S. Environmental Protection Agency and Department of Energy.

EPA	U.S. Environmental Protection Agency
FR	Free Rider
Free Riders	Customers who participate in an energy efficiency program but would have installed the same measure(s) on their own if the program had not been available.
Free-Ridership Rate	The percent of savings attributable to Free Riders.
FTE	Full-Time Equivalent.
Gas and Electric Orders	Orders of the Department dated January 28, 2010 in D.P.U. 09-116 through 09-127 approving the Program Administrators' Three-Year Plans
GCA	Green Communities Act.
GHGs	Greenhouse Gas Emissions
Green Communities Act	An Act Relative to Green Communities, Chapter 169 of the Acts of 2008. Signed into law on July 2, 2008.
HEHE	High Efficiency Heating and Water Heating
HERS	Home Energy Rating System
HPCs	Home Performance Contractors
HVAC	Heating, Ventilation, and Air Conditioning
IECC	International Energy Conservation Code
Impact Factor	Generic term for persistence, realization rates, in-service rates, non-coincident connected demand factors, etc., developed during the evaluation of energy efficiency programs and used to calculate net savings.
ISO-NE	Independent System Operation – New England
JMC	Joint Management Committee of PA and non-PA parties that manages the ENERGY STAR [®] Homes Program.
LEAN	The Low-Income Energy Affordability Network
LED	Light Emitting Diode
LBR	Lost Base Revenue (For companies not operating under decoupled rate structure, these costs account for revenues not collected by the Company's distribution business as a result of the energy efficiency undertaken during the program year)
LCIEC	Large Commercial & Industrial Evaluation Contractor
Lifetime	The expected length of time, in years, that an installed measure will be in service and producing savings.
Measure	Specific technology or practice that produces energy and/or demand savings for which the Company provides financial incentives.
MMI	Multi-Family Market Integrator
MOU	Memorandum of Understanding
MTAC	Massachusetts Technical Assessment Committee

MTM	Mid-Term Modification
NBI	National Building Institute
NEEP	Northeast Energy Efficiency Partnerships
Net to Gross Ratio or NTGR	A factor representing net program savings divided by gross program savings that is applied to gross program impacts to convert them into net program load impacts.
Network	Low-Income Weatherization and Fuel Assistance Program Network
NPS	Non Participant Spillover
NTG	Net-to-Gross
PAs or Program Administrators	Utilities and municipal aggregators that offer energy efficiency programs.
Participant Cost	The total cost of a project or measure less the customer incentive.
Performance Incentive (PI)	Compensation for the Company's successful execution of the energy efficiency programs during the program year as determined by Massachusetts Department of Public Utilities.
PEx	Program Expediter
Plan	Three-Year Energy Efficiency Plan approved by the Department by its Orders, dated January 28, 2010, in dockets D.P.U. 09-121 to D.P.U. 09-128 and D.P.U. 09-116 to D.P.U. 09-120.
PP&A	Program Planning and Administration
QC	Quality Control
RCS	Residential Conservation Services
RFP	Request For Proposal
RGGI	Regional Greenhouse Gas Initiative
RMC	Residential Management Committee
SO	Participant Spillover
Spillover	Additional energy efficient equipment installed by customers that was influenced by the Company's sponsored program, but without direct financial or technical assistance from the program. Spillover is separated into <u>Participant</u> and <u>Non-participant</u> factors. Non-participating customers may be influenced by product availability, publicity, education and other factors that are affected by the program.
Spillover Rate	Estimate of energy savings attributable to spillover effects expressed as a percent of savings installed by participants through an energy efficiency program.
T&D	Transmission and Distribution
Term	Three-year term of the energy efficiency plan
Three-Year Plans	Three-Year Energy Efficiency Plans approved by the Department by its Orders, dated January 28, 2010, in dockets D.P.U. 09-121 to D.P.U. 09-128 and D.P.U. 09-116 to D.P.U. 09-120.

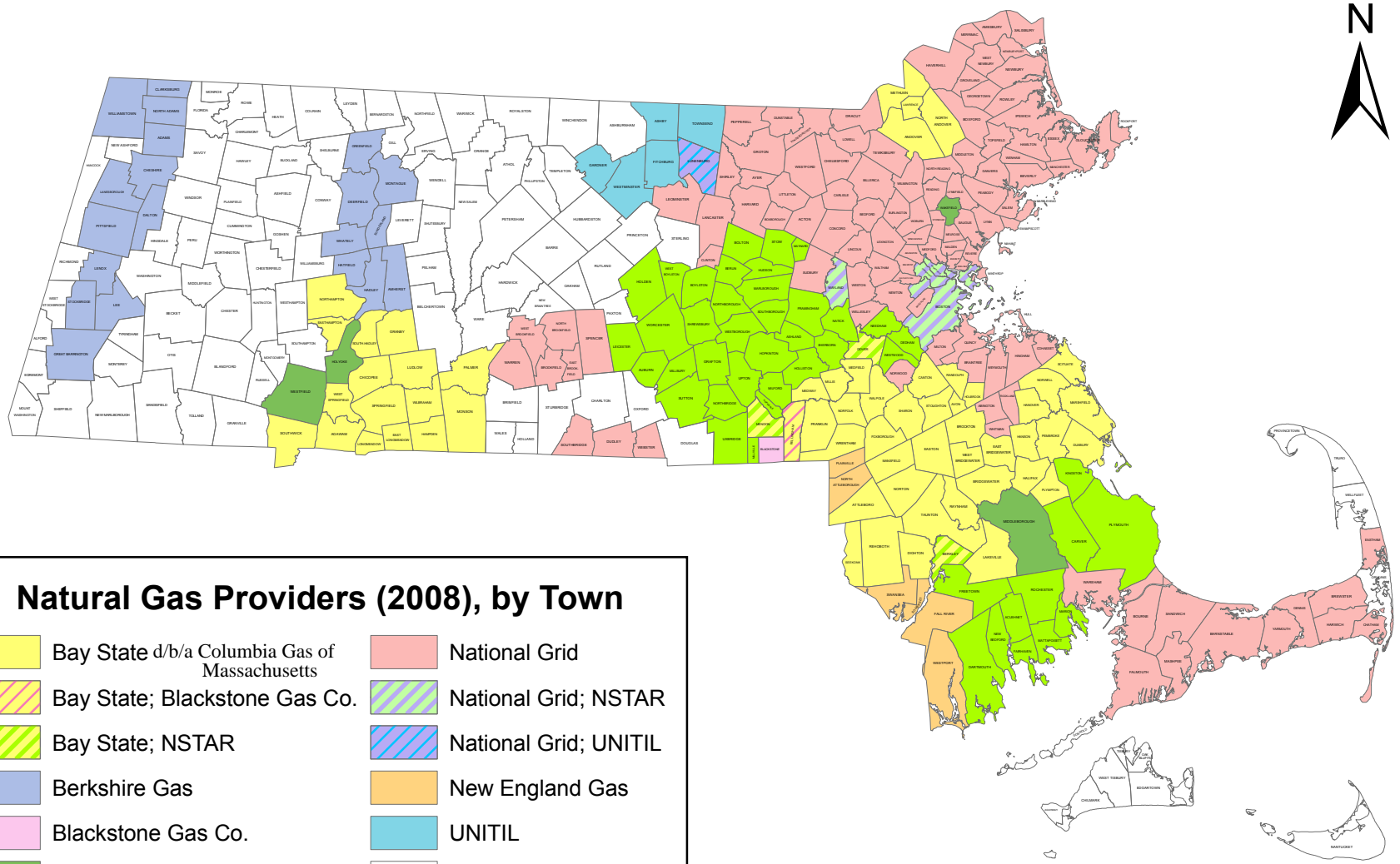
TRC	Total Resource Cost
TRM	Technical Reference Manual
WAP	Weatherization Assistance Program

G. Maps of Service Areas
















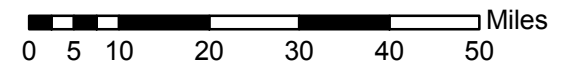
Massachusetts Energy Efficiency Program Providers (EPPs) (as of November 2007)

This service territory map was prepared solely for the purpose of the "Massachusetts PA C&I 2008 Program Planning Manual"



Natural Gas Providers (2008), by Town

- | | |
|---|---|
|  Bay State d/b/a Columbia Gas of Massachusetts |  National Grid |
|  Bay State; Blackstone Gas Co. |  National Grid; NSTAR |
|  Bay State; NSTAR |  National Grid; UNITIL |
|  Berkshire Gas |  New England Gas |
|  Blackstone Gas Co. |  UNITIL |
|  Municipal |  None |
|  NSTAR | |



H. Unique Service Area Presentations



CAPE LIGHT COMPACT (CLC) 2013-2015 ENERGY EFFICIENCY PLAN

BACKGROUND

- Cape Light Compact (CLC) is a municipal aggregator, M.G.L. C. 164, Section 134, consisting of 23 town/county members. CLC has a 23 member Governing Board
 - The CLC has 202,530 electric account customers in 2012
 - 176,019 residential electric accounts in 2012
 - 19,422 electric heat customers
 - 78,298 oil and propane heat
 - 26,511 C&I electric accounts in 2012
 - Less than 2% on the commercial electric space heating rate code
- CLC Governing Board sets policy direction for the CLC Energy Efficiency Plan under GCA
- The overarching goal of the CLC 2013-2015 Energy Efficiency Plan (EE Plan), established by the Cape Light Compact Governing Board at its April 2012 Board meeting, is to comprehensively and cost effectively serve Cape Cod and Martha's Vineyard customers regardless of fuel type for maximum benefits.
 - Municipal/Government customers receive 100% incentive for all cost effective measures (overcomes implementation barriers and continues current 2010-12 plan incentive)
 - Non-energy benefits are a significant portion of CLC savings
 - Incentive levels may differ from other PAs due to CLC Board direction
 - Estimated Benefit Cost Ratios (BCRs) for all proposed programs are high, indicating large benefits for the costs



CAPE LIGHT COMPACT (CLC) 2013-2015 ENERGY EFFICIENCY PLAN

What's Driving CLC Costs/Benefits?

- Relative to the Commercial & Industrial (C&I) sector - CLC was asked to “explain proposed 171% cost increase in 2013 compared to 2011 actuals, which then drops down to a 90% increase in 2014 and 2015.”
 - The Consultants’ analysis of the April 30th version of 2013-2015 EE Plan was based on 2011 Q4 Quantitative Quarterly Report data and not 2011 actuals
 - The preliminary actual 2011 cost per lifetime MWh savings is closer to \$36 than the \$21 as reported in April 30th version of EE Plan
 - Cost increase of 26% on average over three years (\$36 - \$46)
 - The CLC’s proposed 2013-2015 Energy Efficiency Plan contains a major C&I initiative to retrofit all 14,500 municipally owned streetlights with LEDs in 2013 (cost estimates evolving and may see lower \$/unit costs for LED streetlights)
 - New Construction – increased incentives for advanced buildings projects, which represents much of the program and showing pleasing signs of economic growth in this critical employment sector
 - Large Retrofit – MOUs with top 10 customers with higher negotiated incentives
 - Small Retrofit – Increased incentives from 80% to 95% for tenants to spur implementation
- The baseline for CLC 2013-2015 proposed budget and savings goals is the 2012 MTM rather than its initial 2010-2012 Plan. As a result, comparison of savings between the 2010-2012 Plan and the 2013-2015 Plan should be made based on the 2012 MTM for an accurate comparison.



CAPE LIGHT COMPACT (CLC) 2013-2015 ENERGY EFFICIENCY PLAN

What Makes the CLC Territory Unique?

- The CLC has high cost per lifetime MWh savings for the C&I sector in 2010, 2011 and proposed going forward in 2013-2015
 - CLC has a different service territory and therefore, a different cost distribution by program - CLC spends more on most expensive programs to implement (many small C&I vs fewer large C&I)
 - CLC offers different incentive levels = different cost per lifetime MWh savings
 - CLC has more non-electric savings not captured in cost/lifetime MWh savings calculation
- CLC Residential and Low Income programs have more non-electric, non-lighting savings due to whole house, fuel blind approach and the customer demand
- In 2010, CLC percentage of annual non-electric savings across all sectors was approximately 75% electric and 25% non-electric
- CLC continues to collaborate with fellow PAs and will further investigate and understand what makes our territory unique and what drives differences in CLC costs and savings relative to other PA's

3-Year Energy Efficiency Plan (2013 – 2015)

Setting Aggressive, Sustainable Goals for
the Next 3 Years

June 28, 2012



Basic Principles of Planning

In preparing our plan we have sought to balance the need for aggressive savings goals with the need to consider rate and bill impacts, the challenges of continued program acceleration, sustainability and (based on substantial experience planning and delivering programs in our service area) our service territory specific considerations.



Challenging Factors

- Unitil has a unique service area and our energy efficiency plan does not benefit from “averaging” across diverse communities:
 - 69% of Unitil’s customer base is in one community - that community is significantly different from statewide averages in all key demographic and economic factors, such as income level, economic opportunity, building stock and construction.
- Lack of diversity and size also results in higher variances relative to the mean – budgets and savings are harder to predict and more variable:
 - 2 C&I customers accounted for 31% of Unitil’s total 2010 kWh savings.
 - 1 project (Simonds CHP) accounted for 86% of Unitil’s total savings.



..... Influence Performance

- Variances in key parameters strongly affect relative performance:
 - Unitil HES residential electric savings were 7% of total HES program savings compared to the statewide average of 33% - but Unitil non-electric savings were 93% of the total, compared to the statewide average of 67%. Overall B/C ratios are right in line. Much higher oil savings for Unitil distorts the comparisons.
- Unitil has to comply with the same procedural and regulatory requirements as larger PAs with costs spread over a smaller budget
 - Unitil also has an opportunity to be more “high-touch” as we are closer to customers – for example, Unitil has a very high close rate on major residential EE measures per audit.

Unitil's Service Area ...

- 6 Communities - 38,238 residential and 5,250 C&I Customers
 - 27 Industrial customers represent 31% of electric sales
- Lower economic well-being than the Commonwealth as a whole
 - High poverty rate - Median income is lower at all household sizes and all age levels
 - One of the highest proportions of households with public assistance income
- Significant hard to reach / serve population
 - High penetration of renters, aging population, high poverty
 - 85% of the families below the Federal Poverty Level have children.
 - 4.2% of households have no-one >14yrs who speaks English
 - Only 10% of heads of households have a college degree or higher



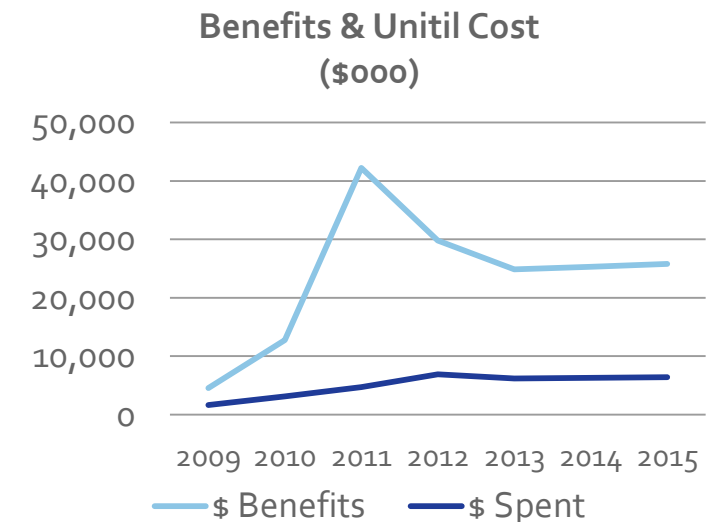
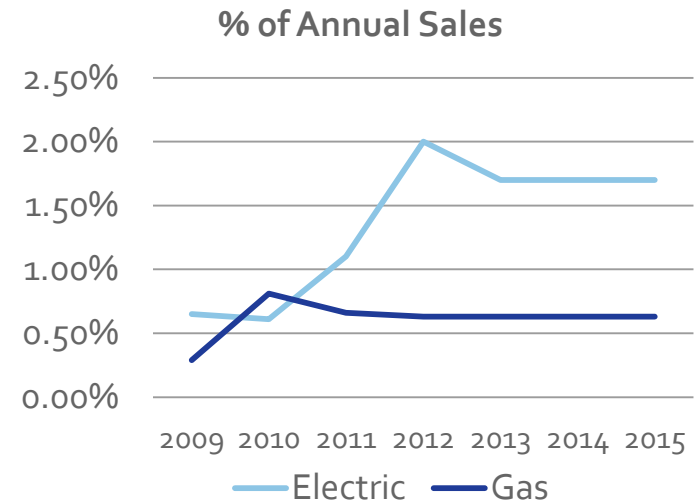
... Is Unique

- **Building Characteristics**
 - 90% of all buildings are “occupied” (residential housing)
 - Smaller and much older stock - median age is 65+ years
 - 50% of housing stock is 1 unit – 27% is 2-4 units
- **Depressed Economic Region**
 - Very limited job opportunities relative to the state
 - Little or no new construction activity
 - Very small number of major employers



Setting Aggressive but Sustainable Goals ...

- For next 3-yr plan, we propose a goal of 1.7% of sales (annual kwh), and .63% (annual therms).
 - Sustainable – a consistent pace of spending and achievement
 - Acceptable annual costs for participants
 - Achievable given service territory characteristics
- Benefits per unit of spending is a more meaningful measure than % of sales
 - Oil savings are hidden (total cost / kWh)
 - Benefits are more comprehensive (NEIs)
 - Smoothing effect for individual service area characteristics



... Cost and Rate Impact is a Priority

- Managing cost is a priority
 - 2013 proposed Cost / kWh is down 7% from 2010
 - 2013 Cost / therm close to statewide avg.
- Attentive to Rate Impacts
 - 1% for electric and 1.1%-2.2% for gas
 - Budgeting 2.5% of sales (if it were achievable) would increase electric rates another 2.3-5.5% depending upon rate class
 - Budgeting 1.4% of sales (if it were achievable) would increase gas rates another 4.2% to 7.4% depending upon rate class

Unique Implementation Methods

- Home Energy Solutions Program – Unitil plans to manage the program with in-house staff. As a result of this approach in 2010-2012, we have achieved one of the highest major measure closure rates in the state.
- Multi-Family Projects – Unfortunately, during 2010-2012, the Multi-Family Market Integrator (MMI) produced very few leads that turned into closed projects. Unitil is considering managing these projects without the use of the MMI, however, we will analyze whether using the MMI with a new approach to Multi-Family projects would be successful.

Thank You





THE BERKSHIRE GAS COMPANY

2013-2015 ENERGY EFFICIENCY PLAN

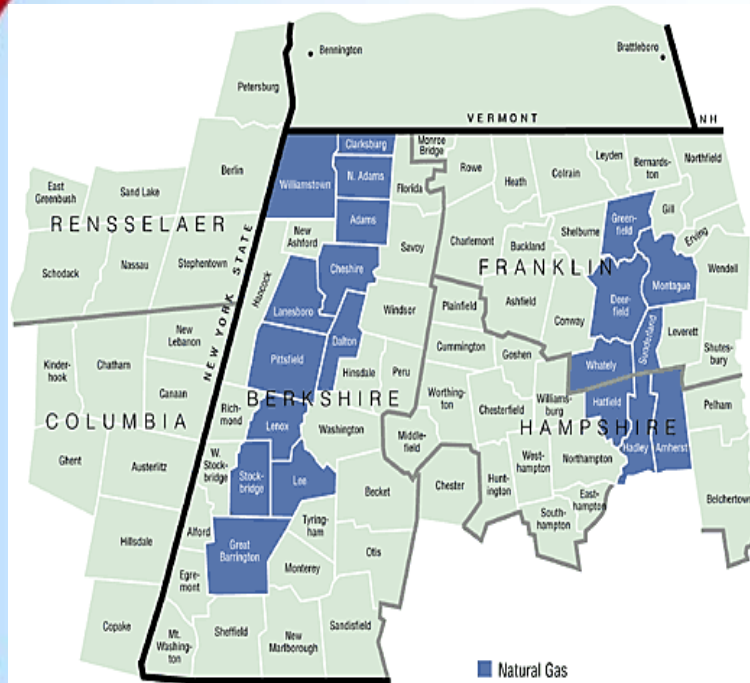


What Makes Berkshire's Territory Unique?

- Berkshire Gas serves approximately 32,000 heating customers
- Located in pastoral western Massachusetts, an area renowned for its natural beauty
- This unique geographic area presents unique challenges
- There is a small commercial & industrial (C&I) customer base
- Out of 5,000 commercial customers, only 2% (about 100) are large C&I customers
- Large C&I customers account for only 0.31% of all heating customers yet they contribute 27% to the annual portfolio savings goal
- In the past few years, the Company experienced certain plants or parts of plants closing, moving or simply shutting down.



Service Territory Challenges



- Berkshire's service territory covers two non-contiguous rural areas, making in-the-field efficiencies challenging
- Berkshire Gas serves 20 cities and towns with a combined population of 190,000
- 35% or 7 of these municipalities are Green Communities that have actively pursued energy efficiency opportunities
- For three decades, The Center for EcoTechnology, Berkshire's current residential lead vendor, has promoted sustainability and increased awareness of energy efficiency in Berkshire County and the Pioneer Valley
- These efforts increase the challenge of identifying cost-effective energy efficiency opportunities

ADDITIONAL BACKGROUND

Three Year Energy Efficiency Plan
July 1, 2012
Appendix I
Page 17 of 38



- Challenging economic conditions have not turned around.
- The original 3- Year Plan was built on the premise that the economy would bounce back at the end of the third year.
- Of our 27,000 residential heating customers, 18% or 5,000 are Low-Income heating customers.
- Many customers use readily available and low cost alternative fuel sources, such as wood or wood pellets, rather than taking advantage of our energy efficiency programs.
- During the first three-year plan, the gas companies experienced evaluation study results that have been a significant factor in reducing annual savings goals.
- The 2011 avoided gas costs are lower than the previous study by some 35%



2013-2015

Berkshire has increased its savings goals since April

	2013	2014	2015
April Savings Goals	0.52%	0.54%	0.57%
July Savings Goals	0.64%	0.69%	0.74%

Budgets to support July savings goals have significantly increased since 2009

	2009	2010	2011	2012*	2013*	2014*	2015*
Energy Efficiency expenditure / budget*	\$1,370,000	\$2,187,000	\$2,100,000	\$3,325,000	\$3,362,000	\$3,544,000	\$3,738,000
% EE cost increase since 2009		160%	153%	243%	245%	259%	273%

Increasing savings goals to 1.3%, 1.5% and 1.7% throughout 2013-2015 per EEAC scenario analysis request would be fourfold budget increase compared to 2009

	2013	2014	2015
Energy Efficiency expenditure / budget*	\$5,464,000	\$6,096,000	\$6,675,000
% EE cost increase since 2009	399%	445%	487%

What's Driving Berkshire's Costs/Benefits?



- Residential
 - Continued low performance of Residential New Construction
 - Current draft evaluation results for Home Energy Services show lower deemed savings for insulation than used for previous planning.
 - High Efficiency Heating; the 2013 furnace standard change will reduce savings between 60-75% over the next three year plan.
 - Multifamily is still struggling with average therm/ participant savings due to limited opportunity in those types of buildings
- Low Income
 - Impact study shows heating system savings will be reduced significantly from the current 358.05 therms to approximately 199 therms per unit.
 - Uncertainty how lack of ARRA will affect program

Other Cost/Benefit Drivers

Commercial & Industrial

- Berkshire's proposed C&I Retrofit Initiative's annual savings goal accounts for 27% of the overall portfolio level savings goal.
- These savings must come from about 1,480 C&I customers, representing only 4.6% of the Company's total 32,000 heating customers.
- Large commercial boiler baseline savings average reduction of 39% in 2011
- New incremental costs resulting in the need to lower rebates for these boilers making it less attractive for customers to move forward with capital projects (longer paybacks)
- Lower gas prices contributing to yet even longer payback periods
- Custom program hit by a recent result of 67% realization rate



Other Cost/Benefit Drivers

- Example - C&I Customer using 75,000 therms annually
 - 2009 loaded gas cost for this customer was \$1.07; in 2012 it is \$0.84
 - For a project with a projected annual savings of 7,000 therms and installation cost of \$100,000, the payback difference is almost 2 years

	Gas cost per therm	Total project cost	Projected savings	Customer co-pay	Annual \$ Savings	Payback (YRS)
2009	\$1.07	\$100,000	\$7,000	\$50,000	\$7,490	6.7
2012	\$0.84	\$100,000	\$7,000	\$50,000	\$5,880	8.5



THE FUTURE

- Fully committed to providing the best possible energy efficiency programs and services to our customers.
- Fully committed to continuing to be a valuable and trusted partner in the Western Massachusetts community and building on the Company's many years of excellent service
- Fully committed to continuing to collaborate with fellow PAs to identify best practices and better understand differences driving costs and savings relative to other Pas
- Fully committed to continuing our successful integration efforts with our electric PA partners
- Build on recent successful projects such as:
 - A large, well coordinated public housing authority project that resulted in significant therm savings.
 - A large healthcare provider, with multiple locations, focusing on unique gas-saving opportunities that will provide short payback periods and the opportunity for the Company to duplicate this success with other large C&I customers.



2013-2015 Energy Efficiency Plan Background

New England Gas Company
July 2012

Key Takeaways



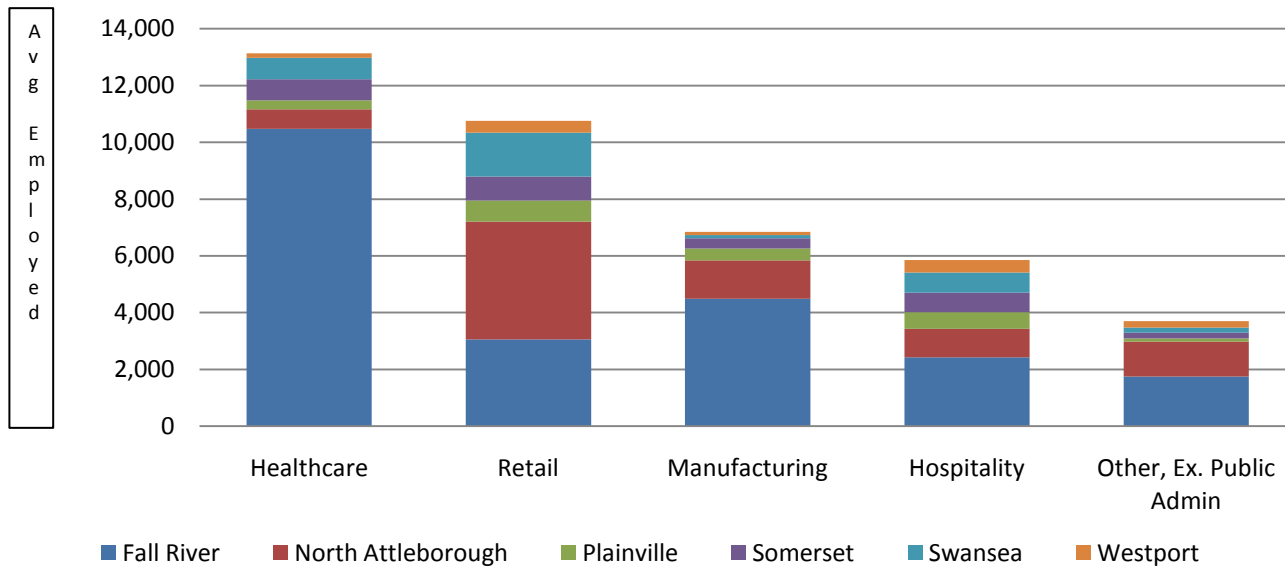
- The economy in Greater Fall River is in dire condition.
- Businesses continue to be recruited to other states and foreign countries. Perceived pro-business climate elsewhere.
- Company has been informed of concerns that more stringent Codes and Standards will hurt the construction industry and trades, and ultimately consumers.
- Fully committed to providing the best possible energy efficiency programs and services to our customers.
- Unique economic conditions make goal setting/goal attainment a real challenge.
- Customers (especially C&I) are very sensitive to bill impacts.
- Challenging economic conditions which have not turned around. The original 3 Year Plan was built on the premise that the economy would bounce back at the end of the third year.

Local Economic Climate

- Historically, Fall River consistently has the highest unemployment rate in the Commonwealth.
- Textile based workforce, even though the jobs in this sector are no longer in large demand.
- Motivated and eager blue collar workforce with limited opportunities.
- According to Bureau of Labor Statistics (May 2011), the FR (which includes Providence/Warwick RI) area is the 7th worst in the United States to find a job.

Changing Industry

**New England Gas Company
2010 Avg. Employment by Industry**



Source: Labor Mkt. Information-Labor & Workforce Development-Municipal Employment Data

Local Economic Reality

Demolish large and small scale mill properties.

- Buildings are functionally obsolete.
- High cost to maintain properties, high property taxes, high utility costs and environmental liabilities.
- Many properties strictly use heat for fire protection. Very little process load anymore.
- Modern 21st century businesses are not attracted to locate in the mills. (ex. little if no parking)

Changing Landscape



Tillotson Complex – Mill #1 Built in 1887, Demolished in 2011. (total of 400,000 sq ft. razed in complex.)



Former Mill #1 – May 18, 2012
(Green roofed building is TPI R&D facility for wind turbine blade co.)

Changing Landscape



AJ Wright (TJX Corp)
(500,000 sq. ft. distribution center, employed 800,
closed January 2010)

Facility purchase by RI Novelty
June 2011
(Company relocated. 125 jobs moved to FR,
Potential for more jobs)

Changing Landscape

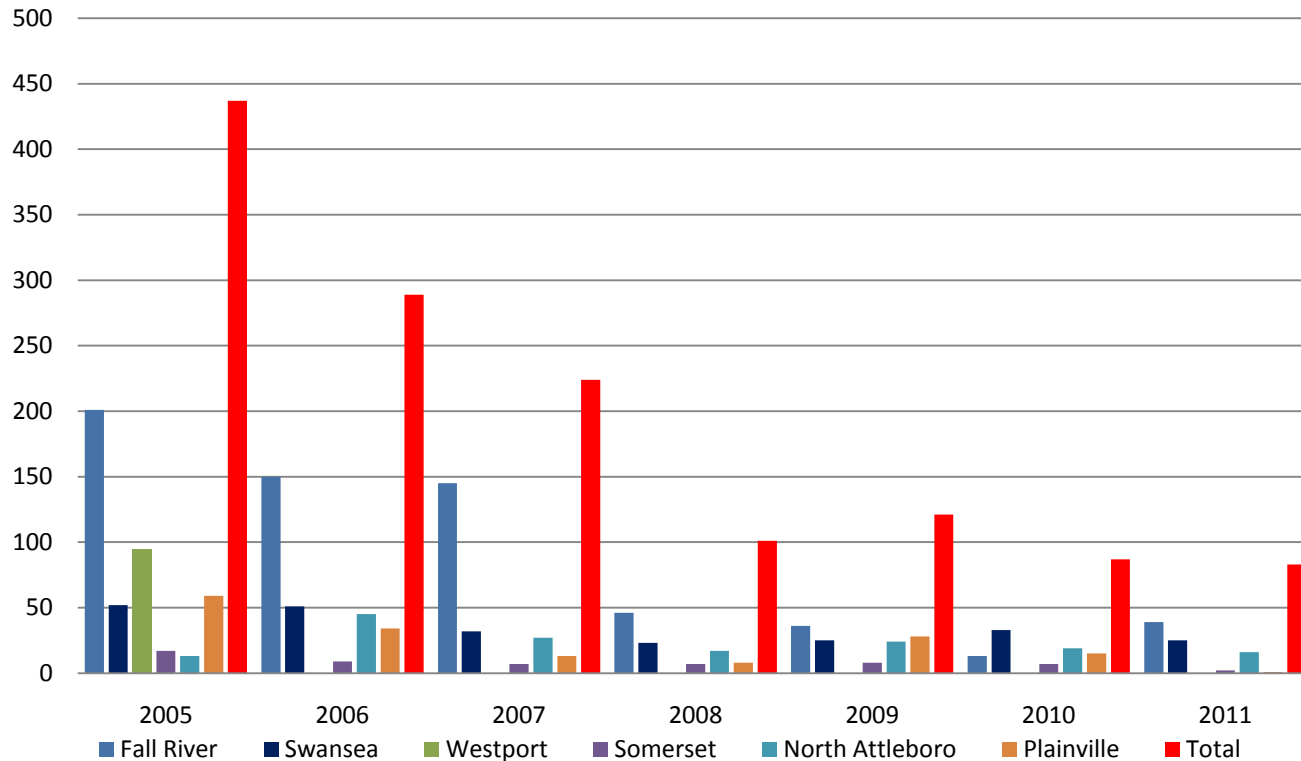


- January 3, 2012 – Arson Fire
- Condemned as unsafe because of lack of sprinkler system.
- Located in residential area
- 8 Businesses employ 10-12 workers in complex
- Owner owes city \$378,000 in back taxes.
- 2 horses in makeshift corral

King Phillip Mill – Built in 1871, 700,000 sq. ft. – 3 building complex (Photo June 2, 2012)

Reduction in Home Construction

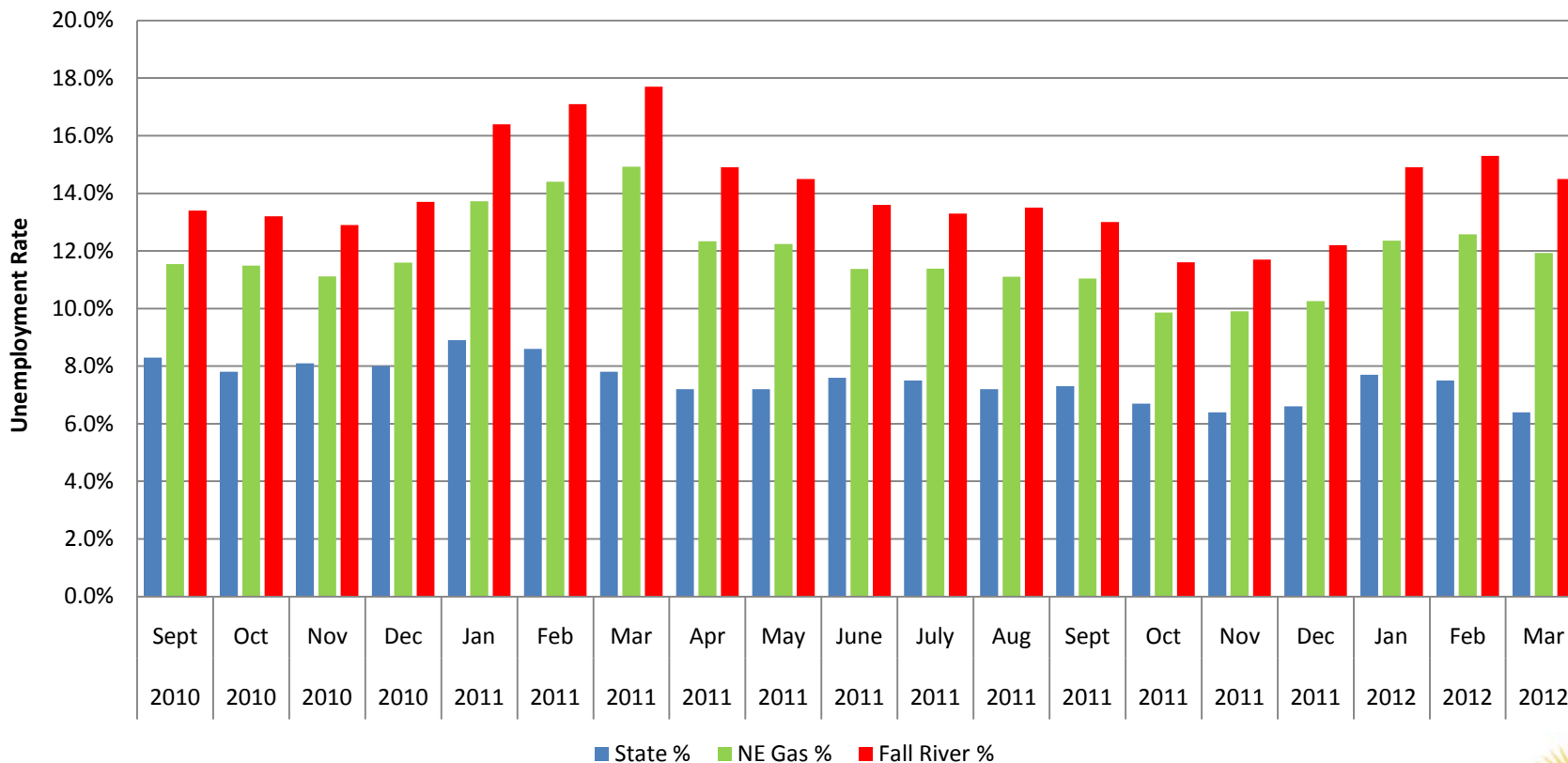
New England Gas Company
Building Permits



<http://centstats.census.gov>

Unemployment Continues in the Service Territory

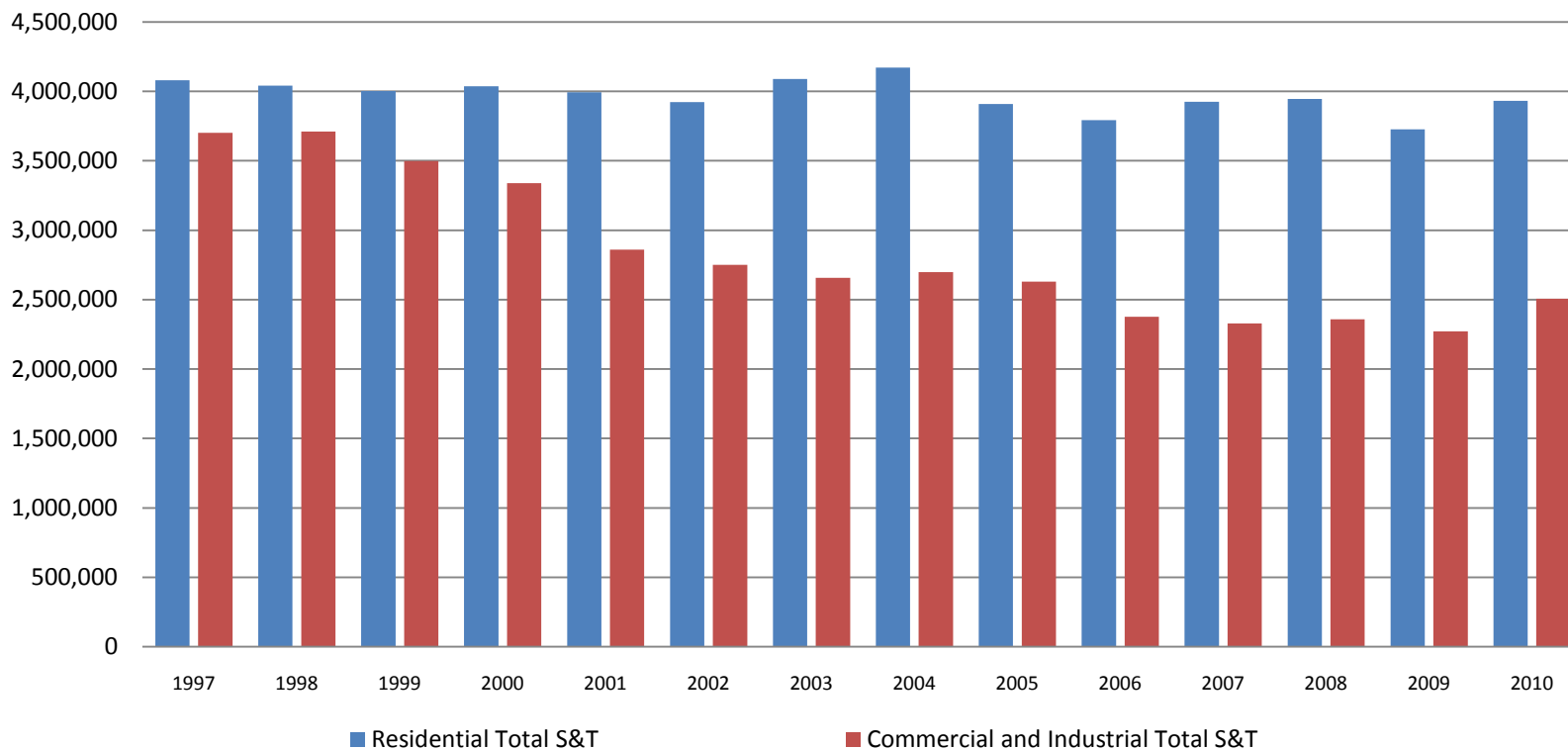
New England Gas Company Unemployment Rate Comparison



Source: Mass. Labor & Unemployment Data-Executive Office of Labor & Workforce

Sendout is flat or declines

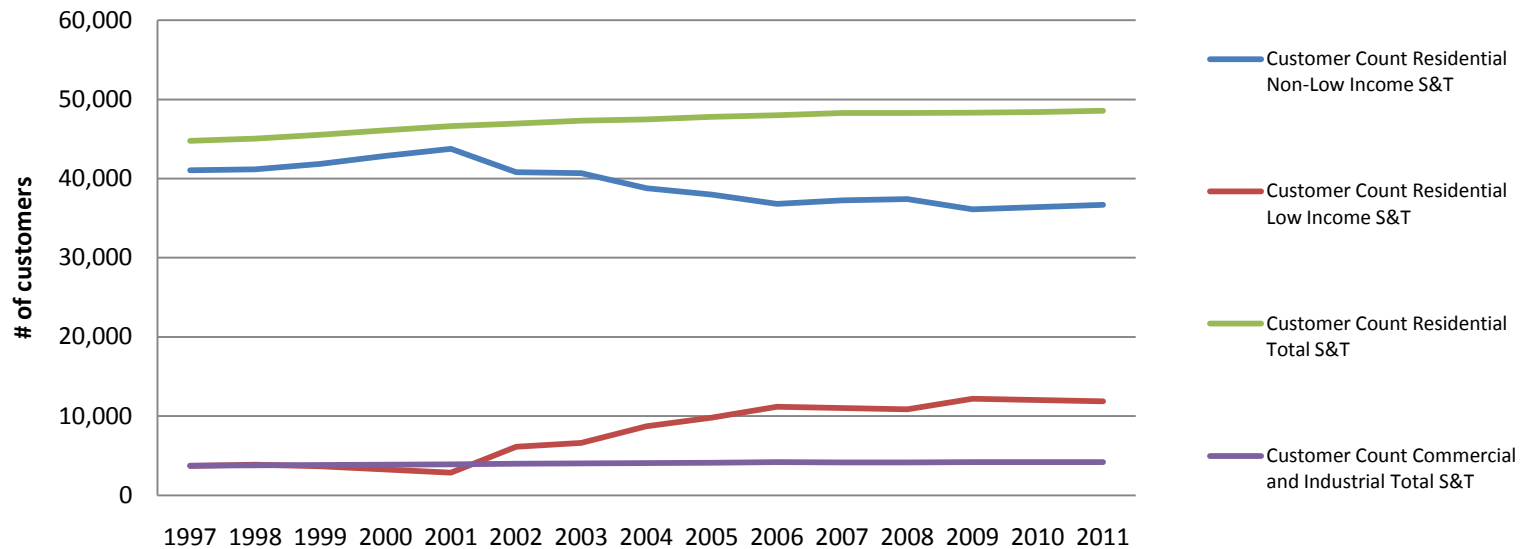
**New England Gas Company
Weather Normalized Sendout**



Customer Data

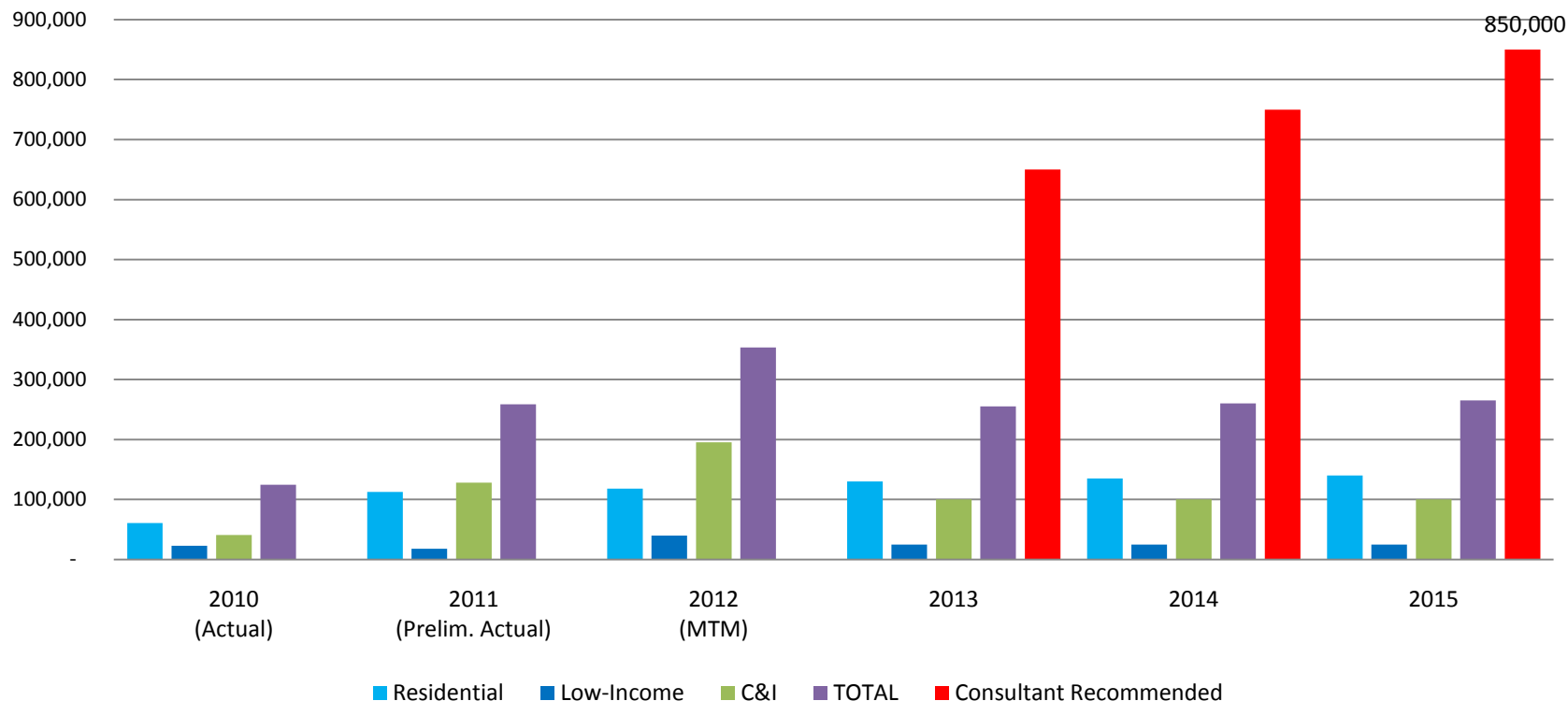
No growth in C&I and Changing Residential

New England Gas Company
of Customers



2013-2015 Therm Savings

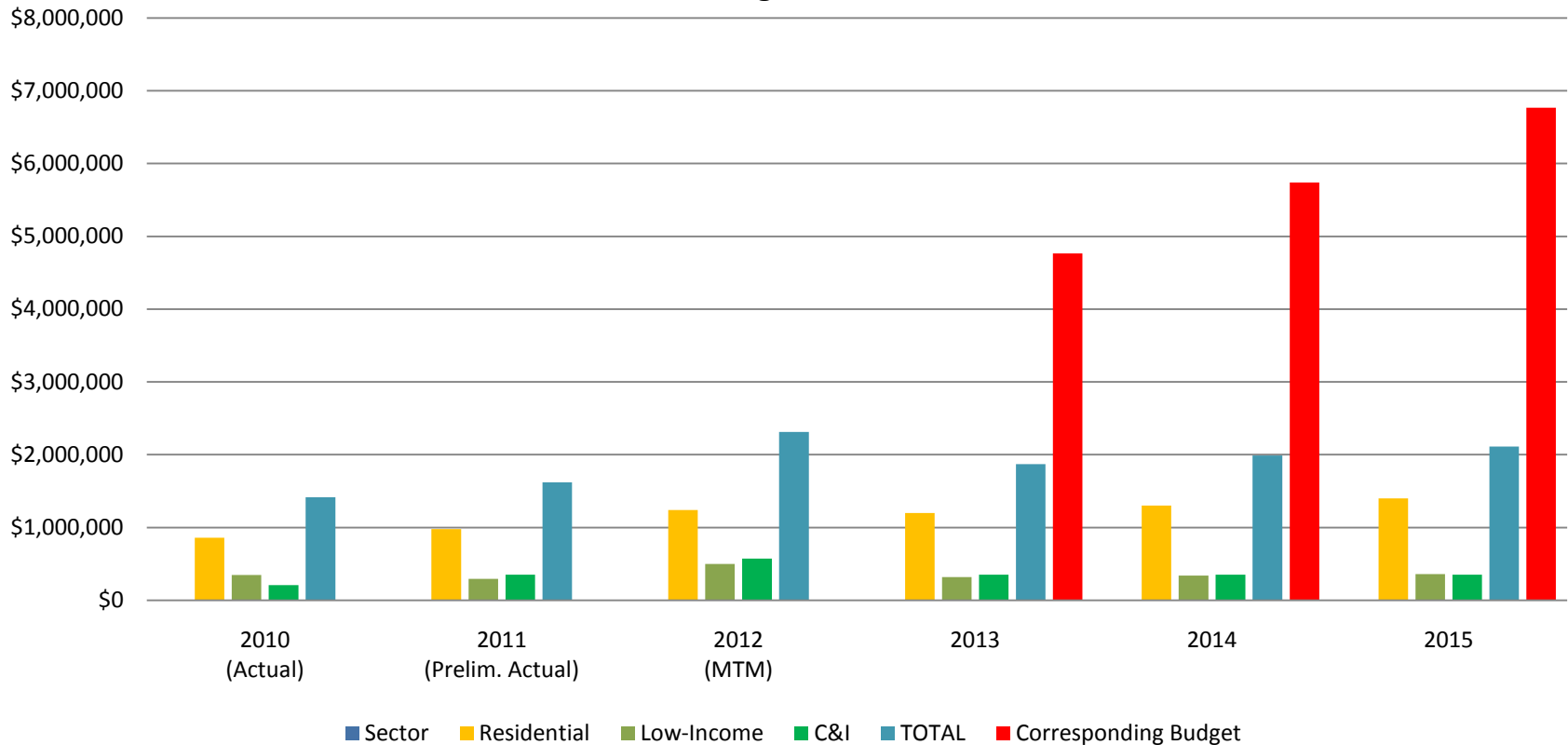
New England Gas Company Savings



NOTE: This chart was calculated using the savings from the Company's 4/30/2012 submission and conducting a scenario analysis using 1.7% savings target per EEAC request. For this filing, the Company increased savings from April, however, this scenario analysis table nevertheless enables a sense of a scale between the different scenarios.

2013-2015 Budget

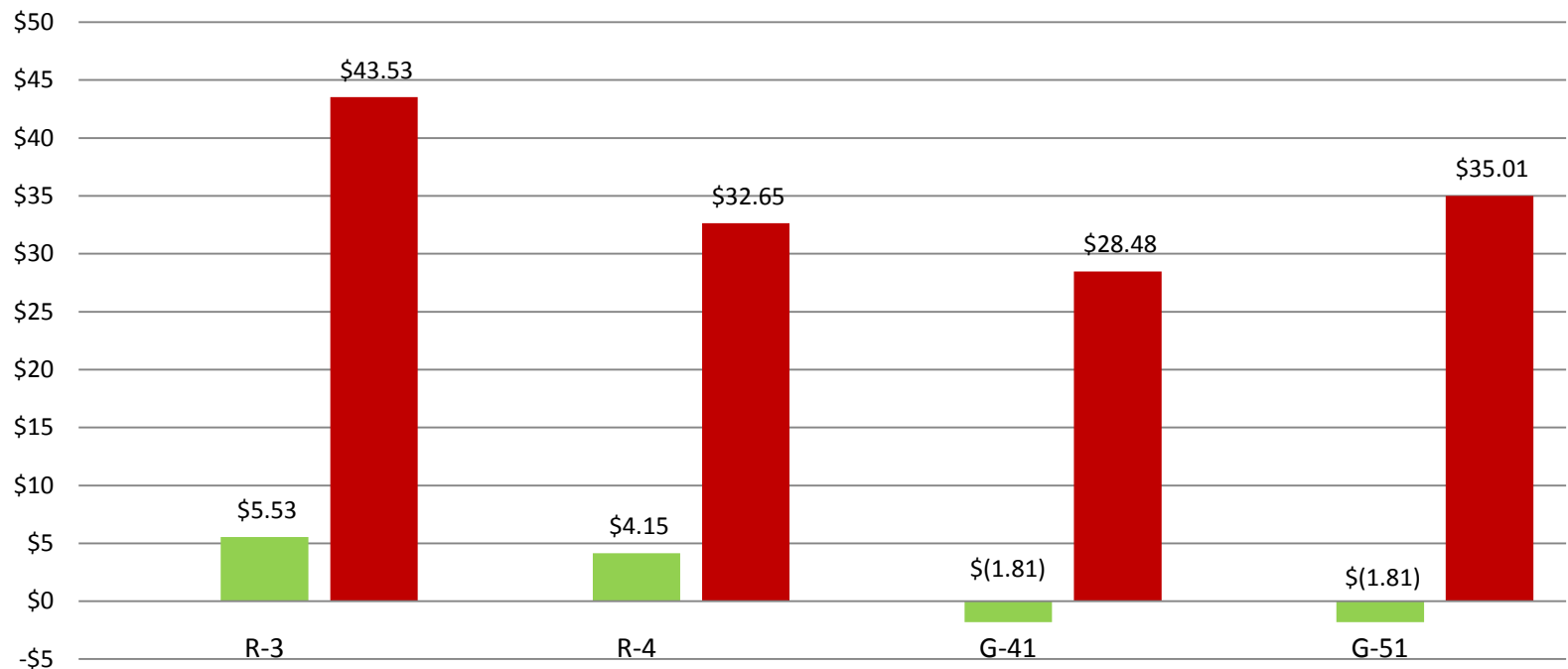
New England Gas Company Budget



NOTE: *Please see caveat on previous slide. For consistent comparison, Corresponding Budget was calculated using \$ per therm from Company's 4/30/2012 submission and 1.7% savings target per EEAC request, which assumes a lower cost to serve than NEG currently projects. This table, however, enables a directional sense of bill impacts between the different scenarios.

2013-2015 Bill Impacts

Yearly Bill Impacts 2012 MTM vs. 2013 Recommended



■ 2012 MTM ■ 2013 Budget

*Please see caveats on previous slides

EE Success Story

Swan Dying & Printing – Fall River



Modern (Late 1960's) Textile Factory

- Company specializes in high-end specialty fabrics
- Offers commission dyeing and printing of fabrics
- 2011 EE benefits resulted in additional EE projects in 2012.
- Boiler Controls, Steam Traps, Lighting and VSD motors
- NEG/NGrid worked cooperatively to deliver EE savings
- Most successful NEG EE project to date

I. Sample Marketing Materials

J. Performance Incentive Models

**2013 - 2015 Energy Efficiency Performance Incentives
Derivation of Performance Metric Pool**

	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>Total</u>	Comment
<u>A. Total Performance Incentive Pool</u>					
1 Goals (thousands MWh) excluding CLC	1,144	1,174	1,187	3,505 GWh	Statewide savings goals per PA plans.
2 Target Goals in 2010 - 2012 (thousands MWh)				2,649 GWh	Council Resolution adopted 10-6-09
3 Goals in 2013 - 2015 as a percent of target goals in 2010 - 2012				132%	Line 1/ Line 2
4 PI pool based on target goals in 2010 - 2012				\$ 65,000,000	Council Resolution adopted 10-6-09
5 Statewide 2013 - 2015 Performance Incentives	\$ 28,067,415	\$ 28,809,722	\$ 29,120,856	\$ 85,997,993	Line 3 * Line 4 allocated by year based on percent of Line 1
<u>B. Incentives Allocated by Component</u>					
6 State Benefits excluding CLC	\$ 2,118,752,600	\$ 2,179,306,885	\$ 2,248,645,056	\$ 6,546,704,541	State benefits without CLC: Electric Input, line 5 <i>Note State benefits with CLC = 6,955,880,659</i>
7 Savings payout rate	\$ 0.0068308	\$ 0.0068308	\$ 0.0068308	\$ 0.0068308	52% of Total Line 5/Total Line 6
8 State Performance incentives to savings	\$ 14,472,687	\$ 14,886,319	\$ 15,359,951	\$ 44,718,956	Line 6 * Line 7
9 State Net Benefits excluding CLC	\$ 1,461,746,704	\$ 1,505,945,622	\$ 1,573,414,972	\$ 4,541,107,298	State net benefits without CLC: Electric Input, Line 13
10 Value Mechanism Payout Rate	\$ 0.0066282	\$ 0.0066282	\$ 0.0066282	\$ 0.0066282	35% of Total Line 5/Total Line 9
11 State performance incentives to value	\$ 9,688,727	\$ 9,981,686	\$ 10,428,885	\$ 30,099,297	Line 9 * Line 10
12 Remaining performance incentives to metrics	\$ 3,906,001	\$ 3,941,718	\$ 3,332,020	\$ 11,179,739	Line 5- Line 8 - Line 11
<u>C. Performance Metrics allocated to Sectors</u>					
13 Performance Metric Sector Allocation					Line 12 * Sector Allocation (Electric Input Line 32)
14 Residential	36%	36%	36%		
15 Low Income	28%	28%	28%		Line 12 * Sector Allocation (Electric Input Line 33)
16 C&I	<u>36%</u>	<u>36%</u>	<u>36%</u>		
17 Total	100%	100%	100%		Line 12 * Sector Allocation (Electric Input Line 34)
18 Residential Performance Metrics - State	\$ 1,406,160	\$ 1,419,018	\$ 1,199,527	\$ 4,024,706	Line 12 * Line 14
19 Low Income Performance Metrics - State	\$ 1,093,680	\$ 1,103,681	\$ 932,966	\$ 3,130,327	Line 12 * Line 15
20 C&I Performance Metrics - State	\$ 1,406,160	\$ 1,419,018	\$ 1,199,527	\$ 4,024,706	Line 12 * Line 16

**2013- 2015 Energy Efficiency Performance Incentives
Derivation of Electric Targets 2013**

State	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	518,677,485	104,801,713	1,495,273,402	2,118,752,600	
2 Savings Payout Rate 2012	0.006830758	0.006830758	0.006830758	0.006830758	
3 Forecasted Savings Incentives	\$ 3,542,961	\$ 715,875	\$ 10,213,851	\$ 14,472,687	Line 1 times Line 2
4 Forecasted Net Benefits	341,032,498	50,473,143	1,070,241,063	1,461,746,704	
5 Value Payout Rate 2012	0.006628185	0.006628185	0.006628185	0.006628185	
6 Forecasted Value Incentives	\$ 2,260,426	\$ 334,545	\$ 7,093,755	\$ 9,688,727	Line 4 times Line 5
7 Statewide Performance Metrics	1,406,160	1,093,680	1,406,160	3,906,001	Pef met Pool Lines 18- 20
8 Share of State Net Benefits	100%	100%	100%	100%	Line 4/State Line 4
9 Performance Metrics	\$ 1,406,160	\$ 1,093,680	\$ 1,406,160	\$ 3,906,001	Line 7 * Line 8
10 Total Performance Incentives	\$ 7,209,547	\$ 2,144,101	\$ 18,713,767	\$ 28,067,415	Line 3 + Line 6 + Line 9

**2013- 2015 Energy Efficiency Performance Incentives
Derivation of Electric Targets 2014**

State	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	541,635,093	102,347,536	1,535,324,256	2,179,306,885	
2 Savings Payout Rate 2012	0.006830758	0.006830758	0.006830758	0.006830758	
3 Forecasted Savings Incentives	\$ 3,699,778	\$ 699,111	\$ 10,487,429	\$ 14,886,319	Line 1 times Line 2
4 Forecasted Net Benefits	352,266,839	48,850,618	1,104,828,165	1,505,945,622	
5 Value Payout Rate 2012	0.006628185	0.006628185	0.006628185	0.006628185	
6 Forecasted Value Incentives	\$ 2,334,890	\$ 323,791	\$ 7,323,005	\$ 9,981,686	Line 4 times Line 5
7 Statewide Performance Metrics	1,419,018	1,103,681	1,419,018	3,941,718	Pef met Pool Lines 18- 20
8 Share of State Net Benefits	100%	100%	100%	100%	Line 4/State Line 4
9 Performance Metrics	\$ 1,419,018	\$ 1,103,681	\$ 1,419,018	\$ 3,941,718	Line 7 * Line 8
10 Total Performance Incentives	\$ 7,453,687	\$ 2,126,583	\$ 19,229,452	\$ 28,809,722	Line 3 + Line 6 + Line 9

**2013- 2015 Energy Efficiency Performance Incentives
Derivation of Electric Targets 2015**

State	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	567,897,992	104,689,162	1,576,057,901	2,248,645,056	
2 Savings Payout Rate 2012	0.006830758	0.006830758	0.006830758	0.006830758	
3 Forecasted Savings Incentives	\$ 3,879,174	\$ 715,106	\$ 10,765,671	\$ 15,359,951	Line 1 times Line 2
4 Forecasted Net Benefits	378,588,440	51,107,708	1,143,718,825	1,573,414,972	
5 Value Payout Rate 2012	0.006628185	0.006628185	0.006628185	0.006628185	
6 Forecasted Value Incentives	\$ 2,509,354	\$ 338,751	\$ 7,580,780	\$ 10,428,885	Line 4 times Line 5
7 Statewide Performance Metrics	1,199,527	932,966	1,199,527	3,332,020	Pef met Pool Lines 18- 20
8 Share of State Net Benefits	100%	100%	100%	100%	Line 4/State Line 4
9 Performance Metrics	\$ 1,199,527	\$ 932,966	\$ 1,199,527	\$ 3,332,020	Line 7 * Line 8
10 Total Performance Incentives	\$ 7,588,055	\$ 1,986,823	\$ 19,545,977	\$ 29,120,856	Line 3 + Line 6 + Line 9

**2013- 2015 Energy Efficiency Performance Incentives
Derivation of Electric Targets 2013 - 2015**

State	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	1,628,210,571	311,838,411	4,606,655,559	6,546,704,541	
2 Savings Payout Rate 2012	0.006830758	0.006830758	0.006830758	0.006830758	
3 Forecasted Savings Incentives	\$ 11,121,913	\$ 2,130,093	\$ 31,466,951	\$ 44,718,956	Line 1 times Line 2
4 Forecasted Net Benefits	1,071,887,777	150,431,468	3,318,788,053	4,541,107,298	
5 Value Payout Rate 2012	0.006628185	0.006628185	0.006628185	0.006628185	
6 Forecasted Value Incentives	\$ 7,104,670	\$ 997,088	\$ 21,997,540	\$ 30,099,297	Line 4 times Line 5
7 Statewide Performance Metrics	4,024,706	3,130,327	4,024,706	11,179,739	Pef met Pool Lines 18- 20
8 Share of State Net Benefits	100%	100%	100%	100%	Line 4/State Line 4
9 Performance Metrics	\$ 4,024,706	\$ 3,130,327	\$ 4,024,706	\$ 11,179,739	Line 7 * Line 8
10 Total Performance Incentives	\$ 22,251,289	\$ 6,257,507	\$ 57,489,197	\$ 85,997,993	Line 3 + Line 6 + Line 9

**2013- 2015 Energy Efficiency Performance Incentives
Derivation of Electric Targets 2013**

National Grid	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	236,684,297	45,680,214	698,410,778	980,775,289	
2 Savings Payout Rate 2012	0.006830758	0.006830758	0.006830758	0.006830758	
3 Forecasted Savings Incentives	\$ 1,616,733	\$ 312,030	\$ 4,770,675	\$ 6,699,439	Line 1 times Line 2
4 Forecasted Net Benefits	147,083,214	19,830,005	507,749,184	674,662,402	
5 Value Payout Rate 2012	0.006628185	0.006628185	0.006628185	0.006628185	
6 Forecasted Value Incentives	\$ 974,895	\$ 131,437	\$ 3,365,455	\$ 4,471,787	Line 4 times Line 5
7 Statewide Performance Metrics	1,406,160	1,093,680	1,406,160	3,906,001	Pef Met Pool Lines 13 to 15
8 Share of State Net Benefits	46%	46%	46%	46%	Line 4/State Line 4
9 Performance Metrics	\$ 649,007	\$ 504,783	\$ 649,007	\$ 1,802,797	Line 7 * Line 8
10 Total Performance Incentives	\$ 3,240,635	\$ 948,250	\$ 8,785,137	\$ 12,974,022	Line 3 + Line 6 + Line 9
				\$ 12,974,022	

**2013- 2015 Energy Efficiency Performance Incentives
Derivation of Electric Targets 2014**

National Grid	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	242,513,037	46,365,515	712,909,402	1,001,787,954	
2 Savings Payout Rate 2012	0.006830758	0.006830758	0.006830758	0.006830758	
3 Forecasted Savings Incentives	\$ 1,656,548	\$ 316,712	\$ 4,869,712	\$ 6,842,971	Line 1 times Line 2
4 Forecasted Net Benefits	151,201,160	20,796,433	521,907,747	693,905,340	
5 Value Payout Rate 2012	0.006628185	0.006628185	0.006628185	0.006628185	
6 Forecasted Value Incentives	\$ 1,002,189	\$ 137,843	\$ 3,459,301	\$ 4,599,333	Line 4 times Line 5
7 Statewide Performance Metrics	1,419,018	1,103,681	1,419,018	3,941,718	Pef Met Pool Lines 13 to 15
8 Share of State Net Benefits	46%	46%	46%	46%	Line 4/State Line 4
9 Performance Metrics	\$ 653,851	\$ 508,551	\$ 653,851	\$ 1,816,254	Line 7 * Line 8
10 Total Performance Incentives	\$ 3,312,588	\$ 963,105	\$ 8,982,864	\$ 13,258,558	Line 3 + Line 6 + Line 9
				\$ 13,258,558	

**2013- 2015 Energy Efficiency Performance Incentives
Derivation of Electric Targets 2015**

National Grid	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	250,455,969	46,962,464	751,085,563	1,048,503,996	
2 Savings Payout Rate 2012	0.006830758	0.006830758	0.006830758	0.006830758	
3 Forecasted Savings Incentives	\$ 1,710,804	\$ 320,789	\$ 5,130,484	\$ 7,162,077	Line 1 times Line 2
4 Forecasted Net Benefits	157,880,148	21,512,742	555,181,619	734,574,509	
5 Value Payout Rate 2012	0.006628185	0.006628185	0.006628185	0.006628185	
6 Forecasted Value Incentives	\$ 1,046,459	\$ 142,590	\$ 3,679,846	\$ 4,868,895	Line 4 times Line 5
7 Statewide Performance Metrics	1,199,527	932,966	1,199,527	3,332,020	Pef Met Pool Lines 13 to 15
8 Share of State Net Benefits	47%	47%	47%	47%	Line 4/State Line 4
9 Performance Metrics	\$ 560,019	\$ 435,570	\$ 560,019	\$ 1,555,608	Line 7 * Line 8
10 Total Performance Incentives	\$ 3,317,282	\$ 898,950	\$ 9,370,349	\$ 13,586,581	Line 3 + Line 6 + Line 9
				\$ 13,586,581	

**2013- 2015 Energy Efficiency Performance Incentives
Derivation of Electric Targets 2013 - 2015**

National Grid	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	729,653,302	139,008,192	2,162,405,744	3,031,067,239	
2 Savings Payout Rate 2012	0.006830758	0.006830758	0.006830758	0.006830758	
3 Forecasted Savings Incentives	\$ 4,984,085	\$ 949,531	\$ 14,770,871	\$ 20,704,488	Line 1 times Line 2
4 Forecasted Net Benefits	456,164,521	62,139,180	1,584,838,550	2,103,142,251	
5 Value Payout Rate 2012	0.006628185	0.006628185	0.006628185	0.006628185	
6 Forecasted Value Incentives	\$ 3,023,543	\$ 411,870	\$ 10,504,602	\$ 13,940,015	Line 4 times Line 5
7 Statewide Performance Metrics	\$ 4,024,706	\$ 3,130,327	\$ 4,024,706	\$ 11,179,739	Pef Met Pool Lines 13 to 15
8 Share of State Net Benefits	46%	46%	46%	46%	Line 4/State Line 4
9 Performance Metrics	\$ 1,862,877	\$ 1,448,904	\$ 1,862,877	\$ 5,174,658	Line 7 * Line 8
10 Total Performance Incentives	\$ 9,870,505	\$ 2,810,306	\$ 27,138,350	\$ 39,819,161	Line 3 + Line 6 + Line 9

**2013- 2015 Energy Efficiency Performance Incentives
 Derivation of Electric Targets 2013**

NSTAR	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	209,015,627	39,044,364	657,798,071	905,858,062	
2 Savings Payout Rate 2012	0.006830758	0.006830758	0.006830758	0.006830758	
3 Forecasted Savings Incentives	\$ 1,427,735	\$ 266,703	\$ 4,493,260	\$ 6,187,697	Line 1 times Line 2
4 Forecasted Net Benefits	139,221,860	17,327,709	462,765,318	619,314,887	
5 Value Payout Rate 2012	0.006628185	0.006628185	0.006628185	0.006628185	
6 Forecasted Value Incentives	\$ 922,788	\$ 114,851	\$ 3,067,294	\$ 4,104,933	Line 4 times Line 5
7 Statewide Performance Metrics	1,406,160	1,093,680	1,406,160	3,906,001	Pef Met Pool Lines 13 to 15
8 Share of State Net Benefits	42%	42%	42%	42%	Line 4/State Line 4
9 Performance Metrics	\$ 595,764	\$ 463,372	\$ 595,764	\$ 1,654,900	Line 7 * Line 8
10 Total Performance Incentives	\$ 2,946,287	\$ 844,926	\$ 8,156,318	\$ 11,947,531	Line 3 + Line 6 + Line 9

**2013- 2015 Energy Efficiency Performance Incentives
 Derivation of Electric Targets 2014**

NSTAR	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	227,094,548	38,010,488	697,260,468	962,365,504	
2 Savings Payout Rate 2012	0.006830758	0.006830758	0.006830758	0.006830758	
3 Forecasted Savings Incentives	\$ 1,551,228	\$ 259,640	\$ 4,762,818	\$ 6,573,686	Line 1 times Line 2
4 Forecasted Net Benefits	147,668,559	16,813,205	497,298,279	661,780,043	
5 Value Payout Rate 2012	0.006628185	0.006628185	0.006628185	0.006628185	
6 Forecasted Value Incentives	\$ 978,774	\$ 111,441	\$ 3,296,185	\$ 4,386,400	Line 4 times Line 5
7 Statewide Performance Metrics	1,419,018	1,103,681	1,419,018	3,941,718	Pef Met Pool Lines 13 to 15
8 Share of State Net Benefits	44%	44%	44%	44%	Line 4/State Line 4
9 Performance Metrics	\$ 623,580	\$ 485,007	\$ 623,580	\$ 1,732,168	Line 7 * Line 8
10 Total Performance Incentives	\$ 3,153,583	\$ 856,088	\$ 8,682,583	\$ 12,692,254	Line 3 + Line 6 + Line 9

**2013- 2015 Energy Efficiency Performance Incentives
 Derivation of Electric Targets 2015**

NSTAR	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	242,840,749	39,625,154	700,145,280	982,611,183	
2 Savings Payout Rate 2012	0.006830758	0.006830758	0.006830758	0.006830758	
3 Forecasted Savings Incentives	\$ 1,658,786	\$ 270,670	\$ 4,782,523	\$ 6,711,979	Line 1 times Line 2
4 Forecasted Net Benefits	164,868,425	18,143,876	503,080,116	686,092,417	
5 Value Payout Rate 2012	0.006628185	0.006628185	0.006628185	0.006628185	
6 Forecasted Value Incentives	\$ 1,092,778	\$ 120,261	\$ 3,334,508	\$ 4,547,547	Line 4 times Line 5
7 Statewide Performance Metrics	1,199,527	932,966	1,199,527	3,332,020	Pef Met Pool Lines 13 to 15
8 Share of State Net Benefits	44%	44%	44%	44%	Line 4/State Line 4
9 Performance Metrics	\$ 523,058	\$ 406,823	\$ 523,058	\$ 1,452,938	Line 7 * Line 8
10 Total Performance Incentives	\$ 3,274,622	\$ 797,753	\$ 8,640,089	\$ 12,712,464	Line 3 + Line 6 + Line 9

**2013- 2015 Energy Efficiency Performance Incentives
 Derivation of Electric Targets 2013 - 2015**

NSTAR	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	678,950,924	116,680,006	2,055,203,819	2,850,834,749	
2 Savings Payout Rate 2012	0.006830758	0.006830758	0.006830758	0.006830758	
3 Forecasted Savings Incentives	\$ 4,637,750	\$ 797,013	\$ 14,038,601	\$ 19,473,363	Line 1 times Line 2
4 Forecasted Net Benefits	451,758,844	52,284,790	1,463,143,713	1,967,187,347	
5 Value Payout Rate 2012	0.006628185	0.006628185	0.006628185	0.006628185	
6 Forecasted Value Incentives	\$ 2,994,341	\$ 346,553	\$ 9,697,987	\$ 13,038,881	Line 4 times Line 5
7 Statewide Performance Metrics	\$ 4,024,706	\$ 3,130,327	\$ 4,024,706	\$ 11,179,739	Pef Met Pool Lines 13 to 15
8 Share of State Net Benefits	43%	43%	43%	43%	Line 4/State Line 4
9 Performance Metrics	\$ 1,742,402	\$ 1,355,201	\$ 1,742,402	\$ 4,840,005	Line 7 * Line 8
10 Total Performance Incentives	\$ 9,374,493	\$ 2,498,768	\$ 25,478,989	\$ 37,352,249	Line 3 + Line 6 + Line 9

**2013- 2015 Energy Efficiency Performance Incentives
Derivation of Electric Targets 2013**

WMECO	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	67,393,019	18,452,189	126,493,091	212,338,300	
2 Savings Payout Rate 2012	0.006830758	0.006830758	0.006830758	0.006830758	
3 Forecasted Savings Incentives	\$ 460,345	\$ 126,042	\$ 864,044	\$ 1,450,432	Line 1 times Line 2
4 Forecasted Net Benefits	51,205,070	12,615,833	91,744,018	155,564,920	
5 Value Payout Rate 2012	0.006628185	0.006628185	0.006628185	0.006628185	
6 Forecasted Value Incentives	\$ 339,397	\$ 83,620	\$ 608,096	\$ 1,031,113	Line 4 times Line 5
7 Statewide Performance Metrics	1,406,160	1,093,680	1,406,160	3,906,001	Pef Met Pool Lines 13 to 15
8 Share of State Net Benefits	11%	11%	11%	11%	Line 4/State Line 4
9 Performance Metrics	\$ 149,649	\$ 116,394	\$ 149,649	\$ 415,692	Line 7 * Line 8
10 Total Performance Incentives	\$ 949,391	\$ 326,056	\$ 1,621,789	\$ 2,897,237	Line 3 + Line 6 + Line 9

**2013- 2015 Energy Efficiency Performance Incentives
Derivation of Electric Targets 2014**

WMECO	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	65,804,349	16,274,849	111,828,020	193,907,218	
2 Savings Payout Rate 2012	0.006830758	0.006830758	0.006830758	0.006830758	
3 Forecasted Savings Incentives	\$ 449,494	\$ 111,170	\$ 763,870	\$ 1,324,533	Line 1 times Line 2
4 Forecasted Net Benefits	49,222,072	10,469,244	76,874,424	136,565,740	
5 Value Payout Rate 2012	0.006628185	0.006628185	0.006628185	0.006628185	
6 Forecasted Value Incentives	\$ 326,253	\$ 69,392	\$ 509,538	\$ 905,183	Line 4 times Line 5
7 Statewide Performance Metrics	1,419,018	1,103,681	1,419,018	3,941,718	Pef Met Pool Lines 13 to 15
8 Share of State Net Benefits	9%	9%	9%	9%	Line 4/State Line 4
9 Performance Metrics	\$ 128,683	\$ 100,087	\$ 128,683	\$ 357,452	Line 7 * Line 8
10 Total Performance Incentives	\$ 904,429	\$ 280,648	\$ 1,402,091	\$ 2,587,169	Line 3 + Line 6 + Line 9

**2013- 2015 Energy Efficiency Performance Incentives
Derivation of Electric Targets 2015**

WMECO	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	68,341,058	16,342,418	111,207,061	195,890,536	
2 Savings Payout Rate 2012	0.006830758	0.006830758	0.006830758	0.006830758	
3 Forecasted Savings Incentives	\$ 466,821	\$ 111,631	\$ 759,629	\$ 1,338,081	Line 1 times Line 2
4 Forecasted Net Benefits	51,626,485	10,627,854	76,416,603	138,670,941	
5 Value Payout Rate 2012	0.006628185	0.006628185	0.006628185	0.006628185	
6 Forecasted Value Incentives	\$ 342,190	\$ 70,443	\$ 506,503	\$ 919,137	Line 4 times Line 5
7 Statewide Performance Metrics	1,199,527	932,966	1,199,527	3,332,020	Pef Met Pool Lines 13 to 15
8 Share of State Net Benefits	9%	9%	9%	9%	Line 4/State Line 4
9 Performance Metrics	\$ 105,719	\$ 82,226	\$ 105,719	\$ 293,663	Line 7 * Line 8
10 Total Performance Incentives	\$ 914,730	\$ 264,300	\$ 1,371,851	\$ 2,550,881	Line 3 + Line 6 + Line 9

**2013- 2015 Energy Efficiency Performance Incentives
Derivation of Electric Targets 2013 - 2015**

WMECO	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	201,538,425	51,069,456	349,528,173	602,136,054	
2 Savings Payout Rate 2012	0.006830758	0.006830758	0.006830758	0.006830758	
3 Forecasted Savings Incentives	\$ 1,376,660	\$ 348,843	\$ 2,387,542	\$ 4,113,046	Line 1 times Line 2
4 Forecasted Net Benefits	152,053,626	33,712,931	245,035,044	430,801,602	
5 Value Payout Rate 2012	0.006628185	0.006628185	0.006628185	0.006628185	
6 Forecasted Value Incentives	\$ 1,007,840	\$ 223,456	\$ 1,624,138	\$ 2,855,433	Line 4 times Line 5
7 Statewide Performance Metrics	4,024,706	3,130,327	4,024,706	11,179,739	Pef Met Pool Lines 13 to 15
8 Share of State Net Benefits	9%	9%	9%	9%	Line 4/State Line 4
9 Performance Metrics	\$ 384,051	\$ 298,706	\$ 384,051	\$ 1,066,808	Line 7 * Line 8
10 Total Performance Incentives	\$ 2,768,551	\$ 871,005	\$ 4,395,731	\$ 8,035,286	Line 3 + Line 6 + Line 9

**2013- 2015 Energy Efficiency Performance Incentives
 Derivation of Electric Targets 2013**

Unitil	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	5,584,543	1,624,946	12,571,461	19,780,950	
2 Savings Payout Rate 2012	0.006830758	0.006830758	0.006830758	0.006830758	
3 Forecasted Savings Incentives	\$ 38,147	\$ 11,100	\$ 85,873	\$ 135,119	Line 1 times Line 2
4 Forecasted Net Benefits	3,522,354	699,596	7,982,544	12,204,494	
5 Value Payout Rate 2012	0.006628185	0.006628185	0.006628185	0.006628185	
6 Forecasted Value Incentives	\$ 23,347	\$ 4,637	\$ 52,910	\$ 80,894	Line 4 times Line 5
7 Statewide Performance Metrics	1,406,160	1,093,680	1,406,160	3,906,001	Pef Met Pool Lines 13 to 15
8 Share of State Net Benefits	1%	1%	1%	1%	Line 4/State Line 4
9 Performance Metrics	\$ 11,740	\$ 9,131	\$ 11,740	\$ 32,612	Line 7 * Line 8
10 Total Performance Incentives	\$ 73,234	\$ 24,868	\$ 150,523	\$ 248,625	Line 3 + Line 6 + Line 9

**2013- 2015 Energy Efficiency Performance Incentives
 Derivation of Electric Targets 2014**

Unitil	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	6,223,159	1,696,685	13,326,365	21,246,209	
2 Savings Payout Rate 2012	0.006830758	0.006830758	0.006830758	0.006830758	
3 Forecasted Savings Incentives	\$ 42,509	\$ 11,590	\$ 91,029	\$ 145,128	Line 1 times Line 2
4 Forecasted Net Benefits	4,175,048	771,735	8,747,715	13,694,499	
5 Value Payout Rate 2012	0.006628185	0.006628185	0.006628185	0.006628185	
6 Forecasted Value Incentives	\$ 27,673	\$ 5,115	\$ 57,981	\$ 90,770	Line 4 times Line 5
7 Statewide Performance Metrics	1,419,018	1,103,681	1,419,018	3,941,718	Pef Met Pool Lines 13 to 15
8 Share of State Net Benefits	1%	1%	1%	1%	Line 4/State Line 4
9 Performance Metrics	\$ 12,904	\$ 10,036	\$ 12,904	\$ 35,844	Line 7 * Line 8
10 Total Performance Incentives	\$ 83,086	\$ 26,741	\$ 161,915	\$ 271,742	Line 3 + Line 6 + Line 9

**2013- 2015 Energy Efficiency Performance Incentives
 Derivation of Electric Targets 2015**

Unitil	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	6,260,217	1,759,127	13,619,997	21,639,340	
2 Savings Payout Rate 2012	0.006830758	0.006830758	0.006830758	0.006830758	
3 Forecasted Savings Incentives	\$ 42,762	\$ 12,016	\$ 93,035	\$ 147,813	Line 1 times Line 2
4 Forecasted Net Benefits	4,213,382	823,236	9,040,487	14,077,105	
5 Value Payout Rate 2012	0.006628185	0.006628185	0.006628185	0.006628185	
6 Forecasted Value Incentives	\$ 27,927	\$ 5,457	\$ 59,922	\$ 93,306	Line 4 times Line 5
7 Statewide Performance Metrics	1,199,527	932,966	1,199,527	3,332,020	Pef Met Pool Lines 13 to 15
8 Share of State Net Benefits	1%	1%	1%	1%	Line 4/State Line 4
9 Performance Metrics	\$ 10,732	\$ 8,347	\$ 10,732	\$ 29,811	Line 7 * Line 8
10 Total Performance Incentives	\$ 81,421	\$ 25,820	\$ 163,689	\$ 270,930	Line 3 + Line 6 + Line 9

**2013- 2015 Energy Efficiency Performance Incentives
 Derivation of Electric Targets 2013 - 2015**

Unitil	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	18,067,919	5,080,757	39,517,823	62,666,499	
2 Savings Payout Rate 2012	0.006830758	0.006830758	0.006830758	0.006830758	
3 Forecasted Savings Incentives	\$ 123,418	\$ 34,705	\$ 269,937	\$ 428,060	Line 1 times Line 2
4 Forecasted Net Benefits	11,910,785	2,294,568	25,770,746	39,976,098	
5 Value Payout Rate 2012	0.006628185	0.006628185	0.006628185	0.006628185	
6 Forecasted Value Incentives	\$ 78,947	\$ 15,209	\$ 170,813	\$ 264,969	Line 4 times Line 5
7 Statewide Performance Metrics	\$ 4,024,706	\$ 3,130,327	\$ 4,024,706	\$ 11,179,739	Pef Met Pool Lines 13 to 15
8 Share of State Net Benefits	1%	1%	1%	1%	Line 4/State Line 4
9 Performance Metrics	\$ 35,376	\$ 27,515	\$ 35,376	\$ 98,268	Line 7 * Line 8
10 Total Performance Incentives	\$ 237,741	\$ 77,429	\$ 476,126	\$ 791,296	Line 3 + Line 6 + Line 9

**2013 Energy Efficiency Performance Incentives
Summary of Performance Incentives by Sector and Incentive Type
Assuming Design Level Performance Incentive**

In 2013 dollars					Percent of Total Incentive				
State (no CLC)	Residential	Low Income	C&I	Total	State	Residential	Low Income	C&I	Total
1 Savings	3,542,961	715,875	10,213,851	14,472,687	Savings	12.6%	2.6%	36.4%	51.6%
2 Value	2,260,426	334,545	7,093,755	9,688,727	Value	8.1%	1.2%	25.3%	34.5%
3 Metrics	<u>1,406,160</u>	<u>1,093,680</u>	<u>1,406,160</u>	<u>3,906,001</u>	Metrics	<u>5.0%</u>	<u>3.9%</u>	<u>5.0%</u>	<u>13.9%</u>
4 Total	7,209,547	2,144,101	18,713,767	28,067,415	Total	25.7%	7.6%	66.7%	100.0%
National Grid	Residential	Low Income	C&I	Total	National Grid	Residential	Low Income	C&I	Total
5 Savings	1,616,733	312,030	4,770,675	6,699,439	Savings	12.5%	2.4%	36.8%	51.6%
6 Value	974,895	131,437	3,365,455	4,471,787	Value	7.5%	1.0%	25.9%	34.5%
7 Metrics	<u>649,007</u>	<u>504,783</u>	<u>649,007</u>	<u>1,802,797</u>	Metrics	<u>5.0%</u>	<u>3.9%</u>	<u>5.0%</u>	<u>13.9%</u>
8 Total	3,240,635	948,250	8,785,137	12,974,022	Total	25.0%	7.3%	67.7%	100.0%
NSTAR	Residential	Low Income	C&I	Total	NSTAR	Residential	Low Income	C&I	Total
9 Savings	1,427,735	266,703	4,493,260	6,187,697	Savings	12.0%	2.2%	37.6%	51.8%
10 Value	922,788	114,851	3,067,294	4,104,933	Value	7.7%	1.0%	25.7%	34.4%
11 Metrics	<u>595,764</u>	<u>463,372</u>	<u>595,764</u>	<u>1,654,900</u>	Metrics	<u>5.0%</u>	<u>3.9%</u>	<u>5.0%</u>	<u>13.9%</u>
12 Total	2,946,287	844,926	8,156,318	11,947,531	Total	24.7%	7.1%	68.3%	100.0%
WMECO	Residential	Low Income	C&I	Total	WMECO	Residential	Low Income	C&I	Total
13 Savings	460,345	126,042	864,044	1,450,432	Savings	15.9%	4.4%	29.8%	50.1%
14 Value	339,397	83,620	608,096	1,031,113	Value	11.7%	2.9%	21.0%	35.6%
15 Metrics	<u>149,649</u>	<u>116,394</u>	<u>149,649</u>	<u>415,692</u>	Metrics	<u>5.2%</u>	<u>4.0%</u>	<u>5.2%</u>	<u>14.3%</u>
16 Total	949,391	326,056	1,621,789	2,897,237	Total	32.8%	11.3%	56.0%	100.0%
Unitil	Residential	Low Income	C&I	Total	Unitil	Residential	Low Income	C&I	Total
17 Savings	38,147	11,100	85,873	135,119	Savings	15.3%	4.5%	34.5%	54.3%
18 Value	23,347	4,637	52,910	80,894	Value	9.4%	1.9%	21.3%	32.5%
19 Metrics	<u>11,740</u>	<u>9,131</u>	<u>11,740</u>	<u>32,612</u>	Metrics	<u>4.7%</u>	<u>3.7%</u>	<u>4.7%</u>	<u>13.1%</u>
20 Total	73,234	24,868	150,523	248,625	Total	29.5%	10.0%	60.5%	100.0%

**2014 Energy Efficiency Performance Incentives
Summary of Performance Incentives by Sector and Incentive Type
Assuming Design Level Performance Incentive**

In 2013 dollars					Percent of Total Incentive				
State (no CLC)	Residential	Low Income	C&I	Total	State	Residential	Low Income	C&I	Total
1 Savings	3,699,778	699,111	10,487,429	14,886,319	Savings	12.8%	2.4%	36.4%	51.7%
2 Value	2,334,890	323,791	7,323,005	9,981,686	Value	8.1%	1.1%	25.4%	34.6%
3 Metrics	<u>1,419,018</u>	<u>1,103,681</u>	<u>1,419,018</u>	<u>3,941,718</u>	Metrics	<u>4.9%</u>	<u>3.8%</u>	<u>4.9%</u>	<u>13.7%</u>
4 Total	7,453,687	2,126,583	19,229,452	28,809,722	Total	25.9%	7.4%	66.7%	100.0%
National Grid	Residential	Low Income	C&I	Total	National Grid	Residential	Low Income	C&I	Total
5 Savings	1,656,548	316,712	4,869,712	6,842,971	Savings	12.5%	2.4%	36.7%	51.6%
6 Value	1,002,189	137,843	3,459,301	4,599,333	Value	7.6%	1.0%	26.1%	34.7%
7 Metrics	<u>653,851</u>	<u>508,551</u>	<u>653,851</u>	<u>1,816,254</u>	Metrics	<u>4.9%</u>	<u>3.8%</u>	<u>4.9%</u>	<u>13.7%</u>
8 Total	3,312,588	963,105	8,982,864	13,258,558	Total	25.0%	7.3%	67.8%	100.0%
NSTAR	Residential	Low Income	C&I	Total	NSTAR	Residential	Low Income	C&I	Total
9 Savings	1,551,228	259,640	4,762,818	6,573,686	Savings	12.2%	2.0%	37.5%	51.8%
10 Value	978,774	111,441	3,296,185	4,386,400	Value	7.7%	0.9%	26.0%	34.6%
11 Metrics	<u>623,580</u>	<u>485,007</u>	<u>623,580</u>	<u>1,732,168</u>	Metrics	<u>4.9%</u>	<u>3.8%</u>	<u>4.9%</u>	<u>13.6%</u>
12 Total	3,153,583	856,088	8,682,583	12,692,254	Total	24.8%	6.7%	68.4%	100.0%
WMECO	Residential	Low Income	C&I	Total	WMECO	Residential	Low Income	C&I	Total
13 Savings	449,494	111,170	763,870	1,324,533	Savings	17.4%	4.3%	29.5%	51.2%
14 Value	326,253	69,392	509,538	905,183	Value	12.6%	2.7%	19.7%	35.0%
15 Metrics	<u>128,683</u>	<u>100,087</u>	<u>128,683</u>	<u>357,452</u>	Metrics	<u>5.0%</u>	<u>3.9%</u>	<u>5.0%</u>	<u>13.8%</u>
16 Total	904,429	280,648	1,402,091	2,587,169	Total	35.0%	10.8%	54.2%	100.0%
Unitil	Residential	Low Income	C&I	Total	Unitil	Residential	Low Income	C&I	Total
17 Savings	42,509	11,590	91,029	145,128	Savings	15.6%	4.3%	33.5%	53.4%
18 Value	27,673	5,115	57,981	90,770	Value	10.2%	1.9%	21.3%	33.4%
19 Metrics	<u>12,904</u>	<u>10,036</u>	<u>12,904</u>	<u>35,844</u>	Metrics	<u>4.7%</u>	<u>3.7%</u>	<u>4.7%</u>	<u>13.2%</u>
20 Total	83,086	26,741	161,915	271,742	Total	30.6%	9.8%	59.6%	100.0%

**2015 Energy Efficiency Performance Incentives
Summary of Performance Incentives by Sector and Incentive Type
Assuming Design Level Performance Incentive**

In 2013 dollars					Percent of Total Incentive				
State (no CLC)	Residential	Low Income	C&I	Total	State	Residential	Low Income	C&I	Total
1 Savings	3,879,174	715,106	10,765,671	15,359,951	Savings	13.3%	2.5%	37.0%	52.7%
2 Value	2,509,354	338,751	7,580,780	10,428,885	Value	8.6%	1.2%	26.0%	35.8%
3 Metrics	<u>1,199,527</u>	<u>932,966</u>	<u>1,199,527</u>	<u>3,332,020</u>	Metrics	<u>4.1%</u>	<u>3.2%</u>	<u>4.1%</u>	<u>11.4%</u>
4 Total	7,588,055	1,986,823	19,545,977	29,120,856	Total	26.1%	6.8%	67.1%	100.0%
National Grid	Residential	Low Income	C&I	Total	National Grid	Residential	Low Income	C&I	Total
5 Savings	1,710,804	320,789	5,130,484	7,162,077	Savings	12.6%	2.4%	37.8%	52.7%
6 Value	1,046,459	142,590	3,679,846	4,868,895	Value	7.7%	1.0%	27.1%	35.8%
7 Metrics	<u>560,019</u>	<u>435,570</u>	<u>560,019</u>	<u>1,555,608</u>	Metrics	<u>4.1%</u>	<u>3.2%</u>	<u>4.1%</u>	<u>11.4%</u>
8 Total	3,317,282	898,950	9,370,349	13,586,581	Total	24.4%	6.6%	69.0%	100.0%
NSTAR	Residential	Low Income	C&I	Total	NSTAR	Residential	Low Income	C&I	Total
9 Savings	1,658,786	270,670	4,782,523	6,711,979	Savings	13.0%	2.1%	37.6%	52.8%
10 Value	1,092,778	120,261	3,334,508	4,547,547	Value	8.6%	0.9%	26.2%	35.8%
11 Metrics	<u>523,058</u>	<u>406,823</u>	<u>523,058</u>	<u>1,452,938</u>	Metrics	<u>4.1%</u>	<u>3.2%</u>	<u>4.1%</u>	<u>11.4%</u>
12 Total	3,274,622	797,753	8,640,089	12,712,464	Total	25.8%	6.3%	68.0%	100.0%
WMECO	Residential	Low Income	C&I	Total	WMECO	Residential	Low Income	C&I	Total
13 Savings	466,821	111,631	759,629	1,338,081	Savings	18.3%	4.4%	29.8%	52.5%
14 Value	342,190	70,443	506,503	919,137	Value	13.4%	2.8%	19.9%	36.0%
15 Metrics	<u>105,719</u>	<u>82,226</u>	<u>105,719</u>	<u>293,663</u>	Metrics	<u>4.1%</u>	<u>3.2%</u>	<u>4.1%</u>	<u>11.5%</u>
16 Total	914,730	264,300	1,371,851	2,550,881	Total	35.9%	10.4%	53.8%	100.0%
Unitil	Residential	Low Income	C&I	Total	Unitil	Residential	Low Income	C&I	Total
17 Savings	42,762	12,016	93,035	147,813	Savings	15.8%	4.4%	34.3%	54.6%
18 Value	27,927	5,457	59,922	93,306	Value	10.3%	2.0%	22.1%	34.4%
19 Metrics	<u>10,732</u>	<u>8,347</u>	<u>10,732</u>	<u>29,811</u>	Metrics	<u>4.0%</u>	<u>3.1%</u>	<u>4.0%</u>	<u>11.0%</u>
20 Total	81,421	25,820	163,689	270,930	Total	30.1%	9.5%	60.4%	100.0%

**2013 - 2015 Energy Efficiency Performance Incentives
Summary of Performance Incentives by Sector and Incentive Type
Assuming Design Level Performance Incentive**

In 2013 dollars					Percent of Total Incentive				
State (no CLC)	Residential	Low Income	C&I	Total	State	Residential	Low Income	C&I	Total
1 Savings	11,121,913	2,130,093	31,466,951	44,718,956	Savings	12.9%	2.5%	36.6%	52.0%
2 Value	7,104,670	997,088	21,997,540	30,099,297	Value	8.3%	1.2%	25.6%	35.0%
3 Metrics	<u>4,024,706</u>	<u>3,130,327</u>	<u>4,024,706</u>	<u>11,179,739</u>	Metrics	<u>4.7%</u>	<u>3.6%</u>	<u>4.7%</u>	<u>13.0%</u>
4 Total	22,251,289	6,257,507	57,489,197	85,997,993	Total	25.9%	7.3%	66.8%	100.0%
National Grid	Residential	Low Income	C&I	Total	National Grid	Residential	Low Income	C&I	Total
5 Savings	4,984,085	949,531	14,770,871	20,704,488	Savings	12.5%	2.4%	37.1%	52.0%
6 Value	3,023,543	411,870	10,504,602	13,940,015	Value	7.6%	1.0%	26.4%	35.0%
7 Metrics	<u>1,862,877</u>	<u>1,448,904</u>	<u>1,862,877</u>	<u>5,174,658</u>	Metrics	<u>4.7%</u>	<u>3.6%</u>	<u>4.7%</u>	<u>13.0%</u>
8 Total	9,870,505	2,810,306	27,138,350	39,819,161	Total	24.8%	7.1%	68.2%	100.0%
NSTAR	Residential	Low Income	C&I	Total	NSTAR	Residential	Low Income	C&I	Total
9 Savings	4,637,750	797,013	14,038,601	19,473,363	Savings	12.4%	2.1%	37.6%	52.1%
10 Value	2,994,341	346,553	9,697,987	13,038,881	Value	8.0%	0.9%	26.0%	34.9%
11 Metrics	<u>1,742,402</u>	<u>1,355,201</u>	<u>1,742,402</u>	<u>4,840,005</u>	Metrics	<u>4.7%</u>	<u>3.6%</u>	<u>4.7%</u>	<u>13.0%</u>
12 Total	9,374,493	2,498,768	25,478,989	37,352,249	Total	25.1%	6.7%	68.2%	100.0%
WMECO	Residential	Low Income	C&I	Total	WMECO	Residential	Low Income	C&I	Total
13 Savings	1,376,660	348,843	2,387,542	4,113,046	Savings	17.1%	4.3%	29.7%	51.2%
14 Value	1,007,840	223,456	1,624,138	2,855,433	Value	12.5%	2.8%	20.2%	35.5%
15 Metrics	<u>384,051</u>	<u>298,706</u>	<u>384,051</u>	<u>1,066,808</u>	Metrics	<u>4.8%</u>	<u>3.7%</u>	<u>4.8%</u>	<u>13.3%</u>
16 Total	2,768,551	871,005	4,395,731	8,035,286	Total	34.5%	10.8%	54.7%	100.0%
Unitil	Residential	Low Income	C&I	Total	Unitil	Residential	Low Income	C&I	Total
17 Savings	123,418	34,705	269,937	428,060	Savings	15.6%	4.4%	34.1%	54.1%
18 Value	78,947	15,209	170,813	264,969	Value	10.0%	1.9%	21.6%	33.5%
19 Metrics	<u>35,376</u>	<u>27,515</u>	<u>35,376</u>	<u>98,268</u>	Metrics	<u>4.5%</u>	<u>3.5%</u>	<u>4.5%</u>	<u>12.4%</u>
20 Total	237,741	77,429	476,126	791,296	Total	30.0%	9.8%	60.2%	100.0%

Input Sheet: 2013 - 2015 figures
 In 2013 dollars

Gas	Berkshire				New England Gas (NA & FR)				State				
	2013	2014	2015	Total	2013	2014	2015	Total	2013	2014	2015	Total	
1 Goals (therms)	397,029	429,178	459,290	1,285,497	280,875	287,754	338,124	906,753	21,173,931	22,576,383	22,956,377	66,706,690	
Benefits													
2 Residential	4,272,204	4,308,442	4,310,451	12,891,097	2,896,004	3,206,045	3,316,916	9,418,965	160,593,319	166,423,382	171,167,239	498,183,940	
3 Low Income	1,572,479	1,621,599	1,691,503	4,885,582	1,451,345	1,441,840	1,499,815	4,393,000	51,546,185	52,675,357	54,277,833	158,499,375	
4 C&I	3,399,242	3,959,769	4,527,385	11,886,397	1,620,176	1,704,868	2,164,364	5,489,408	141,384,221	144,947,705	149,891,104	436,223,030	
5 Total	9,243,926	9,889,810	10,529,340	29,663,075	5,967,525	6,352,753	6,981,095	19,301,373	353,523,725	364,046,443	375,336,175	1,092,906,344	Sum of Lines 2 to 4
Total Costs													
6 Residential	2,802,944	2,764,129	2,645,005	8,212,077	1,644,438	1,821,036	1,813,846	5,279,320	101,369,250	103,384,542	104,476,301	309,230,093	
7 Low Income	726,858	790,749	797,824	2,315,431	697,396	678,912	714,915	2,091,223	34,360,825	34,823,082	35,339,320	104,523,227	
8 C&I	1,163,379	1,255,538	1,299,720	3,718,638	1,110,149	1,017,381	1,279,273	3,406,803	67,002,141	66,791,532	67,518,614	201,312,287	
9 Total	4,693,181	4,810,416	4,742,549	14,246,146	3,451,983	3,517,329	3,808,034	10,777,346	202,732,216	204,999,155	207,334,235	615,065,606	Sum of Lines 6 to 8
Performance Incentives used in Preliminary Total Co													
10 Residential	-	-	-	-	-	-	-	-	-	-	-	-	-
11 Low Income	-	-	-	-	-	-	-	-	-	-	-	-	-
12 C&I	-	-	-	-	-	-	-	-	-	-	-	-	-
13 Total	-	-	-	-	-	-	-	-	-	-	-	-	-
Net Benefits excluding performance incentives													
14 Residential	1,469,260	1,544,313	1,665,447	4,679,020	1,251,566	1,385,009	1,503,070	4,139,645	59,224,069	63,038,840	66,690,937	188,953,847	Line 2 - (Line 6 - Line 10)
15 Low Income	845,622	830,850	893,679	2,570,151	753,949	762,928	784,900	2,301,777	17,185,360	17,852,275	18,938,513	53,976,148	Line 3 - (Line 7 - Line 11)
16 C&I	2,235,863	2,704,231	3,227,665	8,167,759	510,027	687,487	885,091	2,082,605	74,382,080	78,156,173	82,372,490	234,910,743	Line 4 - (Line 8 - Line 12)
17 Total	4,550,745	5,079,394	5,786,791	15,416,929	2,515,542	2,835,424	3,173,061	8,524,027	150,791,510	159,047,288	168,001,940	477,840,738	Sum of lines 14 to 16
Payout Rates													
18 Savings rate 2012													\$0.0083910
19 Value rate for 2012													\$0.0104682

**2013 - 2015 Energy Efficiency Performance Incentives
Derivation of Performance Metric Pool**

	2013	2014	2015	Total		Comment
<u>A. Total Performance Incentive Pool</u>						
1 State Goals	21,173,931	22,576,383	22,956,377	66,706,690	therms	Statewide goals per PA Plans
2 Target Goals in 2010 - 2012				56,010,000	therms	Council Resolution adopted 10-13-09
3 Goals in 2013 - 2015 as a percent of target goals in 2010 - 2012				119%		Line 1/ Line 2
4 PI pool based on target goals in 2010 - 2012				\$ 14,000,000		Council Resolution adopted 10-13-09
5 Statewide 2013 - 2015 Performance Incentives	\$ 5,292,538	\$ 5,643,088	\$ 5,738,070	\$ 16,673,695		Line 3 * Line 4 allocated by year based on percent of Line 1
<u>B. Incentives Allocated by Component</u>						
6 State Benefits	\$ 353,523,725	\$ 364,046,443	\$ 375,336,175	\$ 1,092,906,344		Gas Input, line 5
7 Savings payout rate	0.0083910	0.0083910	0.0083910	0.0083910		55% of Total Line 5/Total Line 6
8 State performance incentives to savings	\$ 2,966,403	\$ 3,054,699	\$ 3,149,430	\$ 9,170,532		Line 6 * Line 7
9 State Net Benefits	\$ 150,791,510	\$ 159,047,288	\$ 168,001,940	\$ 477,840,738		Gas Input, line 17
10 Value payout rate	\$ 0.0104682	\$ 0.0104682	\$ 0.0104682	\$ 0.0104682		30% of Total Line 5/Total Line 9
11 State performance incentives to value	\$ 1,578,508	\$ 1,664,931	\$ 1,758,670	\$ 5,002,109		Line 9 * Line 10
12 Remaining performance incentives to metrics	\$ 747,626	\$ 923,458	\$ 829,970	\$ 2,501,054		Line 5- Line 8 - Line 11
<u>C. Performance Metrics allocated to Sectors</u>						
13 Residential Performance Metrics - State	\$ 269,145	\$ 332,445	\$ 298,789	\$ 900,380		Line 12 * Sector Allocation (Gas Input Line 36)
14 Low Income Performance Metrics - State	\$ 209,335	\$ 258,568	\$ 232,391	\$ 700,295		Line 12 * Sector Allocation (Gas Input Line 37)
15 C&I Performance Metrics - State	\$ 269,145	\$ 332,445	\$ 298,789	\$ 900,380		Line 12 * Sector Allocation (Gas Input Line 38)

**2013 - 2015 Energy Efficiency Performance Incentives
Derivation of Gas Targets 2013**

State	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	\$ 160,593,319	\$ 51,546,185	\$ 141,384,221	\$ 353,523,725	
2 Savings Payout Rate 2013	0.008391	0.008391	0.008391	0.008391	
3 Forecasted Savings Incentives	\$ 1,347,532	\$ 432,522	\$ 1,186,349	\$ 2,966,403	Line 1 times Line 2
4 Forecasted Net Benefits	\$ 59,224,069	\$ 17,185,360	\$ 74,382,080	\$ 150,791,510	
5 Value Payout Rate 2013	0.010468	0.010468	0.010468	0.010468	
6 Forecasted Value Incentives	\$ 619,966	\$ 179,899	\$ 778,643	\$ 1,578,508	Line 4 times Line 5
7 Statewide Performance Metrics	\$ 269,145	\$ 209,335	\$ 269,145	\$ 747,626	Pef Met Pool Lines 13 to 15
8 Share of State Net Benefits	100%	100%	100%	100%	Line 4/State Line 4
9 Performance Metrics	\$ 269,145	\$ 209,335	\$ 269,145	\$ 747,626	Line 7 * Line 8
10 Total Performance Incentives at target	\$ 2,236,644	\$ 821,756	\$ 2,234,137	\$ 5,292,538	Line 3 + Line 6 + Line 9

**2013 - 2015 Energy Efficiency Performance Incentives
Derivation of Gas Targets 2014**

State	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	\$ 166,423,382	\$ 52,675,357	\$ 144,947,705	\$ 364,046,443	
2 Savings Payout Rate 2012	0.008391	0.008391	0.008391	0.008391	
3 Forecasted Savings Incentives	\$ 1,396,452	\$ 441,997	\$ 1,216,250	\$ 3,054,699	Line 1 times Line 2
4 Forecasted Net Benefits	\$ 63,038,840	\$ 17,852,275	\$ 78,156,173	\$ 159,047,288	
5 Value Payout Rate 2012	0.010468	0.010468	0.010468	0.010468	
6 Forecasted Value Incentives	\$ 659,900	\$ 186,880	\$ 818,151	\$ 1,664,931	Line 4 times Line 5
7 Statewide Performance Metrics	\$ 332,445	\$ 258,568	\$ 332,445	\$ 923,458	Pef Met Pool Lines 13 to 15
8 Share of State Net Benefits	100%	100%	100%	100%	Line 4/State Line 4
9 Performance Metrics	\$ 332,445	\$ 258,568	\$ 332,445	\$ 923,458	Line 7 * Line 8
10 Total Performance Incentives at target	\$ 2,388,797	\$ 887,445	\$ 2,366,846	\$ 5,643,088	Line 3 + Line 6 + Line 9

**2013 - 2015 Energy Efficiency Performance Incentives
Derivation of Gas Targets 2015**

State	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	\$ 171,167,239	\$ 54,277,833	\$ 149,891,104	\$ 375,336,175	
2 Savings Payout Rate 2012	0.008391	0.008391	0.008391	0.008391	
3 Forecasted Savings Incentives	\$ 1,436,257	\$ 455,443	\$ 1,257,730	\$ 3,149,430	Line 1 times Line 2
4 Forecasted Net Benefits	\$ 66,690,937	\$ 18,938,513	\$ 82,372,490	\$ 168,001,940	
5 Value Payout Rate 2012	0.010468	0.010468	0.010468	0.010468	
6 Forecasted Value Incentives	\$ 698,131	\$ 198,251	\$ 862,288	\$ 1,758,670	Line 4 times Line 5
7 Statewide Performance Metrics	\$ 298,789	\$ 232,391	\$ 298,789	\$ 829,970	Pef Met Pool Lines 13 to 15
8 Share of State Net Benefits	100%	100%	100%	100%	Line 4/State Line 4
9 Performance Metrics	\$ 298,789	\$ 232,391	\$ 298,789	\$ 829,970	Line 7 * Line 8
10 Total Performance Incentives at target	\$ 2,433,177	\$ 886,086	\$ 2,418,807	\$ 5,738,070	Line 3 + Line 6 + Line 9

**2013 - 2015 Energy Efficiency Performance Incentives
Derivation of Gas Targets 2013 - 2015**

State	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	\$ 498,183,940	\$ 158,499,375	\$ 436,223,030	\$ 1,092,906,344	
2 Savings Payout Rate 2012	0.008391	0.008391	0.008391	0.008391	
3 Forecasted Savings Incentives	\$ 4,180,241	\$ 1,329,962	\$ 3,660,330	\$ 9,170,532	Line 1 times Line 2
4 Forecasted Net Benefits	\$ 188,953,847	\$ 53,976,148	\$ 234,910,743	\$ 477,840,738	
5 Value Payout Rate 2012	0.010468	0.010468	0.010468	0.010468	
6 Forecasted Value Incentives	\$ 1,977,997	\$ 565,030	\$ 2,459,081	\$ 5,002,109	Line 4 times Line 5
7 Statewide Performance Metrics	\$ 900,380	\$ 700,295	\$ 900,380	\$ 2,501,054	Pef Met Pool Lines 13 to 15
8 Share of State Net Benefits	100%	100%	100%	100%	Line 4/State Line 4
9 Performance Metrics	\$ 900,380	\$ 700,295	\$ 900,380	\$ 2,501,054	Line 7 * Line 8
10 Total Performance Incentives at target	\$ 7,058,618	\$ 2,595,287	\$ 7,019,790	\$ 16,673,695	Line 3 + Line 6 + Line 9

**2013 - 2015 Energy Efficiency Performance Incentives
Derivation of Gas Targets 2013**

National Grid	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	\$ 85,729,636	\$ 28,336,002	\$ 76,742,238	\$ 190,807,875	
2 Savings Payout Rate 2012	0.008391	0.008391	0.008391	0.008391	
3 Forecasted Savings Incentives	\$ 719,354	\$ 237,766	\$ 643,941	\$ 1,601,061	Line 1 times Line 2
4 Forecasted Net Benefits	\$ 26,440,831	\$ 9,697,928	\$ 44,754,500	\$ 80,893,259	
5 Value Payout Rate 2012	0.010468	0.010468	0.010468	0.010468	
6 Forecasted Value Incentives	\$ 276,787	\$ 101,519	\$ 468,497	\$ 846,803	Line 4 times Line 5
7 Statewide Performance Metrics	\$ 269,145	\$ 209,335	\$ 269,145	\$ 747,626	Pef Met Pool Lines 13 to 15
8 Share of State Net Benefits	54%	54%	54%	54%	Line 4/State Line 4
9 Performance Metrics	\$ 144,385	\$ 112,300	\$ 144,385	\$ 401,070	Line 7 * Line 8
10 Total Performance Incentives at target	\$ 1,140,526	\$ 451,585	\$ 1,256,823	\$ 2,848,934	Line 3 + Line 6 + Line 9

**2013 - 2015 Energy Efficiency Performance Incentives
Derivation of Gas Targets 2014**

National Grid	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	\$ 89,439,525	\$ 28,567,516	\$ 77,804,638	\$ 195,811,679	
2 Savings Payout Rate 2012	0.008391	0.008391	0.008391	0.008391	
3 Forecasted Savings Incentives	\$ 750,483	\$ 239,709	\$ 652,856	\$ 1,643,048	Line 1 times Line 2
4 Forecasted Net Benefits	\$ 28,192,358	\$ 10,006,377	\$ 45,920,753	\$ 84,119,487	
5 Value Payout Rate 2012	0.010468	0.010468	0.010468	0.010468	
6 Forecasted Value Incentives	\$ 295,122	\$ 104,748	\$ 480,705	\$ 880,575	Line 4 times Line 5
7 Statewide Performance Metrics	\$ 332,445	\$ 258,568	\$ 332,445	\$ 923,458	Pef Met Pool Lines 13 to 15
8 Share of State Net Benefits	53%	53%	53%	53%	Line 4/State Line 4
9 Performance Metrics	\$ 175,829	\$ 136,756	\$ 175,829	\$ 488,413	Line 7 * Line 8
10 Total Performance Incentives at target	\$ 1,221,434	\$ 481,213	\$ 1,309,390	\$ 3,012,037	Line 3 + Line 6 + Line 9

**2013 - 2015 Energy Efficiency Performance Incentives
Derivation of Gas Targets 2015**

National Grid	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	\$ 92,194,568	\$ 28,778,484	\$ 80,174,347	\$ 201,147,399	
2 Savings Payout Rate 2012	0.008391	0.008391	0.008391	0.008391	
3 Forecasted Savings Incentives	\$ 773,601	\$ 241,479	\$ 672,740	\$ 1,687,820	Line 1 times Line 2
4 Forecasted Net Benefits	\$ 29,686,285	\$ 10,283,498	\$ 47,714,699	\$ 87,684,481	
5 Value Payout Rate 2012	0.010468	0.010468	0.010468	0.010468	
6 Forecasted Value Incentives	\$ 310,760	\$ 107,649	\$ 499,485	\$ 917,894	Line 4 times Line 5
7 Statewide Performance Metrics	\$ 298,789	\$ 232,391	\$ 298,789	\$ 829,970	Pef Met Pool Lines 13 to 15
8 Share of State Net Benefits	52%	52%	52%	52%	Line 4/State Line 4
9 Performance Metrics	\$ 155,946	\$ 121,291	\$ 155,946	\$ 433,182	Line 7 * Line 8
10 Total Performance Incentives at target	\$ 1,240,307	\$ 470,419	\$ 1,328,170	\$ 3,038,896	Line 3 + Line 6 + Line 9

**2013 - 2015 Energy Efficiency Performance Incentives
Derivation of Gas Targets 2013 - 2015**

National Grid	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	\$ 267,363,729	\$ 85,682,002	\$ 234,721,224	\$ 587,766,954	
2 Savings Payout Rate 2012	0.008391	0.008391	0.008391	0.008391	
3 Forecasted Savings Incentives	\$ 2,243,438	\$ 718,954	\$ 1,969,536	\$ 4,931,928	Line 1 times Line 2
4 Forecasted Net Benefits	\$ 84,319,474	\$ 29,987,803	\$ 138,389,951	\$ 252,697,228	
5 Value Payout Rate 2012	0.010468	0.010468	0.010468	0.010468	
6 Forecasted Value Incentives	\$ 882,669	\$ 313,917	\$ 1,448,687	\$ 2,645,272	Line 4 times Line 5
7 Statewide Performance Metrics	\$ 900,380	\$ 700,295	\$ 900,380	\$ 2,501,054	Pef Met Pool Lines 13 to 15
8 Share of State Net Benefits	53%	53%	53%	53%	Line 4/State Line 4
9 Performance Metrics	\$ 476,149	\$ 370,338	\$ 476,149	\$ 1,322,636	Line 7 * Line 8
10 Total Performance Incentives at target	\$ 3,602,256	\$ 1,403,209	\$ 3,894,372	\$ 8,899,837	Line 3 + Line 6 + Line 9

**2013 - 2015 Energy Efficiency Performance Incentives
 Derivation of Gas Targets 2013**

NSTAR	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	\$ 31,429,551	\$ 9,763,024	\$ 36,172,432	\$ 77,365,007	
2 Savings Payout Rate 2012	0.008391	0.008391	0.008391	0.008391	
3 Forecasted Savings Incentives	\$ 263,724	\$ 81,921	\$ 303,521	\$ 649,167	Line 1 times Line 2
4 Forecasted Net Benefits	\$ 12,030,646	\$ 1,952,646	\$ 14,776,771	\$ 28,760,063	
5 Value Payout Rate 2012	0.010468	0.010468	0.010468	0.010468	
6 Forecasted Value Incentives	\$ 125,939	\$ 20,441	\$ 154,685	\$ 301,065	Line 4 times Line 5
7 Statewide Performance Metrics	\$ 269,145	\$ 209,335	\$ 269,145	\$ 747,626	Pef Met Pool Lines 13 to 15
8 Share of State Net Benefits	19%	19%	19%	19%	Line 4/State Line 4
9 Performance Metrics	\$ 51,333	\$ 39,926	\$ 51,333	\$ 142,593	Line 7 * Line 8
10 Total Performance Incentives at target	\$ 440,996	\$ 142,288	\$ 509,540	\$ 1,092,824	Line 3 + Line 6 + Line 9

**2013 - 2015 Energy Efficiency Performance Incentives
 Derivation of Gas Targets 2014**

NSTAR	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	\$ 32,170,624	\$ 10,086,743	\$ 37,016,846	\$ 79,274,214	
2 Savings Payout Rate 2012	0.008391	0.008391	0.008391	0.008391	
3 Forecasted Savings Incentives	\$ 269,942	\$ 84,637	\$ 310,607	\$ 665,187	Line 1 times Line 2
4 Forecasted Net Benefits	\$ 12,905,944	\$ 2,176,489	\$ 15,730,500	\$ 30,812,932	
5 Value Payout Rate 2012	0.010468	0.010468	0.010468	0.010468	
6 Forecasted Value Incentives	\$ 135,101	\$ 22,784	\$ 164,669	\$ 322,554	Line 4 times Line 5
7 Statewide Performance Metrics	\$ 332,445	\$ 258,568	\$ 332,445	\$ 923,458	Pef Met Pool Lines 13 to 15
8 Share of State Net Benefits	19%	19%	19%	19%	Line 4/State Line 4
9 Performance Metrics	\$ 64,406	\$ 50,094	\$ 64,406	\$ 178,906	Line 7 * Line 8
10 Total Performance Incentives at target	\$ 469,450	\$ 157,515	\$ 539,682	\$ 1,166,647	Line 3 + Line 6 + Line 9

**2013 - 2015 Energy Efficiency Performance Incentives
 Derivation of Gas Targets 2015**

NSTAR	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	\$ 33,162,543	\$ 10,447,982	\$ 37,821,258	\$ 81,431,782	
2 Savings Payout Rate 2012	0.008391	0.008391	0.008391	0.008391	
3 Forecasted Savings Incentives	\$ 278,266	\$ 87,669	\$ 317,357	\$ 683,291	Line 1 times Line 2
4 Forecasted Net Benefits	\$ 14,067,699	\$ 2,431,819	\$ 16,620,075	\$ 33,119,592	
5 Value Payout Rate 2012	0.010468	0.010468	0.010468	0.010468	
6 Forecasted Value Incentives	\$ 147,263	\$ 25,457	\$ 173,981	\$ 346,701	Line 4 times Line 5
7 Statewide Performance Metrics	\$ 298,789	\$ 232,391	\$ 298,789	\$ 829,970	Pef Met Pool Lines 13 to 15
8 Share of State Net Benefits	20%	20%	20%	20%	Line 4/State Line 4
9 Performance Metrics	\$ 58,903	\$ 45,813	\$ 58,903	\$ 163,619	Line 7 * Line 8
10 Total Performance Incentives at target	\$ 484,431	\$ 158,938	\$ 550,241	\$ 1,193,610	Line 3 + Line 6 + Line 9

**2013 - 2015 Energy Efficiency Performance Incentives
 Derivation of Gas Targets 2013 - 2015**

NSTAR	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	\$ 96,762,718	\$ 30,297,749	\$ 111,010,536	\$ 238,071,003	
2 Savings Payout Rate 2012	0.008391	0.008391	0.008391	0.008391	
3 Forecasted Savings Incentives	\$ 811,932	\$ 254,227	\$ 931,485	\$ 1,997,644	Line 1 times Line 2
4 Forecasted Net Benefits	\$ 39,004,288	\$ 6,560,954	\$ 47,127,346	\$ 92,692,588	
5 Value Payout Rate 2012	0.010468	0.010468	0.010468	0.010468	
6 Forecasted Value Incentives	\$ 408,303	\$ 68,681	\$ 493,336	\$ 970,320	Line 4 times Line 5
7 Statewide Performance Metrics	\$ 900,380	\$ 700,295	\$ 900,380	\$ 2,501,054	Pef Met Pool Lines 13 to 15
8 Share of State Net Benefits	19%	19%	19%	19%	Line 4/State Line 4
9 Performance Metrics	\$ 174,658	\$ 135,845	\$ 174,658	\$ 485,160	Line 7 * Line 8
10 Total Performance Incentives at target	\$ 1,394,892	\$ 458,753	\$ 1,599,479	\$ 3,453,124	Line 3 + Line 6 + Line 9

**2013 - 2015 Energy Efficiency Performance Incentives
Derivation of Gas Targets 2013**

Columbia	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	\$ 35,297,761	\$ 9,110,145	\$ 20,957,216	\$ 65,365,122	
2 Savings Payout Rate 2012	0.008391	0.008391	0.008391	0.008391	
3 Forecasted Savings Incentives	\$ 296,182	\$ 76,443	\$ 175,851	\$ 548,476	Line 1 times Line 2
4 Forecasted Net Benefits	\$ 17,632,473	\$ 3,075,837	\$ 10,377,517	\$ 31,085,828	
5 Value Payout Rate 2012	0.010468	0.010468	0.010468	0.010468	
6 Forecasted Value Incentives	\$ 184,579	\$ 32,198	\$ 108,633	\$ 325,411	Line 4 times Line 5
7 Statewide Performance Metrics	\$ 269,145	\$ 209,335	\$ 269,145	\$ 747,626	Pef Met Pool Lines 13 to 15
8 Share of State Net Benefits	21%	21%	21%	21%	Line 4/State Line 4
9 Performance Metrics	\$ 55,485	\$ 43,155	\$ 55,485	\$ 154,124	Line 7 * Line 8
10 Total Performance Incentives at target	\$ 536,246	\$ 151,796	\$ 339,969	\$ 1,028,011	Line 3 + Line 6 + Line 9

**2013 - 2015 Energy Efficiency Performance Incentives
Derivation of Gas Targets 2014**

Columbia	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	\$ 36,344,977	\$ 9,944,455	\$ 21,877,112	\$ 68,166,545	
2 Savings Payout Rate 2012	0.008391	0.008391	0.008391	0.008391	
3 Forecasted Savings Incentives	\$ 304,969	\$ 83,444	\$ 183,570	\$ 571,983	Line 1 times Line 2
4 Forecasted Net Benefits	\$ 18,638,843	\$ 3,524,629	\$ 11,310,800	\$ 33,474,272	
5 Value Payout Rate 2012	0.010468	0.010468	0.010468	0.010468	
6 Forecasted Value Incentives	\$ 195,114	\$ 36,896	\$ 118,403	\$ 350,414	Line 4 times Line 5
7 Statewide Performance Metrics	\$ 332,445	\$ 258,568	\$ 332,445	\$ 923,458	Pef Met Pool Lines 13 to 15
8 Share of State Net Benefits	21%	21%	21%	21%	Line 4/State Line 4
9 Performance Metrics	\$ 69,969	\$ 54,420	\$ 69,969	\$ 194,358	Line 7 * Line 8
10 Total Performance Incentives at target	\$ 570,052	\$ 174,760	\$ 371,942	\$ 1,116,754	Line 3 + Line 6 + Line 9

**2013 - 2015 Energy Efficiency Performance Incentives
Derivation of Gas Targets 2015**

Columbia	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	\$ 37,289,038	\$ 10,851,791	\$ 22,596,152	\$ 70,736,981	
2 Savings Payout Rate 2012	0.008391	0.008391	0.008391	0.008391	
3 Forecasted Savings Incentives	\$ 312,891	\$ 91,057	\$ 189,603	\$ 593,551	Line 1 times Line 2
4 Forecasted Net Benefits	\$ 19,466,116	\$ 4,007,090	\$ 12,119,842	\$ 35,593,048	
5 Value Payout Rate 2012	0.010468	0.010468	0.010468	0.010468	
6 Forecasted Value Incentives	\$ 203,774	\$ 41,947	\$ 126,872	\$ 372,593	Line 4 times Line 5
7 Statewide Performance Metrics	\$ 298,789	\$ 232,391	\$ 298,789	\$ 829,970	Pef Met Pool Lines 13 to 15
8 Share of State Net Benefits	21%	21%	21%	21%	Line 4/State Line 4
9 Performance Metrics	\$ 63,302	\$ 49,235	\$ 63,302	\$ 175,838	Line 7 * Line 8
10 Total Performance Incentives at target	\$ 579,967	\$ 182,238	\$ 379,777	\$ 1,141,983	Line 3 + Line 6 + Line 9

**2013 - 2015 Energy Efficiency Performance Incentives
Derivation of Gas Targets 2013 - 2015**

Columbia	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	\$ 108,931,776	\$ 29,906,391	\$ 65,430,481	\$ 204,268,648	
2 Savings Payout Rate 2012	0.008391	0.008391	0.008391	0.008391	
3 Forecasted Savings Incentives	\$ 914,042	\$ 250,943	\$ 549,024	\$ 1,714,010	Line 1 times Line 2
4 Forecasted Net Benefits	\$ 55,737,432	\$ 10,607,556	\$ 33,808,160	\$ 100,153,148	
5 Value Payout Rate 2012	0.010468	0.010468	0.010468	0.010468	
6 Forecasted Value Incentives	\$ 583,468	\$ 111,041	\$ 353,909	\$ 1,048,418	Line 4 times Line 5
7 Statewide Performance Metrics	\$ 900,380	\$ 700,295	\$ 900,380	\$ 2,501,054	Pef Met Pool Lines 13 to 15
8 Share of State Net Benefits	21%	21%	21%	21%	Line 4/State Line 4
9 Performance Metrics	\$ 188,715	\$ 146,779	\$ 188,715	\$ 524,209	Line 7 * Line 8
10 Total Performance Incentives at target	\$ 1,686,225	\$ 508,763	\$ 1,091,649	\$ 3,286,637	Line 3 + Line 6 + Line 9

**2013 - 2015 Energy Efficiency Performance Incentives
 Derivation of Gas Targets 2013**

Unitil	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	\$ 968,163	\$ 1,313,191	\$ 2,492,916	\$ 4,774,270	
2 Savings Payout Rate 2012	0.008391	0.008391	0.008391	0.008391	
3 Forecasted Savings Incentives	\$ 8,124	\$ 11,019	\$ 20,918	\$ 40,061	Line 1 times Line 2
4 Forecasted Net Benefits	\$ 399,293	\$ 859,378	\$ 1,727,402	\$ 2,986,073	
5 Value Payout Rate 2012	0.010468	0.010468	0.010468	0.010468	
6 Forecasted Value Incentives	\$ 4,180	\$ 8,996	\$ 18,083	\$ 31,259	Line 4 times Line 5
7 Statewide Performance Metrics	\$ 269,145	\$ 209,335	\$ 269,145	\$ 747,626	Pef Met Pool Lines 13 to 15
8 Share of State Net Benefits	2%	2%	2%	2%	Line 4/State Line 4
9 Performance Metrics	\$ 5,330	\$ 4,145	\$ 5,330	\$ 14,805	Line 7 * Line 8
10 Total Performance Incentives at target	\$ 17,633	\$ 24,160	\$ 44,330	\$ 86,124	Line 3 + Line 6 + Line 9

**2013 - 2015 Energy Efficiency Performance Incentives
 Derivation of Gas Targets 2014**

Unitil	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	\$ 953,769	\$ 1,013,203	\$ 2,584,471	\$ 4,551,442	
2 Savings Payout Rate 2012	0.008391	0.008391	0.008391	0.008391	
3 Forecasted Savings Incentives	\$ 8,003	\$ 8,502	\$ 21,686	\$ 38,191	Line 1 times Line 2
4 Forecasted Net Benefits	\$ 372,373	\$ 551,002	\$ 1,802,402	\$ 2,725,778	
5 Value Payout Rate 2012	0.010468	0.010468	0.010468	0.010468	
6 Forecasted Value Incentives	\$ 3,898	\$ 5,768	\$ 18,868	\$ 28,534	Line 4 times Line 5
7 Statewide Performance Metrics	\$ 332,445	\$ 258,568	\$ 332,445	\$ 923,458	Pef Met Pool Lines 13 to 15
8 Share of State Net Benefits	2%	2%	2%	2%	Line 4/State Line 4
9 Performance Metrics	\$ 5,697	\$ 4,431	\$ 5,697	\$ 15,826	Line 7 * Line 8
10 Total Performance Incentives at target	\$ 17,599	\$ 18,701	\$ 46,251	\$ 82,551	Line 3 + Line 6 + Line 9

**2013 - 2015 Energy Efficiency Performance Incentives
 Derivation of Gas Targets 2015**

Unitil	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	\$ 893,723	\$ 1,008,258	\$ 2,607,598	\$ 4,509,578	
2 Savings Payout Rate 2012	0.008391	0.008391	0.008391	0.008391	
3 Forecasted Savings Incentives	\$ 7,499	\$ 8,460	\$ 21,880	\$ 37,840	Line 1 times Line 2
4 Forecasted Net Benefits	\$ 302,321	\$ 537,528	\$ 1,805,118	\$ 2,644,967	
5 Value Payout Rate 2012	0.010468	0.010468	0.010468	0.010468	
6 Forecasted Value Incentives	\$ 3,165	\$ 5,627	\$ 18,896	\$ 27,688	Line 4 times Line 5
7 Statewide Performance Metrics	\$ 298,789	\$ 232,391	\$ 298,789	\$ 829,970	Pef Met Pool Lines 13 to 15
8 Share of State Net Benefits	2%	2%	2%	2%	Line 4/State Line 4
9 Performance Metrics	\$ 4,704	\$ 3,659	\$ 4,704	\$ 13,067	Line 7 * Line 8
10 Total Performance Incentives at target	\$ 15,368	\$ 17,746	\$ 45,481	\$ 78,594	Line 3 + Line 6 + Line 9

**2013 - 2015 Energy Efficiency Performance Incentives
 Derivation of Gas Targets 2013 - 2015**

Unitil	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	\$ 2,815,654	\$ 3,334,651	\$ 7,684,985	\$ 13,835,291	
2 Savings Payout Rate 2012	0.008391	0.008391	0.008391	0.008391	
3 Forecasted Savings Incentives	\$ 23,626	\$ 27,981	\$ 64,484	\$ 116,091	Line 1 times Line 2
4 Forecasted Net Benefits	\$ 1,073,988	\$ 1,947,907	\$ 5,334,923	\$ 8,356,818	
5 Value Payout Rate 2012	0.010468	0.010468	0.010468	0.010468	
6 Forecasted Value Incentives	\$ 11,243	\$ 20,391	\$ 55,847	\$ 87,480	Line 4 times Line 5
7 Statewide Performance Metrics	\$ 900,380	\$ 700,295	\$ 900,380	\$ 2,501,054	Pef Met Pool Lines 13 to 15
8 Share of State Net Benefits	2%	2%	2%	2%	Line 4/State Line 4
9 Performance Metrics	\$ 15,746	\$ 12,247	\$ 15,746	\$ 43,740	Line 7 * Line 8
10 Total Performance Incentives at target	\$ 50,615	\$ 60,619	\$ 136,078	\$ 247,312	Line 3 + Line 6 + Line 9

**2013 - 2015 Energy Efficiency Performance Incentives
 Derivation of Gas Targets 2013**

Berkshire	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	\$ 4,272,204	\$ 1,572,479	\$ 3,399,242	\$ 9,243,926	
2 Savings Payout Rate 2012	0.008391	0.008391	0.008391	0.008391	
3 Forecasted Savings Incentives	\$ 35,848	\$ 13,195	\$ 28,523	\$ 77,565	Line 1 times Line 2
4 Forecasted Net Benefits	\$ 1,469,260	\$ 845,622	\$ 2,235,863	\$ 4,550,745	
5 Value Payout Rate 2012	0.010468	0.010468	0.010468	0.010468	
6 Forecasted Value Incentives	\$ 15,380	\$ 8,852	\$ 23,405	\$ 47,638	Line 4 times Line 5
7 Statewide Performance Metrics	\$ 269,145	\$ 209,335	\$ 269,145	\$ 747,626	Pef Met Pool Lines 13 to 15
8 Share of State Net Benefits	3%	3%	3%	3%	Line 4/State Line 4
9 Performance Metrics	\$ 8,123	\$ 6,318	\$ 8,123	\$ 22,563	Line 7 * Line 8
10 Total Performance Incentives at target	\$ 59,351	\$ 28,364	\$ 60,051	\$ 147,766	Line 3 + Line 6 + Line 9

**2013 - 2015 Energy Efficiency Performance Incentives
 Derivation of Gas Targets 2014**

Berkshire	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	\$ 4,308,442	\$ 1,621,599	\$ 3,959,769	\$ 9,889,810	
2 Savings Payout Rate 2012	0.008391	0.008391	0.008391	0.008391	
3 Forecasted Savings Incentives	\$ 36,152	\$ 13,607	\$ 33,226	\$ 82,985	Line 1 times Line 2
4 Forecasted Net Benefits	\$ 1,544,313	\$ 830,850	\$ 2,704,231	\$ 5,079,394	
5 Value Payout Rate 2012	0.010468	0.010468	0.010468	0.010468	
6 Forecasted Value Incentives	\$ 16,166	\$ 8,697	\$ 28,308	\$ 53,172	Line 4 times Line 5
7 Statewide Performance Metrics	\$ 332,445	\$ 258,568	\$ 332,445	\$ 923,458	Pef Met Pool Lines 13 to 15
8 Share of State Net Benefits	3%	3%	3%	3%	Line 4/State Line 4
9 Performance Metrics	\$ 10,617	\$ 8,258	\$ 10,617	\$ 29,492	Line 7 * Line 8
10 Total Performance Incentives at target	\$ 62,935	\$ 30,562	\$ 72,152	\$ 165,649	Line 3 + Line 6 + Line 9

**2013 - 2015 Energy Efficiency Performance Incentives
 Derivation of Gas Targets 2015**

Berkshire	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	\$ 4,310,451	\$ 1,691,503	\$ 4,527,385	\$ 10,529,340	
2 Savings Payout Rate 2012	0.008391	0.008391	0.008391	0.008391	
3 Forecasted Savings Incentives	\$ 36,169	\$ 14,193	\$ 37,989	\$ 88,351	Line 1 times Line 2
4 Forecasted Net Benefits	\$ 1,665,447	\$ 893,679	\$ 3,227,665	\$ 5,786,791	
5 Value Payout Rate 2012	0.010468	0.010468	0.010468	0.010468	
6 Forecasted Value Incentives	\$ 17,434	\$ 9,355	\$ 33,788	\$ 60,577	Line 4 times Line 5
7 Statewide Performance Metrics	\$ 298,789	\$ 232,391	\$ 298,789	\$ 829,970	Pef Met Pool Lines 13 to 15
8 Share of State Net Benefits	3%	3%	3%	3%	Line 4/State Line 4
9 Performance Metrics	\$ 10,292	\$ 8,005	\$ 10,292	\$ 28,588	Line 7 * Line 8
10 Total Performance Incentives at target	\$ 63,895	\$ 31,553	\$ 82,069	\$ 177,516	Line 3 + Line 6 + Line 9

**2013 - 2015 Energy Efficiency Performance Incentives
 Derivation of Gas Targets 2013 - 2015**

Berkshire	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	\$ 12,891,097	\$ 4,885,582	\$ 11,886,397	\$ 29,663,075	
2 Savings Payout Rate 2012	0.008391	0.008391	0.008391	0.008391	
3 Forecasted Savings Incentives	\$ 108,169	\$ 40,995	\$ 99,738	\$ 248,902	Line 1 times Line 2
4 Forecasted Net Benefits	\$ 4,679,020	\$ 2,570,151	\$ 8,167,759	\$ 15,416,929	
5 Value Payout Rate 2012	0.010468	0.010468	0.010468	0.010468	
6 Forecasted Value Incentives	\$ 48,981	\$ 26,905	\$ 85,501	\$ 161,387	Line 4 times Line 5
7 Statewide Performance Metrics	\$ 900,380	\$ 700,295	\$ 900,380	\$ 2,501,054	Pef Met Pool Lines 13 to 15
8 Share of State Net Benefits	3%	3%	3%	3%	Line 4/State Line 4
9 Performance Metrics	\$ 29,050	\$ 22,594	\$ 29,050	\$ 80,693	Line 7 * Line 8
10 Total Performance Incentives at target	\$ 186,199	\$ 90,494	\$ 214,289	\$ 490,982	Line 3 + Line 6 + Line 9

**2013 - 2015 Energy Efficiency Performance Incentives
Derivation of Gas Targets 2013**

New England Gas NA & FR	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	\$ 2,896,004	\$ 1,451,345	\$ 1,620,176	\$ 5,967,525	
2 Savings Payout Rate 2012	0.008391	0.008391	0.008391	0.008391	
3 Forecasted Savings Incentives	\$ 24,300	\$ 12,178	\$ 13,595	\$ 50,073	Line 1 times Line 2
4 Forecasted Net Benefits	\$ 1,251,566	\$ 753,949	\$ 510,027	\$ 2,515,542	
5 Value Payout Rate 2012	0.010468	0.010468	0.010468	0.010468	
6 Forecasted Value Incentives	\$ 13,102	\$ 7,892	\$ 5,339	\$ 26,333	Line 4 times Line 5
7 Statewide Performance Metrics	\$ 269,145	\$ 209,335	\$ 269,145	\$ 747,626	Pef Met Pool Lines 13 to 15
8 Share of State Net Benefits	2%	2%	2%	2%	Line 4/State Line 4
9 Performance Metrics	\$ 4,490	\$ 3,492	\$ 4,490	\$ 12,472	Line 7 * Line 8
10 Total Performance Incentives at target	\$ 41,892	\$ 23,563	\$ 23,424	\$ 88,878	Line 3 + Line 6 + Line 9

**2013 - 2015 Energy Efficiency Performance Incentives
Derivation of Gas Targets 2014**

New England Gas NA & FR	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	\$ 3,206,045	\$ 1,441,840	\$ 1,704,868	\$ 6,352,753	
2 Savings Payout Rate 2012	0.008391	0.008391	0.008391	0.008391	
3 Forecasted Savings Incentives	\$ 26,902	\$ 12,098	\$ 14,305	\$ 53,306	Line 1 times Line 2
4 Forecasted Net Benefits	\$ 1,385,009	\$ 762,928	\$ 687,487	\$ 2,835,424	
5 Value Payout Rate 2012	0.010468	0.010468	0.010468	0.010468	
6 Forecasted Value Incentives	\$ 14,498	\$ 7,986	\$ 7,197	\$ 29,682	Line 4 times Line 5
7 Statewide Performance Metrics	\$ 332,445	\$ 258,568	\$ 332,445	\$ 923,458	Pef Met Pool Lines 13 to 15
8 Share of State Net Benefits	2%	2%	2%	2%	Line 4/State Line 4
9 Performance Metrics	\$ 5,927	\$ 4,610	\$ 5,927	\$ 16,463	Line 7 * Line 8
10 Total Performance Incentives at target	\$ 47,327	\$ 24,695	\$ 27,429	\$ 99,450	Line 3 + Line 6 + Line 9

**2013 - 2015 Energy Efficiency Performance Incentives
Derivation of Gas Targets 2015**

New England Gas NA & FR	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	\$ 3,316,916	\$ 1,499,815	\$ 2,164,364	\$ 6,981,095	
2 Savings Payout Rate 2012	0.008391	0.008391	0.008391	0.008391	
3 Forecasted Savings Incentives	\$ 27,832	\$ 12,585	\$ 18,161	\$ 58,578	Line 1 times Line 2
4 Forecasted Net Benefits	\$ 1,503,070	\$ 784,900	\$ 885,091	\$ 3,173,061	
5 Value Payout Rate 2012	0.010468	0.010468	0.010468	0.010468	
6 Forecasted Value Incentives	\$ 15,734	\$ 8,216	\$ 9,265	\$ 33,216	Line 4 times Line 5
7 Statewide Performance Metrics	\$ 298,789	\$ 232,391	\$ 298,789	\$ 829,970	Pef Met Pool Lines 13 to 15
8 Share of State Net Benefits	2%	2%	2%	2%	Line 4/State Line 4
9 Performance Metrics	\$ 5,643	\$ 4,389	\$ 5,643	\$ 15,676	Line 7 * Line 8
10 Total Performance Incentives at target	\$ 49,210	\$ 25,191	\$ 33,070	\$ 107,470	Line 3 + Line 6 + Line 9

**2013 - 2015 Energy Efficiency Performance Incentives
Derivation of Gas Targets 2013 - 2015**

New England Gas NA & FR	Residential	Low Income	C&I	Total	Comment
1 Forecasted Benefits	\$ 9,418,965	\$ 4,393,000	\$ 5,489,408	\$ 19,301,373	
2 Savings Payout Rate 2012	0.008391	0.008391	0.008391	0.008391	
3 Forecasted Savings Incentives	\$ 79,034	\$ 36,861	\$ 46,061	\$ 161,957	Line 1 times Line 2
4 Forecasted Net Benefits	\$ 4,139,645	\$ 2,301,777	\$ 2,082,605	\$ 8,524,027	
5 Value Payout Rate 2012	0.010468	0.010468	0.010468	0.010468	
6 Forecasted Value Incentives	\$ 43,334	\$ 24,095	\$ 21,801	\$ 89,231	Line 4 times Line 5
7 Statewide Performance Metrics	\$ 900,380	\$ 700,295	\$ 900,380	\$ 2,501,054	Pef Met Pool Lines 13 to 15
8 Share of State Net Benefits	2%	2%	2%	2%	Line 4/State Line 4
9 Performance Metrics	\$ 16,062	\$ 12,492	\$ 16,062	\$ 44,615	Line 7 * Line 8
10 Total Performance Incentives at target	\$ 138,430	\$ 73,449	\$ 83,924	\$ 295,803	Line 3 + Line 6 + Line 9

**2013 - 2015 Energy Efficiency Performance Incentives
Summary of Performance Incentives by Sector and Incentive Type
Assuming Design Level Performance Incentive**

In 2013 dollars					Percent of Total Incentive				
State	Residential	Low Income	C&I	Total	State	Residential	Low Income	C&I	Total
1 Savings	4,180,241	1,329,962	3,660,330	9,170,532	Savings	25.1%	8.0%	22.0%	55.0%
2 Value	1,977,997	565,030	2,459,081	5,002,109	Value	11.9%	3.4%	14.7%	30.0%
3 Metrics	<u>900,380</u>	<u>700,295</u>	<u>900,380</u>	<u>2,501,054</u>	Metrics	<u>5.4%</u>	<u>4.2%</u>	<u>5.4%</u>	<u>15.0%</u>
4 Total	7,058,618	2,595,287	7,019,790	16,673,695	Total	42.3%	15.6%	42.1%	100.0%
National Grid					National Grid				
5 Savings	2,243,438	718,954	1,969,536	4,931,928	Savings	25.2%	8.1%	22.1%	55.4%
6 Value	882,669	313,917	1,448,687	2,645,272	Value	9.9%	3.5%	16.3%	29.7%
7 Metrics	<u>476,149</u>	<u>370,338</u>	<u>476,149</u>	<u>1,322,636</u>	Metrics	<u>5.4%</u>	<u>4.2%</u>	<u>5.4%</u>	<u>14.9%</u>
8 Total	3,602,256	1,403,209	3,894,372	8,899,837	Total	40.5%	15.8%	43.8%	100.0%
NSTAR					NSTAR				
9 Savings	811,932	254,227	931,485	1,997,644	Savings	23.5%	7.4%	27.0%	57.9%
10 Value	408,303	68,681	493,336	970,320	Value	11.8%	2.0%	14.3%	28.1%
11 Metrics	<u>174,658</u>	<u>135,845</u>	<u>174,658</u>	<u>485,160</u>	Metrics	<u>5.1%</u>	<u>3.9%</u>	<u>5.1%</u>	<u>14.0%</u>
12 Total	1,394,892	458,753	1,599,479	3,453,124	Total	40.4%	13.3%	46.3%	100.0%
Columbia					Columbia				
13 Savings	914,042	250,943	549,024	1,714,010	Savings	27.8%	7.6%	16.7%	52.2%
14 Value	583,468	111,041	353,909	1,048,418	Value	17.8%	3.4%	10.8%	31.9%
15 Metrics	<u>188,715</u>	<u>146,779</u>	<u>188,715</u>	<u>524,209</u>	Metrics	<u>5.7%</u>	<u>4.5%</u>	<u>5.7%</u>	<u>15.9%</u>
16 Total	1,686,225	508,763	1,091,649	3,286,637	Total	51.3%	15.5%	33.2%	100.0%
Unitil					Unitil				
17 Savings	23,626	27,981	64,484	116,091	Savings	9.6%	11.3%	26.1%	46.9%
18 Value	11,243	20,391	55,847	87,480	Value	4.5%	8.2%	22.6%	35.4%
19 Metrics	<u>15,746</u>	<u>12,247</u>	<u>15,746</u>	<u>43,740</u>	Metrics	<u>6.4%</u>	<u>5.0%</u>	<u>6.4%</u>	<u>17.7%</u>
20 Total	50,615	60,619	136,078	247,312	Total	20.5%	24.5%	55.0%	100.0%
Berkshire					Berkshire				
21 Savings	108,169	40,995	99,738	248,902	Savings	22.0%	8.3%	20.3%	50.7%
22 Value	48,981	26,905	85,501	161,387	Value	10.0%	5.5%	17.4%	32.9%
23 Metrics	<u>29,050</u>	<u>22,594</u>	<u>29,050</u>	<u>80,693</u>	Metrics	<u>5.9%</u>	<u>4.6%</u>	<u>5.9%</u>	<u>16.4%</u>
24 Total	186,199	90,494	214,289	490,982	Total	37.9%	18.4%	43.6%	100.0%
NEG NA &FR					NEG NA &FR				
25 Savings	79,034	36,861	46,061	161,957	Savings	26.7%	12.5%	15.6%	54.8%
26 Value	43,334	24,095	21,801	89,231	Value	14.6%	8.1%	7.4%	30.2%
27 Metrics	<u>16,062</u>	<u>12,492</u>	<u>16,062</u>	<u>44,615</u>	Metrics	<u>5.4%</u>	<u>4.2%</u>	<u>5.4%</u>	<u>15.1%</u>
28 Total	138,430	73,449	83,924	295,803	Total	46.8%	24.8%	28.4%	100.0%

K. Database Materials

- Increase in the size of the Massachusetts energy efficiency programs has increased the focus the state's energy efficiency program achievements. State needs to track progress towards acquiring all cost effective energy efficiency.
- The *number of stakeholders* requiring information about achievements of the Massachusetts energy efficiency programs has grown, as well as the need for *more frequent* reporting.
- The state needs to consolidate the progress of 11 Program Administrator's to a *statewide* view in a *timely* manner.
- Progress reports need to be *user friendly*, while providing value to Massachusetts ratepayers.
- Single source for achievements will reduce confusion which stems from multiple sets of numbers and sources (ISO-NE, GWSA tracking, DPU, EEAC, DOER)

Data reporting: Current state

Monthly reporting

- Data dashboard (provided at 2nd EEAC after month close)
 - Sector level
 - Participants, savings (annual, lifetime), budgets compared to goal
 - YTD only

Quarterly reporting

- EEAC quarterly report (provided at 2nd EEAC after quarter close)
 - Program level
 - Participants, savings (annual, lifetime), budgets compared to goal
 - Quarterly and YTD, Benefits 2nd and 4th Q

Annual reporting (plan and annual report)

- 08-50 Tables
 - Program level
 - Participants, savings (annual, lifetime), budgets compared to goal
- PARIS*
 - End use and measure level (BCR model driven)
 - Actual production, savings (annual, lifetime), budgets, benefits, TRC
 - Serves as 'double check' for BCR and PI models

*PARIS refers to "Program Administrator Reporting information System," which was developed by DOER.

Category	Data Dashboard	Quarterly Report	PARIS
<i>Format</i>	Excel	Excel	Access
<i>Accessible to all</i>	Yes	Yes	No
<i>Statewide</i>	Yes	Yes	Yes
<i>Frequency</i>	Monthly	Quarterly	Plan and Annual Report
<i>Savings Level</i>	Sector	Program and Sector	Measure, Program and Sector
<i>Participants</i>	Sector	Program and Sector	Measure, Program and Sector
<i>Savings</i>	Annual, Lifetime by Sector	Annual, Lifetime by Program and Sector	Annual, Lifetime by Measure, Program and Sector
<i>Benefits</i>	No	Program and Sector	Measure, Program and Sector
<i>Expenditures</i>	Sector	Program, Cost Category and Total	Measure, Program, Cost Category and Total

- Solution needs to balance level of detail required with timeliness of information.

Cost

Do we need to recreate PA tracking systems?

Determine the cost of multiple reporting and the process of aggregating data to a statewide view.

Level of Detail

Sector, program or measure?



Timeliness

Annual, quarterly or monthly?

Data reporting: Possibilities for future state

Monthly reporting

- Sector level
- Participants, savings (annual, lifetime), budgets compared to goal – YTD only

Quarterly reporting

- Program level
- Participants, savings (annual, lifetime), budgets compared to goal
- Quarterly and YTD, Benefits 2nd and 4th Q
- Could perhaps provide benefits every quarter ? (subject to ck with other, smaller PAs)

Data reporting: Possibilities for future state

Annual reporting (plan and annual report)

- PARIS – how can we build on and improve PARIS ?
 - End use and measure level (BCR model driven)
 - Actual production, savings (annual, lifetime), budgets, benefits, TRC
 - Serves as ‘double check’ for BCR and PI models
 - How can we make more:
 - Timely
 - Transparent
 - Accessible
 - User friendly
 - Automated – web based on the back end ?
 - Can we simplify?
 - Can we improve naming convention for programs, end uses and measures without adding additional administrative burden?
- 08-50 Tables
 - Program level
 - Participants, savings (annual, lifetime), budgets compared to goal

Next Steps

- Secure resource to perform requirements analysis
- Issue an RFP for development of statewide database

I. INTRODUCTION

The Department of Energy Resources (DOER) convened a database discussion on January 5, 2012. The Program Administrators (PAs) were asked to provide feedback to the DOER by January 31, 2012. The PAs greatly appreciate DOER's efforts and outreach, and the opportunity to offer these thoughts. In this document, the PAs: 1) summarize their understanding of DOER's current database proposal/concerns based on the January 5, 2012 meeting; 2) highlight core issues/questions to address in looking at new database initiatives; and 3) suggest some concrete next steps. The PAs look forward to continuing to work with DOER, and other interested parties, on these challenging issues, and thank the DOER for actively soliciting PA viewpoints.

II. SUMMARY OF DOER PROPOSAL AND CORE CONCERNS EXPRESSED TO PAS:

DOER wants to create a new "PARIS 2.0," a new statewide database, for data that PAs "traditionally gather." Excerpts below:

1. PARIS 1.0
 - a. DOER CORE CONCERNS
 - i. PAs do QC/QA of savings calculations before submitting
 - ii. Data Quality – consistent naming & meaningful data
 - iii. Naming conventions vary – particularly measure names
 - iv. Measure count at times 1 for all measures
 - v. PARIS data is not always the same as that reported in 08-50 tables
 - vi. DOER gets some data months after DPU reporting deadline.
 - vii. Some data/definitions ambiguous, or vary by PA. i.e. Participant
2. ENERGY EFFICIENCY DATA TODAY
 - a. Resources for calculating savings & benefits
 - i. Technical Reference Manual (TRM) - annual update
 - ii. Avoided Energy Supply Component Study - biennial update
 - b. Methodology for calculating savings & benefits
 - i. Statewide Screening Model – most electric PAs
 - ii. Commercial & Industrial Tracking System – NationalGrid Electric
 - iii. GDS Screening Model (4 gas Pas)
 - c. Non-PARIS & PARIS Reporting
 - i. EEAC – monthly dashboards & quarterly reports
 - ii. DPU – 08-50 tables & tables for plan narrative (3-year plans, MTM, annual reports)
 - iii. DOER – PARIS (3-year plans, MTM, annual reports)
3. PARIS 2.0/ New Version of Statewide Database - Specifications broadly speaking
 - a. Overarching Goals
 - i. More economic – lower cost to develop & operate
 - ii. More accurate – TRM-driven (working with same underlying data)
 - iii. More transparent – displays underlying intelligence of endeavor
 - iv. More flexible – adding new attributes and displaying in different way

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- v. More efficient – easier to populate & maintain database
- b. Features
 - i. Input web interface
 - ii. PAs have [play space] to QC data before formal filing
 - iii. Output
 - 1. 08-50 tables
 - 2. MDA-ready data table
 - 3. TRM Library
- c. 2013 Launch
- d. Cost (no funding in place)
 - i. EOEEA-IT (no commitment to do the work)
 - 1. \$3/4 million
 - 2. Did not include moving TRM into database environment
- e. Next step DOER - move TRM from text document to database document

III. PAS' CORE INITIAL ISSUES/CONCERNS AND QUESTIONS TO ADDRESS:

To develop an effective/optimal data system, all interested parties need to clearly identify the data that is sought (and the reasons why that data is sought). The PAs believe the process can benefit from further thought/discussion of these goals-especially factoring in potential legislation regarding energy efficiency databases. As the exact information sought is identified, an optimal data approach can be devised, and at all times the parties should look to leverage the deep wealth of data already tracked and available. To help focus thinking, the PAs have identified the core issues/concerns and questions set forth below that they believe should be addressed and further thought through before a potentially costly, new database development initiative is launched.

Can we better leverage the extensive data already collected and existing in PA tracking systems?

The PAs would like to clarify the purpose/objectives of the database. Exactly what data is needed and why? Who is the intended audience? Who are the intended users? What are the exact parameters or drivers of improvements to PARIS? Regulatory oversight? Program planning? QA/QC? Policy research? Data visualization? This will help inform what we are trying to accomplish.

Can these objectives be met with currently available data? There is a wealth of excellent data available PARIS 1.0; 08-50 tables; Benefit Cost Model (BCR); Quarterly reports; Data Dashboards; Annual Reports; TRM. What information is requested that cannot be pulled from here? The 08-50 tables were the result of a comprehensive stakeholder process that examined what could/should be reported. Are there reasonable enhancements that can be made to these existing approaches to achieve DOERs' desired goals. Leveraging this existing data, or reasonably enhancing these sources, can be a better use of dollars.

Is the value of additional information worth the cost?

What is the value of the additional information and to whom? As discussed below, the PAs do not believe new systems will necessarily result in efficiencies for them.

It is not clear that this is a cost-effective use of ratepayer funds.

The PAs are concerned that no funding source has been identified. 2102 budgets are locked down. Where will funds for a new database come from? Would DOER or the Attorney General provide funding, or would there be an assessment of ratepayers?

TRM Complexities.

One major concern is the calculation of savings and application of TRM in this database. Given the different type of programs and tracking systems out there, it is not as easy as importing widgets into this database and having it calculate net savings based on the TRM. Some PA tracking systems already account for the TRM, and this approach would not work for any custom measure or weatherization.

The TRM and the TRM words would have to be part of the database. It will be labor and validation intensive to put it into database. We need to think through the practicalities of importing TRM data into a new system-the PAs believe this process will be more challenging than it would appear; does DOER share these concerns?

PA-specific Tracking Systems in Place and Working Well

The PAs have individual tracking systems and have invested significant resources in them. They generally work well and provide regulatory required information, as well as data that each of the PAs deem necessary to meet their internal goals and processes. These systems interconnect with PA-specific internal systems that serve multiple purposes.

How do we best leverage these systems? These systems currently work with PARIS 1.0, but will they work with a PARIS 2.0?

Regulatory Concerns

DOER has a clear role in energy efficiency policy and efforts. The PAs must also answer to the DPU and seek to work with systems that have been tested through the DPU regulatory process. For example, GDS runs screening models for several PAs – these have been reviewed and accepted by the DPU. Because PAs are responsible for defending data before the DPU, the savings calculation/data presentation responsibility appropriately should remain with the PAs.. For example, the PAs cannot testify as to the accuracy of 08-50 tables that they did not create. The PAs also have some pragmatic concerns about double counting.

DOER and DPU seek different information. The differences require further examination; such as whether the data in question matches up (e.g. rate classes don't match up with participants).

PAs have gained excellent experience with rollups and can continue to effectively aggregate statewide data. All parties must bear in mind, however, that data is not final until the filing as internal QC and data entry takes time. PARIS 2.0 will not eliminate the wait for statewide rollups – those delays result from the data checking/entry or allocation decisions that impact the tables.

The 08-50 tables are currently quite consistent across PAs, but there are some areas for enhancement, in particular regarding participant information. The PAs are working on achieving even greater consistency and have achieved huge amounts of progress already-only two years into the very first statewide three-year energy efficiency plan. We expect this progress to continue.

The PAs request that DOER consider the above factors when thinking about possible new data systems.

Privacy Concerns

PAs are constrained by what information they track and what information they can lawfully disclose in light of customer privacy laws and expectations. Source data that is individual cannot be disclosed. We know DOER is sensitive to all these privacy matters as well. Any disclosure of individual measure or usage data is problematic, and the PAs prepare aggregate data to mask customer data. It is a burden to summarize that data. The PAs do not uniformly have usage data in current energy efficiency tracking systems. In some instances, it has to be obtained from another department at the distribution company and there is cost associated with getting that information. Any system must respect these legitimate expectations of privacy and protect against any possible “reverse engineering” to obtain confidential customer data-which can be an especially important concern to certain C&I customers in competitive industries. The current system does a good job addressing privacy concerns and the PAs are concerned that a dramatically new system can lead to loss of privacy- especially if items such as income, language, race or ethnicity are sought to be tracked-as appears to be advocated, at least indirectly, by certain parties.

Miscellaneous and Pragmatic Concerns/Questions.

The PAs have some concerns about what kind of data PARIS 2.0 will house. Preliminary or final data? The PAs are concerned about comparing apples to apples; a consistent look at data is key. How do the PAs make updates for new or corrected information?

Improvements can be made to PARIS 1.0 – such as improving efficiencies in program level reporting, but this is different from participant level reporting. The PAs believe they can improve the 08-50 tables and make the PARIS link easier and more accessible. PAs could improve efficiencies in Program level reporting in current tables/reports, but that is different from participant level data. DPU reporting is aggregated by program. PAs allocate measures to programs.

PA FEEDBACK ON DATABASE MEETING HELD ON 01/05/12

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What is the value of providing NTG and impact factors? Will users be running queries by impact factors or gross savings. In NY, the PAs provide NTG but database does not recalculate the net savings/benefits. Provides efficiencies and reduces duplication of efforts.

What is the end use of the data going to be? If for visualization, end use is not as straightforward on gas side. The data does not always provide an accurate answer to a query - there is always a story behind the numbers that may not be depicted by the number themselves.

Timing concerns: PAs will be working on the three year plan this summer, with annual reports due August 1 and the final plan filed at the DPU by the end of October after an intensive process with the EEAC over the spring, summer and early fall. Pragmatically, is this the optimal time to be tackling a new database?

As currently understood by the PAs, a dramatically new database seems like it will not replace PA tasks or provide labor savings, but would likely increase costs and add administrative tasks.

It is not clear what the position of other relevant stakeholders, such as the Attorney General, is. Is there a process to solicit their feedback/ideas?

IV. PAS' SUGGESTED NEXT STEPS:

A. Funding

Sources of funding for any new database initiative should be identified. Without knowing funding sources, conversations are necessarily constrained and preliminary. The question: "Who pays for this?" needs to be considered and answered.

B. Drill down on the objectives.

Clarify with specificity what exactly DOER intends to accomplish. Identify the data to be collected, for what purposes, and by whom the information would be used. Specify who or what is driving the proposed PARIS changes. Circulating to the PAs and stakeholders a copy of any existing analysis/critiques of PARIS 1.0 would help focus discussions. If the core intent is to assist in responding to public inquiries for data, let us identify the nature of the requests and requestors, number of requests, frequency from PAs and of whom the information was requested. An understanding of the objectives is critical to considering appropriate solutions.

C. Examine/understand the data that is currently reported and not reported.

Let's not recreate the wheel. There is a wealth of information already available (e.g. 08-50 tables, MTM filings, eight "quarterly" reports; data dashboard, annual reports). In considering the objectives and possible solutions, we should leverage the data that PAs already have available. The processes for 08-50 tables could be more efficient, but the data provided in those tables are the work of a stakeholder group that worked hard to come up with a reporting mechanism that was consistent with PA tracking systems and acceptable for many competing

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interests. Let's examine if there are reasonable enhancements or additions to the 08-50 tables that can accomplish the stated goals.

At the same time, understand the challenges the PAs may have in collecting certain data, including customer privacy, current tracking capabilities and different corporate departments. Extracting or preparing certain information requires extra work and dollars. Be mindful of what information the PAs are statutorily required to track, what they track for their own business purposes and the limitations on the disclosure of certain confidential and/or proprietary customer and business information. Be mindful of the fact there are PA-specific tracking systems that have, in general, worked well in the field and have withstood regulatory scrutiny - look for ways to leverage these existing systems..

D. Identify the gaps.

Once the objectives and available data have been clarified, identify any disconnects and brainstorm about possible solutions.

E. Examine the best, most cost-effective ways to fill those gaps are.

This discussion should be cognizant of related issues, like database legislation, and include appropriate stakeholders. Ask this question: do the benefits of a new system justify the costs - both monetary and in personnel resources and time.

L. Next Steps and Dates

Date	Task
July 10, 2012	Council meeting
July 13, 2012	Cut-off for EM&V studies to be included in 2013-2015 Plan
July 24, 2012	Council meeting
July 30, 2012	Council approval or comments to PAs regarding Plan
August 7, 2012	Council meeting
August 15, 2012	Draft of TRM- 2013 Plan Version to consultants
September 6, 2012	Proposed full draft of 2013-2015 Plan to Council
October 2, 2012	PAs to provide final materials to Council for resolution
October 31, 2012	Each PA to file complete and final Three-Year Plan with Department

M. Council Resolution (for 10-31-12 filing)

N. **TRM (for 10-31-12 filing)**