# 2010 – 2012 Massachusetts Joint Statewide Three-Year Electric Energy Efficiency Plan

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Cape Light Compact

**April 30, 2009**

**STATEWIDE THREE-YEAR ELECTRIC ENERGY EFFICIENCY PLAN**

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# I. EXECUTIVE SUMMARY

## A. The Green Communities Act

An Act Relative to Green Communities, Chapter 169 of the Acts of 2008 ("Green Communities Act" or "Act") was signed into law on July 2, 2008. A bold piece of legislation designed to promote enhanced energy efficiency throughout the Commonwealth, the Green Communities Act requires gas and electric distribution companies and municipal aggregators (together "Program Administrators")[1] 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). In connection with these energy efficiency plans, the Green Communities Act established a new advisory body, the Energy Efficiency Advisory Council ("Council"), consisting of eleven voting members of diverse backgrounds and expertise, and a non-voting member from each Program Administrator. Pursuant to the Act, the electric and gas Program Administrators, respectively, are required to provide a statewide electric efficiency investment plan and a statewide natural gas efficiency investment plan (each, a "Plan") on or before April 30, 2009. *Id.* § 21(b)(1). The Act further specifies the contents of those plans, which are to be prepared by the Program Administrators in coordination with the Council. *Id.* § 21(b)(1)-(2). Today's filing, by **unanimous consent of all** the Massachusetts electric Program Administrators, constitutes the statewide electric efficiency investment Plan proposed for the Council's approval and comment.

1 A Glossary of defined terms is included as Appendix A.

Although this Plan is directed primarily at the mandates of the Green Communities Act, the Program Administrators are cognizant of the role that the statewide electric and gas efficiency investment plans occupy in the Commonwealth's broader, historically ambitious

energy and environmental statutory scheme. With a series of bold legislative enactments, the Commonwealth of Massachusetts has signaled its commitment to ensuring that the Commonwealth is a worldwide leader in developing the green economy. On August 13, 2008, shortly following the enactment of the Green Communities Act, Governor Deval Patrick signed the Global Warming Solutions Act ("GWSA") and the Green Jobs Act. The GWSA mandates the gradual reduction of greenhouse gas emissions ("GHGs") in the Commonwealth, establishing a schedule of emissions goals designed to spur innovation and promote 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 Commonwealth's commitment to climate protection and its leadership in promoting clean and renewable energy. The Program Administrators welcome the opportunity to design and implement innovative energy efficiency programs that not only advance the objectives of the Green Communities Act, but also will promote the parallel goals of decreasing GHGs and promoting job creation in the clean energy sector.

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

Although the Massachusetts Program Administrators have a well-established and very successful history in developing and implementing energy efficiency programs that are nationally recognized, the Department of Public Utilities ("Department") recognized that the passage of the Act expanded existing energy efficiency requirements and, in particular, the standards imposed upon electric and gas distribution companies and other Program Administrators. Responding to these new directives, the Department opened an investigation in 2008 into its then-existing Energy Efficiency Guidelines in an effort to clarify those guidelines in

light of the Act and to provide more detailed guidance to the Program Administrators in preparing the three-year, statewide plans required under the Act. The Department solicited the comments of Program Administrators, governmental bodies, and other interested stakeholders. The resulting order, D.P.U. 08-50-A; 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 issued on March 16, 2009 ("D.P.U. 08-50-A"), was a comprehensive 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. The Program Administrators have benefited from the guidance of the Department, not only in its Order in D.P.U. 08-50-A, but also by means of the multiple and very productive D.P.U. 08-50 Working Group sessions convened by the Department and moderated by the Department and the Department of Energy Resources ("DOER"). The format of today's filing, including the organization of the Plan and all statistical tables included in the Plan, reflects the productive and collaborative development process that took place in the context of the D.P.U. 08-50 Working Group.

### C. The Council Process to Date

The Program Administrators are non-voting members of the Council and have participated collaboratively in the Council meetings that have occurred since its inception. The Program Administrators have benefited greatly from the thoughtful input provided by the Council and its consultants ("Consultants"), including the detailed guidance set forth in the Council's March 24, 2009 Resolution Concerning Priorities to Guide the Development, Implementation and Evaluation of the PA Efficiency Plans (the "Priorities Resolution"). Indeed, the Priorities Resolution is frequently referenced within this Plan. The Program Administrators

appreciate the degree to which the Council process has been a productive collaboration. The electric Program Administrators have worked collaboratively with the Council to ensure that the Plan complies fully with each of the specific mandates of the Green Communities Act. The Program Administrators thank the Council members for their extensive efforts to date.

### D. Next Steps

In accordance with the Green Communities Act, the Program Administrators plan to continue to work collaboratively with the Council and its Consultants following the filing of this statewide electric energy efficiency Plan. More specifically, in accordance with the Act, the Program Administrators will: provide any additional information requested by the Council that is relevant to the consideration of the [P]lan. The Council shall review the [P]lan and any additional information and shall submit its approval or comments to the electric and natural gas distribution companies and municipal aggregators not later than 3 months after submission of the [P]lan. The electric and natural gas distribution companies and municipal aggregators may make any changes or revisions to reflect the input of the Council. G.L. c. 25, § 21(c). Indeed, working cooperatively with the Council, the Program Administrators have already planned for full review sessions regarding the Plan. *See* Appendix B.

Following this Council review process, each of the Program Administrators will then submit their respective PA-specific three-year plan, "together with the Council's approval or comments and a statement of any unresolved issues, to the Department . . . on or before October 31. The Department shall consider the plans and shall provide an opportunity for interested parties to be heard in a public hearing." G.L. c. 25, § 21(d). The Department will have a 90-day period to issue its decision on the respective PA-specific plans. In particular, the Department is to ensure that such plan identifies and captures "all energy efficiency and demand reduction

resources that are cost effective or less expensive than supply" and the Department may "approve, modify and approve, or reject and require the resubmission of the plan" based upon its review. *Id.* §21(d)(2). Pursuant to the Act, the Department is also required to approve a fully reconciling funding mechanism for the approved plan and, in the case of municipal aggregators, a fully reconciling funding mechanism that requires coordination between the distribution company and the municipal aggregator to ensure that program costs are collected, allocated and distributed in a cost effective, fair and equitable manner." *Id.* Each of the Program Administrators currently plans to file in October 2009 a PA-specific plan that is consistent with, and flowing out of, overall goals and budgets developed in the statewide Plan submitted today. While the Program Administrators necessarily must reserve final judgment on the exact contents of their October filings pending the Council's review and comment on this Plan, they are each committed to working diligently to ensure that their respective October filings fully comply with the Act.

Once their three-year plans are up and running in 2010, the Program Administrators will be required to provide quarterly reports to the Council, and the Council will be required to provide an annual report to the Department. G.L. c. 25, § 22(d).[2] The Department is also required to determine the effectiveness of each Program Administrator's plan on an annual basis. *Id.* § 21(d)(2). In order to help facilitate this review process, the Program Administrators, working collaboratively with the Department and the Council, will develop model quarterly and annual reporting templates for use by the Program Administrators.

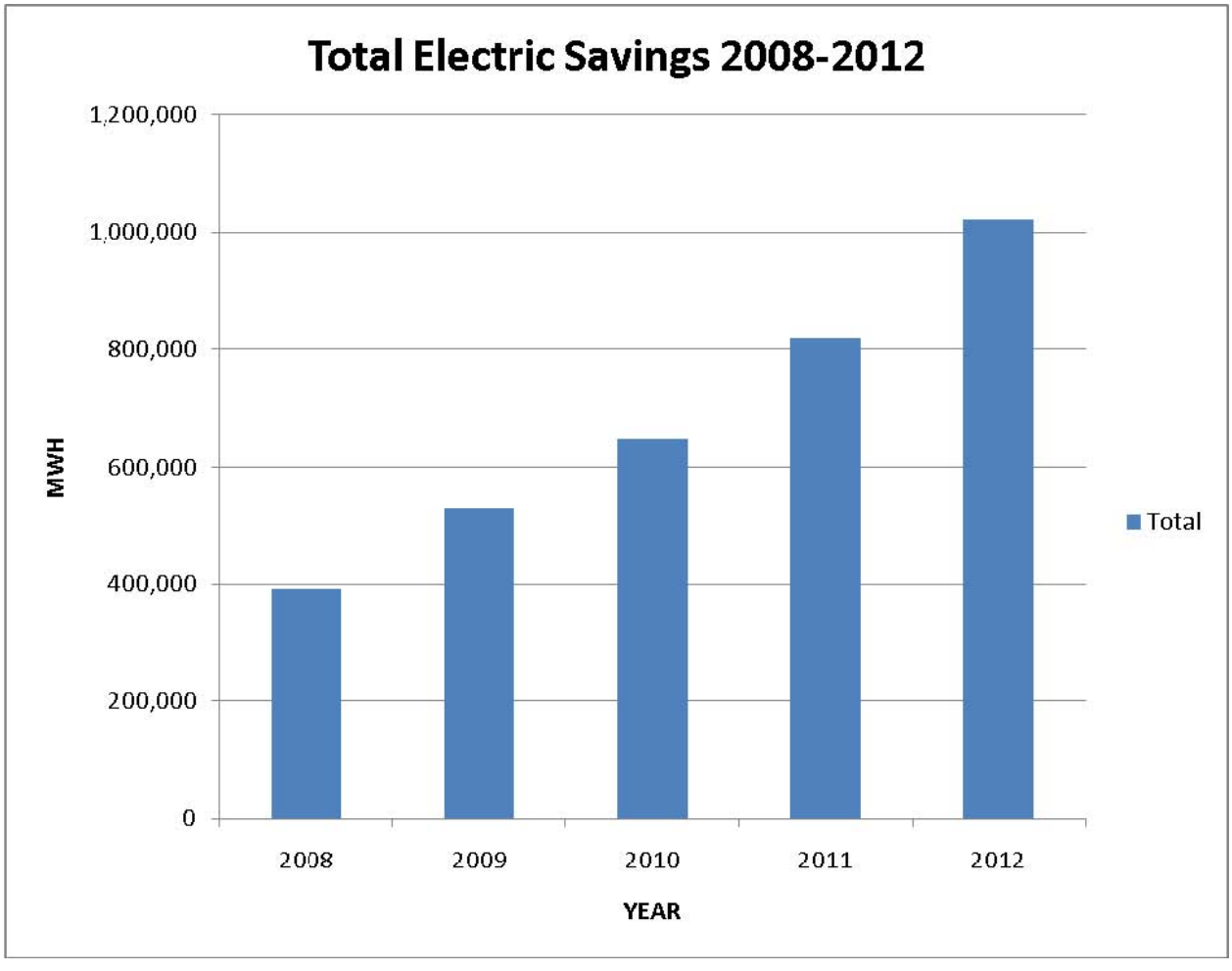
[2] The Plan contemplates that the Program Administrators will file quarterly and annual reports with both the Council and the Department.

In sum, the Program Administrators have developed this Plan based upon an unprecedented multi-party collaborative process and, as contemplated in the Green Communities Act, plan to continue such collaborative process throughout the three-year term of the Plan.

## E. Overview of the Key Aspects of the Plan

### 1. *Benefits*

As indicated in the table below, the Program Administrators are seeking to increase, very substantially, the level of savings derived from energy efficiency activities, consistent with the bold actions contemplated under the Act. In particular, this Plan calls for cumulative savings on an overall statewide basis of 2,491,201 MWH over the three-year period. The ramp-up to achieve these savings is graphically illustrated in the table below. As a direct result of these savings, $CO_2$ emissions will be reduced by approximately 9,020,000 tons. This achievement is comparable to the environmental benefits achieved by taking approximately 1,100,000 cars off the road.




2. *Cost-Effectiveness*

The Program Administrators have undertaken a preliminary statewide-level screening of the cost-effectiveness of the implementation of the Plan using the Department's Total Resource Cost ("TRC") Test. This testing indicates the plan is cost effective with a statewide benefit cost ratio of 3.53 over the three years of the plan and is expected to produce net economic benefits of **over $3.5 billion**.

**Total Resource Cost Test, 2010-2012**

| Sector | B/C Ratio | Net Benefits | Benefits | Costs |
|---|---|---|---|---|
| **Residential** | **4.45** | **$1,434,564,192** | **$1,849,855,796** | **$415,291,604** |
| **Low Income** | **3.22** | **$347,521,686** | **$504,150,063** | **$156,628,377** |
| **Commercial & Industrial** | **3.13** | **$1,794,141,079** | **$2,635,789,795** | **$841,648,716** |
| **GRAND TOTAL** | **3.53** | **$3,576,226,957** | **$4,989,795,654** | **$1,413,568,697** |

3. *Progress Toward GCA Requirements and Goals*

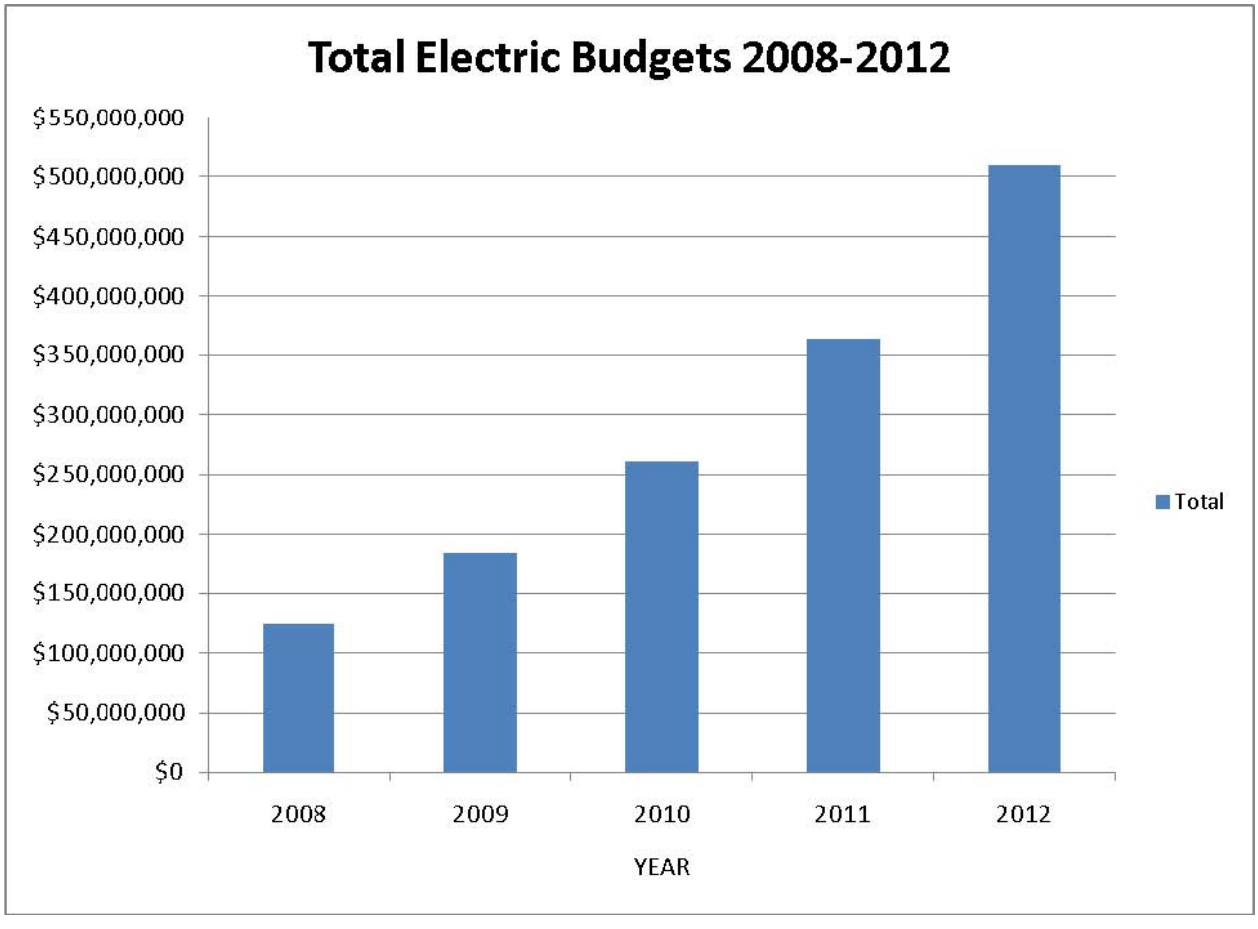
Consistent with the Act, the Plan seeks to capture all available cost-effective energy efficiency for the three-year period beginning January 1, 2010. In determining the level of savings to achieve in order to satisfy this mandate, the Program Administrators considered and weighed multiple factors, including: 1) the terms of the Act; 2) the directives of the Council, including the Council's Priorities Resolution; 3) the Department's Order in D.P.U. 08-50-A (including preliminary bill impact considerations); 4) industry studies and analyses; and 5) their own 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. As a result of this iterative and collaborative process, and after considering the directives of the Council, the Program Administrators have achieved an unprecedented statewide unanimous consensus with respect to the savings goals, proposed budget levels and implementation strategies set forth herein. Among other areas of emphasis, the Plan seeks to maximize the usage of competitive procurement processes. The Plan also seeks to support the development of an enhanced energy services delivery infrastructure in Massachusetts. An important ancillary benefit of this effort will be job creation throughout the Commonwealth in the energy efficiency services sector.

Another unique aspect of the Plan is the level of coordination and integration of effort among the Program Administrators, as well as with the low-income program delivery network. The Plan seeks to enhance program designs in order to provide a seamless experience for

customers seeking services from both gas and electric companies. Such coordination by the Program Administrators should allow for the achievement of deeper and broader levels of savings at customer homes and facilities, all in a more cost-effective manner. In turn, these increased savings levels, over time, will help the Program Administrators reduce their costs of providing services and provide economic and environmental benefits to all customers.

4. *Program Budgets*

The summary table below sets forth the ramp-up of energy efficiency expenditures contemplated for the implementation of this Plan. As indicated below, the Program Administrators are proposing a phased ramp-up to the annual 2012 statewide expenditure level of $509,957,360, which represents a 310% increase of past annual (2008) expenditures on energy efficiency. Total three-year expenditures are proposed to be $1,135,435,167. This ramp-up is necessary in order to ensure that a trained delivery infrastructure is in place so that high quality services are provided to customers. The ramp-up also will help provide smoother bill impacts with respect to implementation of the Plan. While the expenditures on energy efficiency under the Plan are significant and will result in certain increased elements of customer bills, the net present economic value of the benefits to be achieved under the Plan is **$3,576,226,957**. The magnitude of these benefits helps demonstrate the value of the increased energy efficiency expenditures called for in the Plan. The Program Administrators' sensitivity to issues of bill impacts is highlighted in Section II.E of the Plan.




5. *Highlights of Program Design Strategies*

The Plan sets forth detailed strategies for coordinated program implementation in the residential, low-income, and commercial and industrial ("C&I") sectors. The detailed plans set forth in the program description section of the Plan represent the results of collaboration and cooperation among the Program Administrators (both gas and electric), Council members, interested parties and Consultants. Notably, the proposed low-income programs were developed in collaboration with the low-income weatherization and fuel assistance program network and build upon the current successful collaborative approach to program delivery to this important customer sector. The program designs reflect comprehensive strategies that provide for:

1) greater consistency in offerings throughout the state; 2) an enhanced customer experience, including seamless delivery strategies that integrate gas and electric efforts; and 3) the delivery of state-of-the-art new technologies. The Program Administrators are devoting special focus to the challenges attendant to serving the multi-family sector and are in the process of an ongoing program enhancement and design process aiming to simplify delivery of energy efficiency services for customers living in multi-family dwellings, regardless of their rate class or whether they rent or own their home.

### 6. *Evaluation and Monitoring*

Recognizing that the increased savings and expenditures proposed under the Plan need to be subject to rigorous evaluation and monitoring, the Program Administrators are proposing a comprehensive and transparent approach to evaluation and monitoring. The Program Administrators seek to undertake impact and process evaluations in an open manner, inviting the participation and input of the Council and its Consultants, in order to measure savings resulting from programs and enhance the quality of program delivery. The Program Administrators also recommend that a statewide (or region-wide) technical potential study be performed, further into the three-year period contemplated under the Plan.

### 7. *Cost Recovery and Performance Incentives*

Cost recovery, including the recovery of lost base revenues ("LBR") and performance incentives (or through implementation of a Department-approved decoupled rate structure), 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 customers. 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"), Forward Capacity Market ("FCM") and other sources. 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 earn a reasonable return associated with this investment based upon their actual performance and achievement.

8. *Mid-Term Revisions*

Consistent with the Department's Order in D.P.U. 08-50-A, the Plan provides objective standards that enable the Program Administrators to retain flexibility to make ongoing revisions and enhancements after the adoption of the Plan in order to reflect in-the-field conditions, technological advances, and state-of-the-art new technologies. In general, the Program Administrators will retain the flexibility to adjust spending and add or subtract program measures; however, Program Administrators will not add a new program or terminate an existing program or change a program budget by more than 20% without prior approval by the Department, with the opportunity for full participation by the Council.

9. *Summary*

In sum, the Plan represents an unprecedented collaboration among all the Program Administrators in Massachusetts, both gas and electric, as well as diverse interested parties, and is geared to fully comply with the bold initiatives required under the Green Communities Act. The Program Administrators thank the Council and its Consultants 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 marked by excellence and innovation, and that produce economic and environmental benefits throughout Massachusetts.

## II. THE THREE-YEAR PLAN

### A. Core Benefits: Energy & Demand Savings, Greenhouse Gas Reductions, Net Economic Benefits and Progress Towards GCA Requirements and Goal

#### 1. *Energy and Demand Savings*

The savings goals and program budgets set forth in this Plan are presented on an aggregate, statewide basis on a sector-level basis (*i.e*., residential, low-income and C&I). In the October PA-specific filings contemplated under the Act, each Program Administrator will set forth its own recommended savings and budget levels for the three-year period commencing January 1, 2010, consistent with the overall goals and budgets developed in the statewide Plan review process. The Program Administrators note that this phased process complies with the Act, which first requires the filing of a joint statewide plan by all Program Administrators in April 2009, followed in October 2009 by individual PA-specific plans, after the conclusion of the review process of the statewide plans at the Council. *See* G.L. c. 25, §§ 21(b)-21(d).

In developing today's proposed statewide goals and budgets, 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 extensive and multi-faceted review process that allowed for adjustments to be made by all Program Administrators based not only on peer review, but also upon the very helpful presentations made at the Council meetings by the Consultants. The savings goals and budgets presented on a statewide basis by the Program Administrators today represent the results of that iterative process. It is possible that the Program Administrators' proposals may be adjusted

(either upwards or downwards) based on the iterative review process contemplated for the next several months with the Council. The Program Administrators' goal is that this Council review process, in turn, will feed into an approved final statewide Plan that the Program Administrators can use as the benchmark for their PA-specific October 2009 filings. The current schedule recommended by the Program Administrators for the Council's review of the Plan (which schedule can be adjusted as needed based upon any then-current circumstances) and the finalization of an updated state Plan is set forth in Appendix B. This schedule builds upon the recommended schedule presented to the Council by its Consultants at the April 21, 2009 Council meeting and reflects the Program Administrators' limited comments to such schedule.

While each Program Administrator is increasing its saving goals and budgets relative to historic 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. For the avoidance of doubt, however, it is the Program Administrators' goal and plan that the aggregate savings goals and budgets presented individually by the Program Administrators in their October 2009 PA-specific filings will be consistent with, and flowing out of, the overall goals developed in the statewide Plan review process.[3] The following table summarizes, on a per sector basis, by year and in total, the annual savings goals proposed by the Program Administrators in this Plan.

[3] The Act provides that Program Administrators are not required to make all changes or revisions recommended by the Council in filing their October PA-specific plans. *See* 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 a full consensus regarding 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.

**SAVINGS TOTALS FOR ALL ELECTRIC PROGRAM ADMINISTRATORS**

| YEAR | SECTOR | Total Annual MWH | % Increase from 2008 | % Increase from 2009 |
|---|---|---|---|---|
| Baseline 1-2008 | **TOTAL** | **392,010** | | |
| Baseline 2-2009 | **TOTAL** | **528,275** | 35% | |
| 2010 | Residential | 307,450 | | |
| | Low Income | 21,415 | | |
| | C&I | 319,618 | | |
| | **TOTAL** | **648,483** | 65% | 23% |
| 2011 | Residential | 395,934 | | |
| | Low Income | 25,905 | | |
| | C&I | 398,416 | | |
| | **TOTAL** | **820,255** | 109% | 55% |
| 2012 | Residential | 462,099 | | |
| | Low Income | 35,266 | | |
| | C&I | 525,098 | | |
| | **TOTAL** | **1,022,463** | 161% | 94% |
| Three-Year Total: 2010-2012 | Residential | 1,165,483 | | |
| | Low Income | 82,586 | | |
| | C&I | 1,243,132 | | |
| | | | | |

2. *Environmental Benefits*

In addition to economic benefits, efficiency resources bring significant environmental benefits that reduce air pollution and improve air quality in Massachusetts and in the region. The efficiency programs and initiatives included in this Plan are aimed at reducing the amount of electricity and natural gas required to run the Commonwealth's economy. By reducing the amount of energy consumed in all sectors of the economy, important air and water benefits are delivered. The more efficient that homes, businesses and schools are, the less energy they consume. Decreasing energy consumption results in less demand for energy from fossil fueled

powered plants and natural gas pipelines. By reducing plant operation time, emissions of air pollutants and greenhouse gases can be reduced. 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. Curbing the amount of energy needed to run power plants 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. Reducing energy consumption—both the natural gas needed to heat homes, schools, and businesses and the fuels needed to run power plants—delivers important climate benefits. Massachusetts has taken bold action. First, by participating in the RGGI, it has capped power plant emissions of carbon dioxide, the most prevalent greenhouse gas. Importantly, Massachusetts has committed to reinvesting at least 80% of the proceeds from the auction of RGGI allowances back into energy efficiency programs, which will save consumers hundreds of millions of dollars. In addition, Massachusetts has adopted the GWSA that calls for economy-wide reductions in GHGs starting in 2020.

Collectively, the programs contained in this Plan are expected to provide three-year cumulative annual savings of 2,491,201 MWH and lifetime savings of 26,730,057 MWH. Based on the region's average power plant emissions rate, these lifetime MWH savings are the equivalent of 9,020,000 tons of $CO_2$ (GHGs), 2,586 tons of $SO_2$, and 1,210 tons of NOx. In

addition, these programs will provide non-electric benefits such as reductions in fuel oil and water use. Under climate cap and trade programs such as RGGI, GWSA, and a potential federal program, investment in energy efficiency is recognized as the most effective cost-containment and consumer protection tool. Indeed, the Program Administrators expect that a significant 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 Summary with Summary Table*

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 this order, "the Department reaffirms that the Total Resource Cost test is the appropriate test for evaluation of the cost-effectiveness of ratepayer-funded energy efficiency programs." 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[4] plus any customer contribution received. 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 resulting from the program. The summary table below summarizes the expected benefits, costs, and BCR for the portfolio of programs the Program Administrators propose to implement over the three-year period. For more detailed information see tables in Section II.D below.

4 Performance incentives are not applicable to the Cape Light Compact.

**Total Resource Cost Test, 2010-2012**

| Sector | B/C Ratio | Net Benefits | Benefits | Costs |
|---|---|---|---|---|
| Residential | 4.45 | $1,434,564,192 | $1,849,855,796 | $415,291,604 |
| Low Income | 3.22 | $347,521,686 | $504,150,063 | $156,628,377 |
| Commercial & Industrial | 3.13 | $1,794,141,079 | $2,635,789,795 | $841,648,716 |
| GRAND TOTAL | 3.53 | $3,576,226,957 | $4,989,795,654 | $1,413,568,697 |

4. *Progress Towards GCA Requirements and Goals*

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

The Green Communities Act provides that the Plan "shall 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(d) (emphasis added). The Act does not define the term "all available energy efficiency". For the Program Administrators, determining the optimal proposal in this regard constituted a core task in assembling the Plan. Indeed, today's filing sets forth the first three-year Plan filing ever by any Program Administrator under the Green

Communities Act and the Program Administrators expect that, over time, helpful precedent and further guidelines will be developed with respect to this fundamental aspect of the Act. The Program Administrators welcome a detailed review by the Council of its proposal and they plan to engage in iterative discussions with the Council and its Consultants in order to ensure the Act's mandates are satisfied. The Program Administrators note that, while the Act requires the acquisition of "all" energy efficiency, the Act does not require an exact numeric level of cost-effective energy efficiency and demand-reduction resources to be acquired under the Plan; likewise, what may be deemed to be the amount of "all available" efficiency today may not be the same as what becomes available three or six years from now because of technological advances and market changes. That said, the Program Administrators respectfully submit that this Plan, which calls for an increase, by 2012, in annual savings of nearly triple 2008 levels and increased expenditures on energy efficiency programs of 310% when compared with 2008 expenditures, falls squarely within the appropriate range of bold effort contemplated under the Green Communities Act. In developing this proposal and assessing the issue of the acquisition of all available cost-effective energy efficiency under the Act, the Program Administrators referred to five primary sources, which are outlined below.

First, the Program Administrators referred to the mandates of the Green Communities Act, in particular G.L. c. 25, § 25(b), which specifies that the Plans should provide for a "*sustained* and integrated statewide energy efficiency effort." (Emphasis added.) The Program Administrators interpret the use of the term "sustained" in the Act as indicating a clear desire by the General Court that the energy efficiency efforts being undertaken pursuant to the Plan constitute steps in a multi-year, sustained effort rather than a short term, and likely highly

leveraged, effort to obtain all available cost-effective energy efficiency in a three or even a six-year period. Second, the Program Administrators referred to, and carefully reviewed, both the Council's Priorities Resolution and the suggested savings goals developed by the Consultants and presented to the Council, most recently at the Council's meeting of April 14, 2009. While the Program Administrators have not adopted all of the Consultants' recommendations, such recommendations have proved to be a useful touchstone and an important factor in the Program Administrators' discussions. The Program Administrators will be pleased to engage in further discussion with the Council and its Consultants as they review the Plan. Third, the Program Administrators also referred to the Department's order in D.P.U. 08-50-A. The Department noted in D.P.U. 08-50-A that, consistent with the Green Communities Act, the consideration of rate impacts of energy efficiency programs must be factored into the development of Plans. More specifically, in D.P.U. 08-50-A, the Department stated that the Green Communities Act requires the Department to:

> "consider the effect of rate increases on residential and commercial customers" when reviewing proposals for increased funding of energy efficiency activities. G.L. c. 25, § 19(a). The assessment of rate impacts from the energy efficiency programs will be important to the Department, and we expect that it will be of importance to many of the Massachusetts energy efficiency stakeholders. Therefore, consistent with the Act, and consistent with the Department's traditional review of any change in rates, charges and tariffs subject to our jurisdiction, we will require Program Administrators to include in their three-year energy efficiency plans a comprehensive and well-documented assessment of rate impacts and average bill impacts associated with their energy efficiency activities. . . The Department does not expect there to be any "bright line" or single standard that can be used to determine whether a particular rate or average bill impact associated with a particular energy efficiency plan is acceptable. Instead, we expect Program Administrators to present a comprehensive estimate of how energy efficiency programs are likely to impact customers' rates and

average bills, and describe why the estimated impacts are appropriate in light of the expected benefits of the energy efficiency programs. D.P.U. 08-50-A at 56-57 (quotations in text). As set forth in Section II.E, of the Plan, the Program Administrators have analyzed billing impacts in proposing this Plan and believe that the Plan appropriately balances the need for bold action and increased activities, with the need to avoid rate continuity issues and the possible negative effects that bill impact concerns could have on the overall success of the Plan.

Fourth, in developing their target savings for the Plans, the Program Administrators referred to, among others, the following primary studies and analysis of technical potential: the NEEP 2005 study of "Economically Achievable Energy Efficiency Potential in New England," the 2009 "Massachusetts Residential Appliance Saturation Survey" conducted by Opinion Dynamics Corporation, and "Natural Gas Energy Efficiency Potential in Massachusetts" by GDS Associates, Inc. and Summit Blue Consulting, April 2009. These studies have helped the Program Administrators identify and determine cost-effective achievable savings levels. These studies are referenced in the Bibliography attached as Appendix C and are currently available on the web at www.richmaylaw.com/eeplan (on an interim basis), and will be made available on the Council's website www.ma-eeac.org (the "Websites"). Working cooperatively with the Council, the Program Administrators plan to continue to assess the levels of achievable cost-effective energy resources.

Fifth, the Program Administrators reviewed and discussed their own experience in implementing nationally-recognized energy efficiency programs for over two decades. The Program Administrators met collaboratively on a frequent and intense basis to determine the appropriate savings goals and budgets to propose in this Plan. Without limiting the foregoing,

each Program Administrator was required to make projections for its individual service area, as well as to comment on other Program Administrators' projections and statewide projections. As a result of this iterative and ongoing process, and after consideration of all these factors, the Program Administrators, acting by unanimous consensus, are submitting this Plan and look forward to reviewing and discussing it with the Council. In the following sections, the Program Administrators provide a more detailed discussion of certain issues regarding assessing all available, cost-effective energy efficiency.

### ii. Further Discussion of the Program Administrators' Assessment Activities and of Key Barriers and Challenges

For purposes of this initial statewide Plan, the Program Administrators performed a preliminary and general "assessment of the estimated lifetime cost, reliability and magnitude of all available energy efficiency and demand reduction resources that are cost-effective or less expensive than supplied." G.L. c. § 21(b)(2) (emphasis added). In particular, the Program Administrators have specifically set forth in Section II.D, the estimated costs associated with the available energy efficiency proposed for the Plan. Based upon many years of experience and study, the Program Administrators have also assessed the reliability of energy efficiency resources and note that energy efficiency resources have proven to produce persistent savings and be reliable over the extended life of installed measures; indeed, energy efficiency has been a notably reliable part of the services that Program Administrators have provided over many years. The Program Administrators have similarly provided an assessment of the magnitude of the benefits and costs associated with obtaining these resources. *See* Section II.D. The Program Administrators emphasize that this Plan reflects an initial, preliminary assessment that is general in nature and that is also the first statewide assessment being performed pursuant to the Green Communities Act. The Program Administrators plan to work cooperatively with the Council on

refining and enhancing this preliminary assessment. Without limiting future assessment activities, the Program Administrators recommend that a comprehensive technical potential study be performed in the period 2010-2012 that targets both electric and gas end uses. Such a technical potential study will be a useful tool in refining the assessment ultimately developed in the Council review process regarding this Plan and in future assessments under the Act.

### iii. Key Factors, Challenges and Market Barriers

This Massachusetts statewide Plan aggressively advances energy efficiency in the Commonwealth and positions the Commonwealth as the national leader in energy efficiency investments. The Green Communities Act, signed into law on July 2, 2008, requires 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. In this sub-section of the Plan, the Program Administrators discuss certain key factors, challenges and market barriers that have factored into their assessment of the achievable level of energy efficiency to set forth in the Plan.

- **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.**

  The Program Administrators recognize that energy efficiency investments are the fastest way to address growing energy demands. Efficiency programs can be scaled and implemented in a short period of time, often in one to three years. Energy efficiency programs and demand reduction programs reduce demand for energy, thereby also reducing GHGs. In addition to emission reductions and energy savings, demand-side management also brings benefits of lower water use and reduced environmental damage from fossil fuel extraction. The programs and

initiatives contained in this Plan outline bold action and are intended to serve as the first resource by which to meet overall energy demand. The Program Administrators developed this Plan leveraging knowledge and expertise they have gained over the past two decades delivering nationally recognized energy efficiency programs that have provided energy consumers with significant savings.

• **The acquisition plan for all available cost-effective energy efficiency recognizes the significant barriers that must be overcome in order to achieve the aggressive goals outlined in the plan.**

The significant ramp-up of energy efficiency savings outlined in this Plan provides a strong foundation for rapidly providing the Commonwealth and its residents (including businesses and low-income customers) with all realistically achievable energy efficiency. This Plan, which strives to obtain all realistically achievable energy efficiency, is also grounded in an understanding of market barriers and deliberately strives to bridge the significant market and policy barriers.

• **Market Barriers**

To be successful in energy efficiency, the programs must bridge the four major market barriers of awareness, affordability, accessibility and availability. These barriers affect customers' adoption of energy efficiency 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 four major market barriers.

▪ **Awareness** is a barrier that historically was not confronted on a grand scale, given capped budgets, marketing, and outreach. In this Plan,

there is recognition that enhanced marketing and outreach 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 strategies, this Plan incorporates other strategies to overcome awareness barriers, with the goal of dramatically 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, such as groups where English is not the first language.

▪ **Availability** is a barrier when manufacturers either do not produce or do not effectively market significant quantities of the energy efficiency products. Availability may be constrained also by the availability of workforce or delivery mechanisms. The challenge for manufacturing in the energy efficiency sector is to respond not only to the Commonwealth's efficiency increases, but also to increases across the nation. This challenge is compounded by the economic crisis which is hindering manufacturing from making additional investments. From a workforce perspective, Program Administrators recognize that additional workforce must be trained and deployed 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 connect with mid-stream market actors, such as distribution retailers, to help ensure that products are displayed and stocked in sufficient quantity. The program descriptions set forth in this Plan work with key market actions, including campaigns through training and marketing.

▪ **Affordability** is a market barrier resulting from the initial cost of energy efficiency solutions. With the current economic environment, Program Administrators are concerned that affordability is 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 Plans contained herein attempt to mitigate this barrier through the use of incentives and loan mechanisms.

- **Policy Barriers**

  In addition to market barriers, it is important to also understand the policy barriers that need to be overcome to secure all achievable energy efficiency. These barriers are more subtle, but include economic, sustainability, and regulatory concerns.

  - **Economic**

    Economic concerns are particularly relevant in today's environment. The Program Administrators recognize the Plan's tremendous value, but also understand that it is important to consider the rate impacts of the ramp-up of these programs. Given the societal sensitivity to the cost of the programs, this Plan discusses the associated preliminary expected bill impacts of program implementation. Detailed bill impact analysis for each Program Administrator will be set forth in the PA-specific Plans to be filed in October and will contain the detailed information required by the Department's order in D.P.U. 08-50-A.

  - **Sustainability**

Likewise, the sustainability of the programs is an important consideration. Many advocates stress that in achieving all available energy efficiency, the annual efforts must be sustainable for the long term for the health of the economy, workforce, and infrastructure needed to support energy efficiency.

  - **Regulatory Concerns**

    Finally, support of strong regulatory frameworks that complement the Program Administrators' ramp-up of programs is a critical function. These frameworks create a healthy regulatory infrastructure by which Program Administrators can confidently and boldly 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 Program Administrators will look to the Council, the DOER, the Department, and other interested stakeholders for a continuation of their strong record of clear guidance and consistent policy making.

• **Assessing technical potential**

As noted above, the Program Administrators used multiple resources, as one of a variety of methods, to build a robust understanding of the potential for all available cost-effective energy efficiency and demand-reduction resources. These resources referenced and analyzed by the Program Administrators include the materials and data amassed by the Consultants, the NEEP 2005 study of "Economically Achievable Energy Efficiency Potential in New England", the 2009 "Massachusetts Residential Appliance Saturation Survey" conducted by Opinion Dynamics Corporation and "Natural Gas Energy Efficiency Potential in Massachusetts" by GDS Associates, Inc. and Summit Blue Consulting, April 2009." *See* Appendix C and the Websites.

These studies 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. The 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."[5]

[5] Economically Achievable Energy Efficiency Potential in New England, May 2005; prepared by Optimal Energy, Inc. for Northeast Energy Efficiency Partnership, Inc.

The Economically Achievable Energy Efficiency Potential is defined as that portion of the Technical Potential that is cost-effective (either from a customer, societal or total resources perspective). This three-year Plan aggressively targets all cost-effective energy-efficiency resources, but the Plan is also grounded by realistic constraints to program implementation such as market

and policy barriers. Such barriers lead to this Plan's focus on obtaining all available or realistically achievable potential in a manner that allows for a sustained effort and that does not create unacceptable short term bill impacts.

Realistically achievable 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."[6] It, therefore, recognizes both the market and policy barriers. These barriers were carefully assessed by Program Administrators from two perspectives in developing the plan. First, after almost 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 barriers with the various technical potential studies used to inform this Plan. This careful review of different types of potential helped derive the Program Administrators' assessment of all available energy efficiency. Second, knowledge of the market and policy barriers is critical when designing programs, as these programs must address and mitigate these barriers. From that perspective, the program incentive design, delivery models, and support infrastructure developed by the Program Administrators and discussed in Section II.F of this Plan are grounded in a thorough understanding of applicable market and policy barriers.

6 Assessment of Achievable Potential from Energy Efficiency and Demand Response Programs in the U.S. (2010-2030), January 2009; Electric Power Research Institute.

5. *Demand Response Issues*

The Program Administrators are working to incorporate demand responsive measures in all offerings, as appropriate, over the term of this Plan. A number of these resources are detailed in the program design sections found in Section II.F below. In addition, as technical assessment studies are undertaken for customers, the studies will also address how to make the proposed energy efficiency measure demand responsive through load automation techniques (*e.g.*, recommending specific load management algorithms within any energy management software for lighting, HVAC, and other process applications). In addition, the studies would identify other options available for customers to manage their loads in the event that the customer takes advantage of hourly pricing options from energy suppliers, or participates in on-going ISO-NE programs, including the FCM. In short, enabling an energy efficiency measure to be demand responsive will be less expensive doing it at the time the measure is installed versus having to retrofit, or re-program energy management software in the future.

6. *Competitive Procurement*

Historically, the Program Administrators have utilized the competitive procurement process for retaining contractors and vendors for activities including but not limited to: audit delivery; quality control; monitoring and evaluation; marketing and website design. The Program Administrators are committed to utilizing competitive procurement practices to the fullest extent throughout the implementation of this Plan. Therefore, consistent with past practice, the Program Administrators anticipate that they will issue requests for proposals to engage the appropriate third-party vendors to provide energy efficiency activities, will consider the input and direction of the Council and its Consultants with respect to the retention of necessary consultants, and, where necessary, will 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.

### 7. *Gas and Electric Program Integration and Coordination; Seamless Delivery*

#### i. Background/General Overview

In this section of the Plan, which is common to both the statewide electric Plan and the statewide gas Plan, the Program Administrators describe the approaches contemplated under the Plans to provide seamless program delivery from the customer's perspective and an optimal level of program integration, collaboration, and coordination. In preparing this section, the Program Administrators primarily referred to three sources: 1) the Act; 2) the Council's Priorities Resolution of March 24, 2009; and 3) their own, in-the-field experience. The Program Administrators also considered helpful presentations from the Consultants to the Council, individual Councilor's remarks at Council meetings, and input from various parties in working groups and internal discussions. Based upon this review, the Program Administrators are proposing approaches and actions, some of which will be phased in over time, to integrate and coordinate gas and electric program offerings in an enhanced manner, with the ultimate (and related) goals of simplifying participation for customers and increasing energy savings in a cost-effective manner. The Program Administrators note that these approaches and actions will continue to be refined before the filing of PA-specific Plans in October, and the Program Administrators plan to continue to work collaboratively with the Council and its Consultants on these matters, both now and during the three-year term of the Plans.

a) *The Act*

The core provisions of the Act that relate to program integration are set forth below. The Act is explicit that gas programs are to be administered by the gas Program Administrators and electric programs are to be administered by electric Program Administrators. In particular, with respect to electric programs, the Act provides: **The programs shall be administered by the electric distribution companies and by municipal aggregators** with energy plans certified by the Department under Subsection (b) of Section 164 of Chapter 164. . . . In authorizing such programs, the Department shall ensure that they are delivered in a cost-effective manner capturing all available efficiency opportunities, minimizing administrative costs to the fullest extent practicable and utilizing competitive procurement processes to the fullest extent practicable G.L. c. 25, § 19(a) (emphasis added). Similarly, with respect to gas programs, the Act provides: The Department may approve and fund gas energy efficiency programs proposed by gas distribution companies including, but not limited to, demand side management programs. Energy efficiency activities eligible for funding under this section shall include combined heat and power and geothermal heating and cooling projects. Funding may be supplemented by funds authorized by Section 21. **The programs shall be administered by the gas distribution companies**. In authorizing such programs, the Department shall ensure that they are delivered in a cost-effective manner capturing all available efficiency opportunities, minimizing administrative costs to the fullest extent practicable and utilizing competitive procurement processes to the fullest extent practicable. G.L. c. 25, § 19(a) (emphasis added). The Act goes further with respect to integration and coordination and specifically provides:

The Council shall, as part of the approval process by the Department, seek to maximize net economic benefits through energy efficiency and load management resources and to achieve energy, capacity, climate and environmental goals through **a sustained and integrated statewide energy efficiency effort**. . . The Council shall, as part of its review of plans, examine opportunities **to offer joint programs** providing similar efficiency measures that save more than 1 fuel resource **or to coordinate programs** targeted at saving more than one fuel resource. Any costs for joint programs shall be allocated equitably among the efficiency programs. G.L. c. 25, § 22(b) (emphasis added). This statutory language indicates the clear intention of the General Court to require: (1) that the Plans build upon the expertise developed by the Program Administrators; and (2) that the gas and electric Program Administrators are responsible for the implementation of gas and electric programs under the Act. The Act does not require (or contemplate) that a single entity will be responsible for implementation of all programs. The Council is tasked with seeking to achieve a "sustained and integrated statewide energy efficiency effort" and ensuring that opportunities "to offer joint programs" and "to coordinate programs" are fully examined. The Program Administrators' proposals set forth below seek to build upon, and are consistent with, this explicit statutory guidance.

b) *The Council's Priorities Resolution*

In its Priorities Resolution adopted on March 24, 2009, the Council provided guidance to the Program Administrators in terms of its goals regarding program integration and seamless delivery. Most specifically, in Section 2 of its Priorities Resolution, the Council stated:

> In order to plan for the successful on-going attainment of the savings goals derived from the Green Communities Act, the PAs are be expected to develop strategies to provide comprehensive treatment and to acquire deep savings in

customer facilities. **The Council also expects the PAs to develop and implement a comprehensive outreach, communication, and marketing strategy to inform and encourage program participation** and to support the development of the infrastructure necessary to provide these efficiency services. Priorities Resolution, Section 2 (emphasis added). In Section 22 of its Priorities Resolution, the Council further stated that: **The PAs shall strive to maximize seamless delivery to the customer, without duplication or complexity, regardless of a given property's rate class, territory or utility type by**:

> • Simplifying the number of programs in which a property can participate and instead develop comprehensive single-point programs that take a whole building approach to energy savings, while seamlessly integrating electric and gas efficiency measures into one program.
>
> • Streamlining program administration so every "property" is required to fill out only one application that encompasses gas and electric programs and is blind to a property's rate class or territory.
>
> • Developing consistency and coordination across service territories so that entities with multiple locations across the Commonwealth receive program services (gas, electric and some renewable) in a manner that reduces administrative burdens.
>
> • Implementing inter-utility, inter-fuel type, and inter-rate class funding mechanisms which enable single point programs for properties that are served by two PAs, properties that have multiple rate class meters, and/or properties that are participating in whole-building approach programs.
>
> • **Including a shared chapter in the gas and electric plans that describes how programs specifically integrate gas and electric initiatives to maximize overall utility savings**.

*See* Priorities Resolution, Section 25 (emphasis added).

The Program Administrators have sought to be responsive to these priorities in their proposals, noting that a number of these goals will be approached in a phased effort that will

necessarily take time to succeed fully. Where the Program Administrators have points of amplification with respect to certain of these specific goals of the Council, they are set forth below.

### c) *The Experience of the Program Administrators*

Gas and electric Program Administrators have historically engaged in coordinated and integrated activities to serve common customers. In the C&I sector, such activities, while productive, have been less formal and approached on an individual basis, typically involving extensive efforts to serve large customers in a coordinated fashion. These efforts have resulted in some notable successes throughout the Commonwealth.[7] The Program Administrators seek to build on these successes and the lessons learned in these projects as they move to a more standardized approach to integration and coordination. In the residential sector, the Program Administrators, working cooperatively with the DOER, have fully coordinated and integrated several activities, most notably in the development and operation of the residential statewide RCS audit program under the "MassSAVE" umbrella. The residential new construction program and statewide low-income program are also award-winning approaches to statewide consistency and market development of whole building performance in both the new construction and retrofit markets. The Program Administrators are seeking to leverage this experience and create higher quality and more comprehensive approaches geared to providing a seamless experience from the customer's perspective.

[7] Examples of successful joint gas and electric projects include, without limitation, the Hampden County Sheriff's Office Project, the Greater Lawrence Sanitary District Project and the Medfield Schools Project.

ii. Benefits of Enhanced Integration and Coordination

The core potential benefits of increased integration and coordination of gas and electric programs include:

- Providing better customer service, including fuel blind recommendations and priorities for energy savings and simplified application processes
- Simplified consistent messaging to customers and other market actors
- Economies and efficiency in program delivery
- Capturing more comprehensive savings at participating facilities
- Improved cost-effectiveness analysis that ensures all energy and non-energy benefits are identified and accounted for
- Improved benefit/cost ratios ("BCRs") that reflect benefits of both gas and electric measures

By ensuring that customers understand all of the options for energy efficiency available —both gas and electric—the Program Administrators believe that customers will be encouraged to implement a more comprehensive package of measures, maximizing energy savings. Once the programs are fully implemented, customers and the practitioners designing buildings will have knowledge of and access to all program offerings through one source at the beginning of the equipment or systems selection process. For example, in a new construction or renovation project, a lead might come through a vendor of one discipline, for example an electric contractor seeking information from the local electric Program Administrator on incentives for lighting systems for a customer that heats with gas. At the time of such contact, the electric Program Administrator should be ready to present identifiable opportunities for deeper electric savings, as well as pre-specified opportunities for gas savings. The overall project would be scoped by the Program Administrators in a coordinated fashion that is seamless to the customer to address

potential savings, not only from lighting systems, but also from building envelope mechanical systems, space conditioning and water heating equipment, and HVAC measures. The customer would benefit from the experience and offerings of both gas and electric Program Administrators, but would do so in an integrated, one-stop process.[8] This goal will take time to achieve, and numerous details need to be reviewed and finalized, but the Program Administrators are confident that such integration and coordination can be realized.

8 It is a goal of the Program Administrators that vendors of energy efficiency services will be trained and charged with identifying multiple savings opportunities in a customer site, regardless of fuel, thereby increasing the number of savings opportunities identified and the levels of savings achieved.

### iii. Specific Approaches and Actions Regarding Gas and Electric Program Integration and Coordination

In order to achieve enhanced program integration and coordination, the Program Administrators are proposing the following initial approaches and activities. As noted above, these approaches and activities will be refined and further developed for the PA-specific Plans to be filed in October:

#### a) *Integration and Coordination Working Group*

The Program Administrators are establishing a standing working group, with a member from each Program Administrator, to work collaboratively over the three-year term of the Plan to address integration and coordination efforts. Members of the Council (and the Council's Consultants) will be invited to all open meetings of this working group. The primary functions of this working group will be to ensure that: (a) all Program Administrators remain abreast of the key energy efficiency activities of other Program Administrators; (b) energy efficiency implementation activities and efforts by all Program Administrators are integrated and coordinated to the optimal extent; (c) statewide marketing and media campaigns are coordinated with a focus on integrated easy-to-understand communications to customers; and (d) best

practices and integration/coordination efforts in other jurisdictions are reviewed and discussed. The working group would be consensus-based and would not have the authority to bind any individual Program Administrators without their express written consent. Among other models, the Program Administrators would look to the GasNetworks® group for guidance, particularly GasNetworks' success in developing consistent program offerings in the gas industry that are common across Program Administrators and that utilize common application forms, rebate levels and marketing materials (including a common GasNetworks website).

b) *Specific Building Blocks*

For broad-based programs that cover multiple end-uses and include custom measures, developing statewide consistent programs that promote both gas and electric measures will entail developing, over time, the following primary building blocks to achieving integration and coordination:

- Consistent prescriptive applications where appropriate, regardless of technology.

- A consistent incentive structure and design (*e.g.*, percentage of incremental cost) to the extent reasonable.

- A single customer offer for a package of measures, for gas and electric energy efficiency opportunities.

- A single set of program rules regardless of fuel (*e.g.*, technical assistance co pay offer, TRC cost-effectiveness guidelines, payback limits, eligibility, etc.). Electric measures that save oil should include those oil savings in screening for cost-effectiveness in accordance with the D.P.U. 08-50-A screening guidelines.

- A single statewide tool for measure and project screening, with the only differences being transmission and distribution ("T&D") avoided capacity costs and, perhaps, utility-specific line losses.
- For certain efforts or initiatives that are end-use or measure specific (*e.g.*, Cool Choice and certain outreach efforts to trade allies and manufacturers), there likely will be (and should be) some gas vs. electric differences. Wherever it makes sense, the Program Administrators will explore integrating these initiatives; if

they are kept separate (*i.e.*, as separate gas and electric programs), they should appear as a consistent part of the broader effort, with the same look, feel and incentive strategies.

• Tracking systems for Program Administrators do not need to be integrated (although the Program Administrators' data collection is generally consistent and reporting capabilities are generally comparable); what is important is that they be invisible to customers and upstream actors and not impact program participation.

• Analyzing upstream marketing and distribution strategies to determine whether or not they can be merged into a single approach; the Program Administrators seek to focus on increased consistency and integrated approaches with trade allies, manufacturers, market actors and market channels.

• Developing guidelines for allocating program costs among different fuel customers for joint programs where benefits accrue to each energy system.

• Consistent messaging to customers.

Although these core building blocks will take time to develop, it is the Program Administrators' goal that each of these building blocks will have been fully developed during the initial three-year implementation period covered under the Plan.

### c) *Marketing Efforts*

A critical key component of integration and seamless delivery is consistent messaging. A statewide website (marketing portal) and marketing approach to make customers aware of program offerings will minimize the market confusion that can result from competing advertising campaigns that may overlap in the mass media. The Program Administrators have already initiated the process to develop and operate a central web-based site that allows customers to gain access to all relevant information, applications and forms and expect that the site will be operational in 2010. In addition, individual Program Administrators (and, likely, the GasNetworks group) 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 activities will be undertaken in consultation with other Program Administrators in order to maintain good communications, promote the statewide efforts, and avoid inadvertent inconsistent messaging.

### d) *Other Core Principles*

The Program Administrators emphasize the following additional core principles regarding integration and coordination:

- A single entity for program implementation is not required for successful program integration and coordination. The Act is clear that gas and electric Program Administrators should be responsible for administering their respective programs, building upon both their unique relationships with their customer base and years of experience and deep knowledge in the energy efficiency field that ultimately benefits customers and enhances programs. What is essential is that gas and electric Program Administrators coordinate their activities and pool their knowledge and expertise so that customers enjoy a seamless, integrated process.

- Customers must always be able to turn to their local gas or electric company or other Program Administrator (for example, the Cape Light Compact) for the provision of energy efficiency services, and low-income customers must always be able to turn to their local low-income weatherization and fuel assistance program network in addition to their local Program Administrators. As integration and coordination increases, it is important that customers (perhaps most pointedly a large C&I customer) retain the ability to contact their dedicated account representative for help in developing customized services that best meet that customer's needs. Indeed, to ensure maximum customer uptake, multiple customer channels should be preserved, including direct contact with the Program Administrator. Program Administrators have established strong, long-term relationships with customers, and maintain a robust understanding of their customers' business requirements. This strong understanding often results in a natural opportunity to promote programs in a customized fashion that is meaningful to customers, particularly large customers.

- Program Administrators need to maintain the ability to provide direct and responsive service to any customer (from a small residential customer to the largest industrial customer) who reaches out to them for assistance. Likewise, they must be able to serve customers who may want to

undertake only certain measures (or aspects of an energy efficiency program) at a given time.

• Program Administrators need the flexibility to continue to create innovative processes and programs. Increased integration should in no way inhibit the creativity of Program Administrators, in particular with respect to the development and implementation of pilot programs. Program Administrators should be able to propose innovative pilot efforts that are not fully coordinated or integrated with other statewide activities. Indeed, a key goal of such pilots is that they yield data as to whether the approach explored in the pilot should be implemented on a larger, statewide scale.

• As Program Administrators increase integration, they will need to document the costs associated with implementing the integration, whether from manual work-arounds, or automated solutions, as well as any increased efficiencies. This full understanding of costs and benefits will ensure that the best decisions are made with respect to delivering seamless service with full transparency.

• The Program Administrators will seek to make their efforts more seamless from the perspectives of vendors and market actors, as well as customers.

• In working on integration and coordination matters, the Program Administrators will devote a specific focus to multi-family program delivery matters. On April 15, 2009 and April 16, 2009, the Program Administrators convened a multi-family program workshop attended by Council members, customers, vendors and other stakeholders in the energy efficiency community. A key component of the workshop included an assessment of customer needs, where issues such as integration and coordination of gas and electric program efforts and providing a seamless customer experience were discussed and documented. The information gathered at the workshop will be used by the Program Administrators and the Consultants in ongoing efforts to develop an enhanced statewide approach to gas and electric multi-family programs.

### iv. Conclusion and Long-Term Goals

The long-term goal of the Program Administrators is to provide a consistent set of statewide programs and strategies that can be delivered to customers in a coordinated fashion that ensures seamless service, regardless of whether the customer is served by a combined gas/electric utility, municipal aggregator, by different gas and electric utilities or has facilities or

projects in multiple Program Administrator service areas. The Program Administrators will explore all reasonable avenues to achieve this goal, potentially including providing services under contract to other Program Administrators in unique circumstances. There may be limited areas or initiatives where some diversity in approach will be appropriate based on unique service territory characteristics, or will be useful in developing a longer term approach (*e.g.*, utilizing different incentive structures for certain new programs in different areas for a finite time period to see if one of several approaches has better success), but such variances are expected to be limited. For this Plan, the intent is to establish statewide goals and budgets based on current programs and new initiatives in progress. The PA-specific plans due in October will contain more detail on integration and coordination. More specifically, the Program Administrators will continue to work on approaches and activities for achieving integration and enhanced coordination and further articulate strategies (with a special focus on multi-family program efforts) for achieving these goals, along with a more refined schedule for such activities. The Program Administrators plan to develop this more refined schedule by June 2009 (consistent with electric Program Administrators' metrics). The Program Administrators will work collaboratively with the Council and other interested parties on advancing the goals of integration and coordination. Achieving these goals will take time. In each of the next three years, the Program Administrators expect to see increased consistency in: (1) participation requirements; (2) available core services and measures; (3) conditions, exclusions and limits; and (4) incentive amounts and/or calculations.

### 8. *Progress Towards Other Massachusetts Policy Goals*

• Supporting Tables for each funding source listed in the Summary Table:

Although this Plan is directed primarily at the mandates of the Green Communities Act, the Program Administrators are cognizant of the role that the statewide electric and gas efficiency investment plans occupy in the Commonwealth's broader, historically ambitious statutory scheme and ambitious policy goals. As noted in the Executive Summary, on August 13, 2008, shortly following the enactment of the Green Communities Act, Governor Patrick signed the GWSA and the Green Jobs Act. Taken together, these legislative enactments reflect the Commonwealth's commitment to climate protection and its leadership in promoting clean and renewable energy. The Program Administrators welcome the continued opportunity to design and implement innovative programs that promote the Commonwealth's goals of promoting energy efficiency, decreasing GHGs, and spurring job creation in the clean energy sector.

**B. Funding Sources**[9]

[9] Please refer to accompanying Excel Workbook, with cross-linkages.

The Program Administrators project that there will be approximately $1,174,714,661 available statewide to fund energy efficiency efforts during the three-year period. This section of the Plan includes tables which provide detailed information on the sources of funding the Program Administrators currently expect will be available to support their proposed programs.

• Summary Table

• System Benefit Charge Funds
• Forward Capacity Market Proceeds
• Regional Greenhouse Gas Initiative Proceeds
• Other Funding Sources
• Carryover

• Energy Efficiency Reconciliation Factor

As shown in the following summary table, in addition to the estimated proceeds from the System Benefit Charge ("SBC"), FCM, and RGGI, the funding for the period 2010 to 2012 includes carryover, and, for some of the Program Administrators, funds collected through an Energy Efficiency Reconciliation Factor ("EERF"). The SBC funding is calculated consistently with section 19(a) of the Green Communities Act which states "The department 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." Consistent with the Act, a minimum of 10 percent of the amount expended for electric energy efficiency programs will be spent on comprehensive low-income residential Demand-Side Management ("DSM") and education programs. G.L. c. 25, § 19. The FCM funding is based on proceeds the Program Administrators expect to receive during the three-year period for performance in the FCM Transition Period. The RGGI funding estimates are derived based on information provided from DOER regarding the anticipated proceeds reasonably expected to be realized by Program Administrators during the applicable three-year plan period. As of this date, other proceeds and carryover are assumed to be zero for Plan. The calculation of the EERF is further described in Section I, Cost Recovery, of this Plan.

1. *Summary Table*

**Allocation of Funding Sources, 2010**

| Sector | SBC (1) | FCM (2) | RGGI (3) | Other (4) | Carryover (5) | EERF (6) | TOTAL |
|---|---|---|---|---|---|---|---|
| Residential | $32,228,201 | $3,174,794 | $21,781,329 | $0 | $0 | $34,068,423 | $91,252,747 |
| % of Residential | 35% | 3% | 24% | 0% | 0% | 37% | 100% |
| Low Income | $13,473,908 | $1,308,285 | $9,106,639 | $0 | $0 | $13,690,646 | $37,579,478 |
| % of Low Income | 36% | 3% | 24% | 0% | 0% | 36% | 100% |
| Commercial & Industrial | $74,269,270 | $7,310,840 | $50,010,632 | $0 | $0 | $4,855,127 | $136,445,868 |
| % of Commercial & Industrial | 54% | 5% | 37% | 0% | 0% | 4% | 100% |
| TOTAL | $119,971,380 | $11,793,918 | $80,898,600 | $0 | $0 | $52,614,196 | $265,278,093 |
| % of Total | 45% | 4% | 30% | 0% | 0% | 20% | 100% |

**Allocation of Funding Sources, 2011**

| Sector | SBC (1) | FCM (2) | RGGI (3) | Other (4) | Carryover (5) | EERF (6) | TOTAL |
|---|---|---|---|---|---|---|---|
| Residential | $32,728,794 | $3,124,924 | $22,357,819 | $0 | $0 | $63,941,146 | $122,152,682 |
| % of Residential | 27% | 3% | 18% | 0% | 0% | 52% | 100% |
| Low Income | $13,694,902 | $1,281,764 | $9,348,896 | $0 | $0 | $26,489,943 | $50,815,504 |
| % of Low Income | 27% | 3% | 18% | 0% | 0% | 52% | 100% |
| Commercial & Industrial | $75,205,939 | $7,130,917 | $51,139,093 | $0 | $0 | $70,279,555 | $203,755,503 |
| % of Commercial & Industrial | 37% | 3% | 25% | 0% | 0% | 34% | 100% |
| TOTAL | $121,629,635 | $11,537,604 | $82,845,807 | $0 | $0 | $160,710,644 | $376,723,690 |
| % of Total | 32% | 3% | 22% | 0% | 0% | 43% | 100% |

**Allocation of Funding Sources, 2012**

| Sector | SBC (1) | FCM (2) | RGGI (3) | Other (4) | Carryover (5) | EERF (6) | TOTAL |
|---|---|---|---|---|---|---|---|
| Residential | $33,357,440 | $3,356,524 | $18,043,793 | $0 | $0 | $102,071,046 | $156,828,802 |
| % of Residential | 21% | 2% | 12% | 0% | 0% | 65% | 100% |
| Low Income | $13,944,668 | $1,370,279 | $7,538,760 | $0 | $0 | $45,470,190 | $68,323,896 |
| % of Low Income | 20% | 2% | 11% | 0% | 0% | 67% | 100% |
| Commercial & Industrial | $76,080,269 | $7,662,673 | $40,947,487 | $0 | $0 | $182,869,751 | $307,560,180 |
| % of Commercial & Industrial | 25% | 2% | 13% | 0% | 0% | 59% | 100% |
| TOTAL | $123,382,376 | $12,389,476 | $66,530,039 | $0 | $0 | $330,410,987 | $532,712,878 |
| % of Total | 23% | 2% | 12% | 0% | 0% | 62% | 100% |

**Allocation of Funding Sources, 2010-2012**

| Sector | SBC (1) | FCM (2) | RGGI (3) | Other (4) | Carryover (5) | EERF (6) | TOTAL |
|---|---|---|---|---|---|---|---|
| Residential | $98,314,435 | $9,656,241 | $62,182,940 | $0 | $0 | $200,080,614 | $370,234,231 |
| % of Residential | 27% | 3% | 17% | 0% | 0% | 54% | 100% |
| Low Income | $41,113,477 | $3,960,328 | $25,994,295 | $0 | $0 | $85,650,778 | $156,718,878 |
| % of Low Income | 26% | 3% | 17% | 0% | 0% | 55% | 100% |
| Commercial & Industrial | $225,555,478 | $22,104,430 | $142,097,211 | $0 | $0 | $258,004,433 | $647,761,552 |
| % of Commercial & Industrial | 35% | 3% | 22% | 0% | 0% | 40% | 100% |
| TOTAL | $364,983,390 | $35,720,999 | $230,274,446 | $0 | $0 | $543,735,826 | $1,174,714,661 |

**SBC Funds, 2010**

| Sector | kWh Sales | Energy Efficiency Charge | Collections | % Collections of Total | Allocation | % Allocation of Total |
|---|---|---|---|---|---|---|
| Residential | 13,468,806,062 | 0.0025 | $33,672,015 | 28.1% | $32,228,201 | 26.9% |
| Low Income | 3,441,787,930 | 0.0025 | $8,604,470 | 7.2% | $13,473,908 | 11.2% |
| Commercial & Industrial | 31,077,957,418 | 0.0025 | $77,694,894 | 64.8% | $74,269,270 | 61.9% |
| TOTAL | 47,988,551,410 | | $119,971,379 | 100% | $119,971,379 | 100% |

**SBC Collections, 2011**

| Sector | kWh Sales | Energy Efficiency Charge | Collections | % Collections of Total | Allocation | % Allocation of Total |
|---|---|---|---|---|---|---|
| Residential | 13,673,481,127 | 0.0025 | $34,183,703 | 28.1% | $32,728,795 | 26.9% |
| Low Income | 3,514,840,188 | 0.0025 | $8,787,100 | 7.2% | $13,694,902 | 11.3% |
| Commercial & Industrial | 31,463,532,558 | 0.0025 | $78,658,831 | 64.7% | $75,205,938 | 61.8% |
| TOTAL | 48,651,853,873 | | $121,629,635 | 100% | $121,629,635 | 100% |

**SBC Collections, 2012**

| Sector | kWh Sales | Energy Efficiency Charge | Collections | % Collections of Total | Allocation | % Allocation of Total |
|---|---|---|---|---|---|---|
| Residential | 13,934,227,017 | 0.0025 | $34,835,568 | 28.2% | $33,357,440 | 27.0% |
| Low Income | 3,587,930,163 | 0.0025 | $8,969,825 | 7.3% | $13,944,668 | 11.3% |
| Commercial & Industrial | 31,830,793,121 | 0.0025 | $79,576,983 | 64.5% | $76,080,269 | 61.7% |
| TOTAL | 49,352,950,301 | | $123,382,376 | 100% | $123,382,376 | 100% |

**SBC Collections, 2010-2012**

| Sector | kWh Sales | Energy Efficiency Charge | Collections | % Collections of Total | Allocation | % Allocation of Total |
|---|---|---|---|---|---|---|
| Residential | 41,076,514,205 | 0.0025 | $102,691,286 | 28.1% | $98,314,435 | 26.9% |
| Low Income | 10,544,558,281 | 0.0025 | $26,361,396 | 7.2% | $41,113,477 | 11.3% |
| Commercial & Industrial | 94,372,283,097 | 0.0025 | $235,930,708 | 64.6% | $225,555,477 | 61.8% |
| TOTAL | 145,993,355,583 | | $364,983,389 | 100% | $364,983,389 | 100% |

2. *Supporting page/table for each funding source listed in Summary Table*

In accordance with the process established by the D.P.U. 08-50 Working Group, the Program Administrators are submitting the following tables to provide further support for the Plan and its related funding components.

1. System Benefit Charge Table/Info

**Forward Capacity Market Revenue, 2010**

| Portfolio | Nov. 2009 | | Dec. 2009 | | | Jan. 2010 | | | Feb | |
|---|---|---|---|---|---|---|---|---|---|---|
| kW | FCM Transition Price | Revenue | kW | FCM Transition Price | Revenue | kW | FCM Transition Price | Revenue | kW | |
| 107,256 | $4.10 | $439,750 | 114,121 | $4.10 | $467,896 | 245,262 | $4.10 | $1,005,574 | 267,743 | |

| Portfolio | Mar. 2010 | | Apr. 2010 | | | May-10 | | | June 2010 - Dec 2010 (1) | |
|---|---|---|---|---|---|---|---|---|---|---|
| kW | FCM Transition Price | Revenue | kW | FCM Transition Price | Revenue | kW | FCM Transition Price | Revenue | kW | |
| 267,233 | $4.10 | $1,095,655 | 218,173 | $4.10 | $894,509 | 218,523 | $4.10 | $895,944 | 227,862 | $4.25 |

**Forward Capacity Market Revenue, 2011**

| Portfolio | Jan 2010 - May 2011 (1) | | June 2011 - Dec 2011 (1) | | TOTAL 2011 Revenue |
|---|---|---|---|---|---|
| kW | FCM Clearing Price | Revenue | kW | FCM Clearing Price | Revenue |
| 233,336 | $4.25 | $4,963,057 | 295,164 | $3.12 | $6,444,320 | $11,407,377 |

**Forward Capacity Market Revenue, 2012**

| Portfolio | Jan 2011 - May 2012 (1) | | June 2012 - Dec 2012 (1) | | TOTAL 2012 Revenue |
|---|---|---|---|---|---|
| kW | FCM Clearing Price | Revenue | kW | FCM Clearing Price | Revenue |
| 295,464 | $3.12 | $4,607,764 | 366,566 | $2.95 | $7,569,580 | $12,177,344 |

**Allocation of 2010-2012 FCM Revenue**

| Sector | 2010 | | 2011 | | 2012 | | TOTAL | |
|---|---|---|---|---|---|---|---|---|
| | FCM Revenue | % of Total FCM Revenue (2) | FCM Revenue | % of Total FCM Revenue (2) | FCM Revenue | % of Total FCM Revenue (2) | FCM Revenue | % of Total FCM Revenue (2) |
| Residential | $3,174,794 | 26.9% | $3,124,924 | 27.1% | $3,356,523 | 27.1% | $9,656,241 | 27.0% |
| Low Income | $1,308,285 | 11.1% | $1,281,764 | 11.1% | $1,370,279 | 11.1% | $3,960,328 | 11.1% |

## iii. Regional Greenhouse Gas Initiative Proceeds Table/Info

**Regional Greenhouse Gas Initiative Proceeds, 2010 (1)**

| **Auction Projections** | **Auction 1 (2)** | | **Auction 2 (2)** | | **Auction 3 (2)** | | **Auction 4 (2)** | |
|---|---|---|---|---|---|---|---|---|
| **Compliance Period 1 (3)** | **Compliance Period 2 (3)** | | **Compliance Period 1 (3)** | **Compliance Period 2 (3)** | **Compliance Period 1 (3)** | **Compliance Period 2 (3)** | | **Compli** |
| **MA Proceeds (4)** | | | | | | | | |
| MA Allowances Sold | 32,892,025 | 1,644,605 | 32,892,025 | 1,644,605 | 32,892,025 | 1,644,605 | 32,892,025 | |
| Auction Clearing Price | $3.69 | $3.06 | $3.69 | $3.06 | $3.69 | $3.06 | $3.69 | |
| Total Proceeds to MA | $121,371,572 | $5,032,491 | $121,371,572 | $5,032,491 | $121,371,572 | $5,032,491 | $121,371,572 | |
| **Proceeds to MA EE Plan (4)** | | | | | | | | |
| Percent of MA Funds to EE Plans (e.g., >=80%) | 80% | 80% | 80% | 80% | 80% | 80% | 80% | |
| Total $ to MA Energy Efficiency Plans | $97,097,258 | $4,025,993 | $97,097,258 | $4,025,993 | $97,097,258 | $4,025,993 | $97,097,258 | |
| **Allocation to PA** | | | | | | | | |
| Total MA kWh (4) | | | | | | | | |
| PA kWh | | | | | | | | |
| % PA kWh of State | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | |
| **TOTAL $ to PA** | **$97,097,258** | **$4,025,993** | **$97,097,258** | **$4,025,993** | **$97,097,258** | **$4,025,993** | **$97,097,258** | |

**Regional Greenhouse Gas Initiative Proceeds, 2011 (1)**

| **Auction Projections** | **Auction 1 (2)** | | **Auction 2 (2)** | | **Auction 3 (2)** | | **Auction 4 (2)** | |
|---|---|---|---|---|---|---|---|---|
| **Compliance Period 1 (3)** | **Compliance Period 2 (3)** | | **Compliance Period 1 (3)** | **Compliance Period 2 (3)** | **Compliance Period 1 (3)** | **Compliance Period 2 (3)** | | **Compli** |
| **MA Proceeds (4)** | | | | | | | | |
| MA Allowances Sold | 32,892,025 | 1,644,605 | 32,892,025 | 1,644,605 | 32,892,025 | 1,644,605 | 32,892,025 | |
| Auction Clearing Price | $3.78 | $3.11 | $3.78 | $3.11 | $3.78 | $3.11 | $3.78 | |
| Total Proceeds to MA | $124,331,855 | $5,114,722 | $124,331,855 | $5,114,722 | $124,331,855 | $5,114,722 | $124,331,855 | |
| **Proceeds to MA EE Plan (4)** | | | | | | | | |
| Percent of MA Funds to EE Plans (e.g., >=80%) | 80% | 80% | 80% | 80% | 80% | 80% | 80% | |
| Total $ to MA Energy Efficiency Plans | $99,465,484 | $4,091,777 | $99,465,484 | $4,091,777 | $99,465,484 | $4,091,777 | $99,465,484 | |
| **Allocation to PA** | | | | | | | | |
| Total MA kWh (4) | | | | | | | | |
| PA kWh | | | | | | | | |
| % PA kWh of State | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | |
| **TOTAL $ to PA** | **$99,465,484** | **$4,091,777** | **$99,465,484** | **$4,091,777** | **$99,465,484** | **$4,091,777** | **$99,465,484** | |

**Regional Greenhouse Gas Initiative Proceeds, 2012 (1)**

| **Auction Projections** | **Auction 1 (2)** | **Auction 2 (2)** | **Auction 3 (2)** | **Auction 4 (2)** |
|---|---|---|---|---|

iv. Other Funding Table/Info

**Other Funding Sources, 2010 (1)**

| Other Funding Sources Available | Description | Funding Amount |
|---|---|---|
| Source 1 | | $0 |
| Source 2 | | $0 |
| Source 3 | | $0 |
| **TOTAL** | | $0 |

**Other Funding Sources, 2011 (1)**

| Other Funding Sources Available | Description | Funding Amount |
|---|---|---|
| Source 1 | | $0 |
| Source 2 | | $0 |
| Source 3 | | $0 |
| **TOTAL** | | $0 |

**Other Funding Sources, 2012 (1)**

| Other Funding Sources Available | Description | Funding Amount |
|---|---|---|
| Source 1 | | $0 |
| Source 2 | | $0 |
| Source 3 | | $0 |
| **TOTAL** | | $0 |

**Other Funding Sources, 2010-2012 (1)**

| Other Funding Sources Available | Description | Funding Amount |
|---|---|---|
| Source 1 | | $0 |
| Source 2 | | $0 |

v. Energy Efficiency Reconciliation Factor Table/Info

**Calculation of Energy Efficiency Reconciliation Factor Funds, 2010 (1)**

| Sector | Total Budget (2) | Lost Base Revenue (3) | SBC + FCM + RGGI + Other Funds | EERF Funding Required (4) (5) |
|---|---|---|---|---|
| Residential | $88,203,679 | $3,049,067 | $57,184,324 | $34,068,423 |
| Low Income | $37,567,254 | $12,223 | $23,888,832 | $13,690,645 |
| Commercial & Industrial | $134,998,894 | $1,446,974 | $131,590,742 | $4,855,127 |
| TOTAL | $260,769,828 | $4,508,265 | $212,663,898 | $52,614,195 |

**Calculation of Energy Efficiency Reconciliation Factor Funds, 2011 (1)**

| Sector | Total Budget (2) | Lost Base Revenue (3) | SBC + FCM + RGGI + Other Funds | EERF Funding Required (4) (5) |
|---|---|---|---|---|
| Residential | $113,979,208 | $8,163,683 | $58,201,745 | $63,941,146 |
| Low Income | $50,788,022 | $27,482 | $24,325,561 | $26,489,943 |
| Commercial & Industrial | $200,005,681 | $3,759,613 | $133,485,740 | $70,279,555 |
| TOTAL | $364,772,911 | $11,950,779 | $216,013,046 | $160,710,644 |

**Calculation of Energy Efficiency Reconciliation Factor Funds, 2012 (1)**

| Sector | Total Budget (2) | Lost Base Revenue (3) | SBC + FCM + RGGI + Other Funds | EERF Funding Required (4) (5) |
|---|---|---|---|---|
| Residential | $142,844,003 | $13,984,799 | $54,757,756 | $102,071,046 |
| Low Income | $68,273,099 | $50,797 | $22,853,706 | $45,470,190 |
| Commercial & Industrial | $298,886,808 | $8,673,373 | $124,690,430 | $182,869,751 |
| TOTAL | $510,003,910 | $22,708,969 | $202,301,892 | $330,410,987 |

**Calculation of Energy Efficiency Reconciliation Factor Funds, 2010-2012 (1)**

| Sector | Total Budget (2) | Lost Base Revenue (3) | SBC + FCM + RGGI + Other Funds | EERF Funding Required (4) (5) |
|---|---|---|---|---|
| Residential | $345,026,890 | $25,197,550 | $170,143,824 | $200,080,615 |
| Low Income | $156,628,375 | $90,502 | $71,068,100 | $85,650,778 |
| Commercial & Industrial | $633,891,384 | $13,879,961 | $389,766,911 | $258,004,433 |
| TOTAL | $1,135,546,649 | $39,168,013 | $630,978,836 | $543,735,826 |

(1) See Section II.B. Calculation of EERF and V.E. Energy Efficiency Reconciliation Factor for more information
(2) Budget - See Budget Summary Table and Excel Workbook (3) LBR - See LBR Calculation Table and Excel Workbook
(4) Notes:
(4) EERF Revenue Required = (Total Budget + LBR) - (SBC + FCM + RGGI + Other Funds)
(5) EERF needs to include Carry Over (deferral w/interest and Interest on Deferral): See Excel Workbook

### C. Program Budgets and Budget Categories

The program budgets set forth in Tables II.C.1 below are presented on an aggregate, statewide basis by sector (*i.e.*, residential, low-income, and C&I). These budgets reflect an unprecedented rapid increase in the energy efficiency funding in the Commonwealth needed to support the aggressive savings goals outlined in this Plan. For example, the statewide budget for the residential sector increases 62% from 2010 to 2012. In the low-income sector, the budget increases 82% from 2010 to 2012. Similarly, the C&I budget increases 121% from 2010 to 2012. In the October PA-specific filings, each Program Administrator will set forth its individual proposed budget levels for the three-year period commencing January 1, 2010, consistent with the overall goals developed in the statewide Plan review process. **Budget categories** Consistent with the DOER's 225 CMR 11.00 "Guidelines Energy Efficiency Oversight and Coordination," dated June 2004, the Program Administrators have developed their budgets using the following categories:

• **Program Planning and Administration ("PP&A"**). The funds in the PP&A budget category provide for all in-house and outsourced costs associated with planning activities and program administration.

• **Marketing and Advertising**. This budget provides funds for all in-house and outsourced costs associated with marketing activities such as the development and implementation of advertising campaigns that inform customers about energy efficient products and services and other special energy education efforts.

• **Performance Incentive.** This budget category funds the performance incentive that can be earned by electric distribution companies if they meet established goals.

• **Customer Incentive**. The budget dollars in this category fund customer incentive costs (*e.g.*, rebates) needed to overcome market barriers.

• **Sales, Technical Assistance & Training**. The function of the dollars budgeted in this category is to provide for all in-house and outsourced costs associated with implementation activities, including inspections and technical assistance, and all costs related to delivery of the program.

• **Evaluation & Market Research**. Budgeted dollars in this category fund all in-house and outsourced costs associated with evaluation activities, including costs related to cost-effectiveness evaluation, market research (*e.g.*, baseline studies, market assessments, surveys), impact and process evaluation reports, and other costs clearly associated with evaluating the program.

## 1. *Summary Table*

**Program Administrator Budget, 2010 (1)**

| Program | Program Costs | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Program Planning and Administration** | **Marketing and Advertising** | **Participant Incentive** | **Sales, Technical Assistance & Training** | **Evaluation and Market Research** | **Total Program Costs** | **Performance Incentive (2)** | **Lost Base Revenue (3)** |
| **Residential** | $7,899,505 | $5,897,207 | $53,287,584 | $11,349,303 | $3,803,254 | **$82,236,853** | $5,966,826 | $3,049,067 |
| **Low Income** | $3,341,589 | $1,125,438 | $25,219,486 | $4,645,812 | $745,634 | **$35,077,960** | $2,489,294 | $12,223 |
| **Commercial & Industrial** | $12,483,107 | $4,311,595 | $85,729,764 | $17,546,310 | $5,164,294 | **$125,235,071** | $9,763,824 | $1,446,974 |
| **GRAND TOTAL** | **$23,724,202** | **$11,334,240** | **$164,236,834** | **$33,541,425** | **$9,713,183** | **$242,549,883** | **$18,219,944** | **$4,508,265** |

**Program Administrator Budget, 2011 (1)**

| Program | Program Costs | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Program Planning and Administration** | **Marketing and Advertising** | **Participant Incentive** | **Sales, Technical Assistance & Training** | **Evaluation and Market Research** | **Total Program Costs** | **Performance Incentive (2)** | **Lost Base Revenue (3)** |
| **Residential** | $9,887,802 | $7,267,651 | $69,919,445 | $14,177,296 | $5,033,604 | **$106,285,798** | $7,693,410 | $8,163,683 |
| **Low Income** | $4,278,692 | $1,404,797 | $34,376,952 | $6,385,781 | $1,053,902 | **$47,500,124** | $3,287,898 | $27,482 |
| **Commercial & Industrial** | $18,009,355 | $6,300,770 | $127,897,720 | $25,878,919 | $7,632,335 | **$185,719,098** | $14,286,583 | $3,759,613 |
| **GRAND TOTAL** | **$32,175,849** | **$14,973,218** | **$232,194,117** | **$46,441,996** | **$13,719,840** | **$339,505,020** | **$25,267,891** | **$11,950,779** |

**Program Administrator Budget, 2012 (1)**

| Program | Program Costs | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Program Planning and Administration** | **Marketing and Advertising** | **Participant Incentive** | **Sales, Technical Assistance & Training** | **Evaluation and Market Research** | **Total Program Costs** | **Performance Incentive (2)** | **Lost Base Revenue (3)** |
| **Residential** | $12,349,779 | $8,823,125 | $88,382,334 | $17,367,472 | $6,328,172 | **$133,250,880** | $9,593,122 | $13,984,799 |
| **Low Income** | $5,524,312 | $1,756,643 | $46,454,098 | $8,721,113 | $1,448,683 | **$63,904,849** | $4,368,250 | $50,797 |
| **Commercial & Industrial** | $26,209,606 | $9,216,099 | $192,860,275 | $38,244,519 | $11,409,221 | **$277,939,721** | $20,947,088 | $8,673,373 |

2. *Summary Table Showing Percentage Increases from 2008-2012*

This table shows an alternative presentation to the budget data, and includes data showing percentage increases in bud
to each year of the Plan, without the inclusion of LBR amounts.

**BUDGET TOTALS FOR ALL ELECTRIC PROGRAM ADMINISTRATORS**

| YEAR | SECTOR | PPA | Marketing and Advertising | Customer Incentive | Sales, Tech Assis & Training | Evaluation and Market Research | Performanc e Incentive | TOTAL | 9 f |
|---|---|---|---|---|---|---|---|---|---|
| Baseline 1-2008 | **TOTAL** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **$124,343,806** | |
| Baseline 2-2009 | **TOTAL** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **$184,266,304** | 4 |
| 2010 | Residential | $7,899,505 | $5,897,207 | $53,287,584 | $11,349,303 | $3,803,254 | $5,966,826 | $88,203,681 | |
| | Low Income | $3,341,589 | $1,125,438 | $25,219,486 | $4,645,812 | $745,634 | $2,489,294 | $37,567,254 | |
| | C&I | $12,483,107 | $4,311,595 | $85,729,764 | $17,546,310 | $5,164,294 | $9,763,824 | $134,998,893 | |
| | **TOTAL** | **$23,724,202** | **$11,334,240** | **$164,236,834** | **$33,541,425** | **$9,713,184** | **$18,219,944** | **$260,769,828** | 110 |
| 2011 | Residential | $9,887,802 | $7,267,651 | $69,919,445 | $14,177,296 | $5,033,604 | $7,693,410 | $113,979,207 | |
| | Low Income | $4,278,692 | $1,404,797 | $34,376,952 | $6,385,781 | $1,053,902 | $3,287,898 | $50,788,022 | |
| | C&I | $18,009,355 | $6,300,770 | $127,897,720 | $25,878,919 | $7,632,335 | $14,286,583 | $200,005,680 | |
| | **TOTAL** | **$32,175,849** | **$14,973,218** | **$232,194,117** | **$46,441,996** | **$13,719,840** | **$25,267,891** | **$364,772,909** | 193 |
| 2012 | Residential | $12,349,779 | $8,823,125 | $88,382,334 | $17,367,472 | $6,328,172 | $9,593,122 | $142,844,003 | |
| | Low Income | $5,524,312 | $1,756,643 | $46,454,098 | $8,721,113 | $1,448,683 | $4,368,250 | $68,273,099 | |
| | C&I | $26,209,606 | $9,216,099 | $192,860,275 | $38,244,519 | $11,409,221 | $20,947,088 | $298,886,809 | |
| | **TOTAL** | **$44,083,697** | **$19,795,868** | **$327,696,707** | **$64,333,103** | **$19,186,077** | **$34,908,460** | **$510,003,912** | 310 |
| Three-Year Total: 2010-2012 | Residential | $30,137,086 | $21,987,982 | $211,589,363 | $42,894,071 | $15,165,029 | $23,253,358 | $345,026,891 | |
| | Low Income | $13,144,594 | $4,286,878 | $106,050,536 | $19,752,706 | $3,248,219 | $10,145,443 | $156,628,375 | |
| | C&I | $56,702,068 | $19,828,464 | $406,487,759 | $81,669,748 | $24,205,850 | $44,997,494 | $633,891,383 | |
| | **TOTAL** | **$99,983,748** | **$46,103,324** | **$724,127,657** | **$144,316,526** | **$42,619,098** | **$78,396,295** | **$1,135,546,65** | |

## D. Net Benefits and Cost Effectiveness Analysis

1. *Summary Table*

The Program Administrators present the following tables in accordance with the Plan filing procedures developed by the D.P.U. 08-50 Working Group.

i. By sector, B/C Ratio, net benefits, total benefits, total costs, PA costs, customer costs

**Total Resource Cost Test, 2010**

| Sector | B/C Ratio | Net Benefits | Benefits | Costs(1) |
|---|---|---|---|---|
| Residential | 4.60 | $381,256,130 | $487,157,042 | $105,900,912 |
| Low Income | 3.09 | $78,464,706 | $116,031,960 | $37,567,255 |
| Commercial & Industrial | 3.64 | $484,142,752 | $667,440,107 | $183,297,355 |
| GRAND TOTAL | 3.89 | $943,863,587 | $1,270,629,109 | $326,765,522 |

**Total Resource Cost Test, 2011**

| Sector | B/C Ratio | Net Benefits | Benefits | Costs(1) |
|---|---|---|---|---|
| Residential | 4.59 | $494,343,423 | $632,090,707 | $137,747,284 |
| Low Income | 3.06 | $104,624,081 | $155,412,104 | $50,788,023 |
| Commercial & Industrial | 3.18 | $579,046,089 | $844,991,218 | $265,945,129 |
| GRAND TOTAL | 3.59 | $1,178,013,593 | $1,632,494,029 | $454,480,436 |

**Total Resource Cost Test, 2012**

| Sector | B/C Ratio | Net Benefits | Benefits | Costs(1) |
|---|---|---|---|---|
| Residential | 4.26 | $558,964,639 | $730,608,047 | $171,643,408 |
| Low Income | 3.41 | $164,432,899 | $232,705,999 | $68,273,099 |
| Commercial & Industrial | 2.86 | $730,952,238 | $1,123,358,470 | $392,406,232 |
| GRAND TOTAL | 3.30 | $1,454,349,776 | $2,086,672,516 | $632,322,739 |

**Total Resource Cost Test, 2010-2012**

| Sector | B/C Ratio | Net Benefits | Benefits | Costs(1) |
|---|---|---|---|---|
| Residential | 4.45 | $1,434,564,192 | $1,849,855,796 | $415,291,604 |
| Low Income | 3.22 | $347,521,686 | $504,150,063 | $156,628,377 |
| Commercial & Industrial | 3.13 | $1,794,141,079 | $2,635,789,795 | $841,648,716 |
| GRAND TOTAL | 3.53 | $3,576,226,957 | $4,989,795,654 | $1,413,568,697 |

**Notes:**

(1) See Table II.D.2.i Total Resource Costs Summary for more information regarding TRC Test Costs.

2. *Costs Tables*

i. Costs Summary Table

**2010**

| Programs | Program Costs (1) | Performance Incentive (2) | Participant Costs | Total Resource Costs (3) |
|---|---|---|---|---|
| Residential | $82,236,853 | $5,966,826 | $17,697,233 | $105,900,912 |
| Low Income | $35,077,960 | $2,489,294 | $0 | $37,567,255 |
| Commercial & Industrial | $125,235,071 | $9,763,824 | $48,298,461 | $183,297,355 |
| GRAND TOTAL | $242,549,883 | $18,219,944 | $65,995,694 | $326,765,522 |

**2011**

| Programs | Program Costs (1) | Performance Incentive (2) | Participant Costs | Total Resource Costs (3) |
|---|---|---|---|---|
| Residential | $106,285,798 | $7,693,410 | $23,768,076 | $137,747,284 |
| Low Income | $47,500,124 | $3,287,898 | $0 | $50,788,023 |
| Commercial & Industrial | $185,719,098 | $14,286,583 | $65,939,448 | $265,945,129 |
| GRAND TOTAL | $339,505,020 | $25,267,891 | $89,707,525 | $454,480,436 |

**2012**

| Programs | Program Costs (1) | Performance Incentive (2) | Participant Costs | Total Resource Costs (3) |
|---|---|---|---|---|
| Residential | $133,250,880 | $9,593,122 | $28,799,405 | $171,643,408 |
| Low Income | $63,904,849 | $4,368,250 | $0 | $68,273,099 |
| Commercial & Industrial | $277,939,721 | $20,947,088 | $93,519,423 | $392,406,232 |
| GRAND TOTAL | $475,095,450 | $34,908,460 | $122,318,829 | $632,322,739 |

**2010-2012**

| Programs | Program Costs (1) | Performance Incentive (2) | Participant Costs | Total Resource Costs (3) |
|---|---|---|---|---|
| Residential | $321,773,531 | $23,253,358 | $70,264,715 | $415,291,604 |
| Low Income | $146,482,933 | $10,145,443 | $1 | $156,628,377 |
| Commercial & Industrial | $588,893,890 | $44,997,494 | $207,757,332 | $841,648,716 |
| GRAND TOTAL | $1,057,150,354 | $78,396,295 | $278,022,048 | $1,413,568,697 |

**Notes:**

(1) Program Costs include Program Planning and Administration, Marketing and Advertising, Program Incentive, Sales, Technical Assistance & Training, Evaluation and Market Research (See Table IV.C.1, Budget Summary).

(2) See Table II.I for more information regarding Performance Incentives.

(3) This represents the total TRC Test costs, which does not include LBR.

3. *Benefits/Savings Tables*

The Program Administrators present the following tables in accordance with the Plan filing procedures developed by the D.P Group.

Electric Benefits, 2010 ($) | Non-Electric Benefits, 2010 ($) | TOTAL B

| Program | Capacity | | | Energy | | | Resource Benefits | | | Non- Resource Benefits (1) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Generation | Trans. | Distrib. | DRIPE | TOTAL | Winter | Summer | DRIPE | TOTAL | Avoided Natural Gas | No. 2 Distillate | No. 4 Fuel Oil | Propane | |
| | Summer | | | Winter | | Peak | | | Off Peak | | | Peak | | |
| Residential | $47,907,148 | $0 | $9,380,344 | $40,964,256 | $9,692,018 | $107,943,765 | $65,566,789 | $68,473,292 | $34,738,134 | $34,042,685 | $39,253,759 | $242,074,658 | $33,852,938 | $74,020,734 | $0 | $7,423,299 | $0 | |
| Low Income | $4,862,195 | $0 | $932,669 | $3,838,577 | $700,532 | $10,333,973 | $8,512,807 | $8,610,365 | $4,428,303 | $4,284,369 | $2,726,557 | $28,562,401 | $4,888,341 | $30,072,209 | $0 | $190,905 | $0 | |
| Commercial & Industrial | $100,920,199 | $0 | $19,429,008 | $78,500,933 | $17,395,338 | $216,245,478 | $140,441,519 | $65,111,047 | $137,452,005 | $45,166,095 | $54,034,543 | $442,205,209 | $501,685 | -$271,971 | $0 | $0 | $0 | |
| GRAND TOTAL | $153,689,543 | $0 | $29,742,021 | $123,303,765 | $27,787,888 | $334,523,217 | $214,521,116 | $142,194,703 | $176,618,442 | $83,493,149 | $96,014,859 | $712,842,268 | $39,242,965 | $103,820,971 | $0 | $7,614,205 | $0 | |

i. Benefits Summary Table by program: disaggregation of total benefits into benefits components

Electric Benefits, 2011 ($) | Non-Electric Benefits, 2011 ($) | TOTAL B

| Program | Capacity | | | Energy | | | Resource Benefits | | | Non- Resource Benefits (1) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Generation | Trans. | Distrib. | DRIPE | TOTAL | Winter | Summer | DRIPE | TOTAL | Avoided Natural Gas | No. 2 Distillate | No. 4 Fuel Oil | Propane | |
| | Summer | | | Winter | | Peak | | | Off Peak | | | Peak | | |
| Residential | $66,642,337 | $0 | $12,383,243 | $54,621,591 | $12,927,674 | $146,574,845 | $87,293,126 | $91,046,949 | $46,705,640 | $45,653,695 | $31,680,115 | $302,379,526 | $45,836,089 | $102,027,616 | $0 | $9,726,624 | $0 | |
| Low Income | $6,198,139 | $0 | $1,144,653 | $4,927,703 | $883,456 | $13,153,952 | $10,567,926 | $10,693,300 | $5,541,265 | $5,341,997 | $2,073,233 | $34,217,721 | $8,646,598 | $48,598,960 | $0 | $203,775 | $0 | |
| Commercial & Industrial | $135,636,060 | $0 | $24,965,742 | $104,226,876 | $22,535,193 | $287,363,871 | $181,930,314 | $83,266,677 | $185,217,326 | $59,415,802 | $38,030,437 | $547,860,557 | $508,177 | -$556,575 | $0 | $0 | $0 | |
| GRAND TOTAL | $208,476,536 | $0 | $38,493,638 | $163,776,170 | $36,346,323 | $447,092,667 | $279,791,366 | $185,006,926 | $237,464,232 | $110,411,494 | $71,783,786 | $884,457,803 | $54,990,864 | $150,070,001 | $0 | $9,930,398 | $0 | |

Electric Benefits, 2012 ($) | Non-Electric Benefits, 2012 ($) | TOTAL B

ii. Savings Summary Table by program: annual savings over life of measures installed during program

| Program | # of Participants | | | Electric Savings, 2010 | | | | | | | | Non Ele |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Capacity (kW) | | | Energy (MWH) | | | | MMBTU | | | | | Gallons |
| Annual | Lifetime | Summer (Annual) | Winter (Annual) | Total Annual MWH | Lifetime | Avoided Natural Gas | No. 2 Distillate | No. 4 Fuel Oil | Propane | | | Woo |
| Summer | | Winter | | Peak | | Off Peak | | | Peak | | | |
| Residential | 30,534 | 73,345 | 349,406 | 76,774 | 113,762 | 46,430 | 70,485 | 307,450 | 2,369,178 | 148,554 | 173,073 | 0 | 12 |
| Low Income | 2,209 | 5,091 | 35,473 | 5,359 | 7,824 | 3,424 | 4,807 | 21,415 | 310,593 | 44,144 | 64,179 | 0 | 36 |
| Commercial & Industrial | 54,996 | 30,618 | 737,591 | 111,442 | 62,999 | 100,000 | 45,177 | 319,618 | 4,246,748 | 8,815 | (6,182) | 0 | 0 |
| GRAND TOTAL | 87,740 | 109,055 | 1,122,469 | 193,574 | 184,585 | 149,854 | 120,469 | 648,483 | 6,926,519 | 201,512 | 231,070 | 0 | 12 |

| Program | # of Participants | | | Electric Savings, 2011 | | | | | | | | Non Ele |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Capacity (kW) | | | Energy (MWH) | | | | MMBTU | | | | | Gallons |
| Annual | Lifetime | Summer (Annual) | Winter (Annual) | Total Annual MWH | Lifetime | Avoided Natural Gas | No. 2 Distillate | No. 4 Fuel Oil | Propane | | | Woo |
| Summer | | Winter | | Peak | | Off Peak | | | Peak | | | |
| Residential | 38,658 | 95,480 | 445,440 | 99,766 | 147,835 | 58,859 | 89,475 | 395,934 | 3,058,797 | 170,699 | 202,509 | 0 | 13 |
| Low Income | 2,640 | 6,176 | 41,981 | 6,436 | 9,444 | 4,116 | 5,909 | 25,905 | 369,878 | 48,011 | 88,595 | 0 | 39 |
| Commercial & Industrial | 67,849 | 36,898 | 909,280 | 136,604 | 77,599 | 126,497 | 57,716 | 398,416 | 5,296,266 | 8,815 | (4,436) | 0 | 0 |
| GRAND TOTAL | 109,147 | 138,553 | 1,396,700 | 242,806 | 234,878 | 189,472 | 153,100 | 820,255 | 8,724,941 | 227,525 | 286,667 | 0 | 13 |

| Program | # of Participants | | | Electric Savings, 2012 | | | | | | | | Non Ele |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Capacity (kW) | | | Energy (MWH) | | | | MMBTU | | | | | Gallons |
| Annual | Lifetime | Summer (Annual) | Winter (Annual) | Total Annual MWH | Lifetime | Avoided Natural Gas | No. 2 Distillate | No. 4 Fuel Oil | Propane | | | Woo |
| Summer | | Winter | | Peak | | Off Peak | | | Peak | | | |
| Residential | 46,556 | 110,573 | 536,765 | 115,176 | 170,663 | 70,001 | 106,259 | 462,099 | 3,579,083 | 192,501 | 228,794 | 0 | 14 |
| Low Income | 3,524 | 8,379 | 55,570 | 8,714 | 12,774 | 5,674 | 8,103 | 35,266 | 501,202 | 53,835 | 123,833 | 0 | 42 |
| Commercial & | 89,109 | 47,294 | 1,196,073 | 175,464 | 97,808 | 173,535 | 78,291 | 525,098 | 6,998,311 | 8,815 | (8,575) | 0 | 0 |

4. *Avoided Cost Factors*

Avoided cost factors were used in the determination of cost-effectiveness of the programs proposed in this Plan. The accompanying section, below, describes the source and application of these factors.

5. *Avoided Costs, Description of Program Benefits, Demand Reduction Induced Price Effects ("DRIPE")*

The TRC test is the benefit-cost test approved by the Department in D.P.U. 98-100 and, more recently, reconfirmed in D.P.U. 08-50-A, for use in examining the overall economics of the energy efficiency programs. It compares the present value of future electric system and other customer savings to the total of the expenditures and customer costs necessary to implement the programs. The benefit of a measure is the net present value of the avoided costs (*i.e.*, value of the savings) associated with the net savings of a measure over the life of that measure. The net savings reflect findings from evaluation studies. The measure life is based on the technical life of the measure modified to reflect expected measure persistence.

The avoided costs used to determine program cost effectiveness in this Plan were developed in the "Avoided Energy Supply Costs in New England: 2007 Final Report," FINAL - August 10, 2007 (the "AESC Study"), prepared by Synapse Energy Economics, Inc. for the New England Avoided-Energy-Supply-Component ("AESC") Study Group[10]. In addition to the biennial updating of avoided generation capacity and energy values, the report developed recommendations for the inclusion of the DRIPE as additional capacity and energy benefits,

[10] This study was filed with Program Administrator plans for 2008. Exhibits from the study referenced here are included on the dedicated website **www.richmaylaw.com/eeplan** (interim) and will be available on the Council's website**.** Program Administrators throughout New England have contracted with Synapse Energy Economics to prepare a new avoided cost study; this study is due to be completed this summer and will be used in cost-effectiveness analyses included in the Program Administrator-specific filings to be filed in October.

which were adopted by all Massachusetts Program Administrators and used in the benefit/cost analysis in this plan. Avoided electric energy and capacity values used by Massachusetts Program Administrators for this Plan are from Exhibit E-1 MA C$ of the final version of the AESC Study (dated August 31, 2007). Exhibit E-1 presents avoided electric energy and capacity values for Massachusetts in 2007 dollars. These values were escalated to 2010 dollars for this Plan. The avoided costs in Exhibit E-1 incorporate a reserve margin (applied to capacity only), pool transmission losses incurred from the generator to the point of delivery to the distribution companies, and a retail adder as recommended by the AESC Study consultant. An ISO-NE reserve margin is incorporated, since energy efficiency avoids the back-up reserves for that generation as well as the generation itself. The avoided costs from the AESC study do not include non-pool transmission losses or distribution losses. They also do not include Program Administrator-specific avoided transmission and distribution capacity values.

Exhibit E-1 MA C$ also provides Capacity and Energy DRIPE and Additional $CO_2$ values. The Program Administrators included Capacity DRIPE in the calculation of the BCR in this Plan, similar to their inclusion in the analyses of the Energy Efficiency Plans in 2006 through 2009. The value associated with energy DRIPE is also included in the calculation of BCR in this Plan.[11] DRIPE capacity and energy values used in the cost-effectiveness analysis are shown below, in 2010 dollars.

[11] The Order in D.P.U. 08-50-A specifies that only the value of DRIPE associated with Massachusetts energy efficiency should be included in Massachusetts cost-effectiveness analyses. The 2009 Avoided Cost Study will provide "Massachusetts only" values of DRIPE to use in the October Plans and future benefit-cost analyses.

| Year | Capacity $/kW | Winter Pk Energy $/kWh | Winter Off Pk Energy $/kWh | Summer Pk Energy $/kWh | Summer Off Pk Energy $/kWh |
|---|---|---|---|---|---|
| 2010 | $0.00 | $0.050 | $0.040 | $0.090 | $0.037 |
| 2011 | $0.00 | $0.046 | $0.037 | $0.084 | $0.034 |
| 2012 | $150.76 | $0.028 | $0.023 | $0.051 | $0.021 |
| 2013 | $96.92 | $0.000 | $0.000 | $0.000 | $0.000 |
| 2014 | $43.08 | $0.000 | $0.000 | $0.000 | $0.000 |
| 2015 | $0.00 | $0.000 | $0.000 | $0.000 | $0.000 |

Additional $CO_2$ benefits have been provided for informational purposes but are not included in the BCR. $CO_2$ values used in the analysis are shown below in 2010 dollars.

| | Winter Peak Energy CO2 Costs $/kWh | Winter Off-Peak Energy CO2 Costs $/kWh | Summer Peak Energy CO2 Costs $/kWh | Summer Off-Peak Energy CO2 Costs $/kWh |
|---|---|---|---|---|
| 2010 | $0.0379 | $0.0372 | $0.0422 | $0.0410 |
| 2011 | $0.0378 | $0.0371 | $0.0421 | $0.0408 |
| 2012 | $0.0332 | $0.0327 | $0.0370 | $0.0359 |
| 2013 | $0.0318 | $0.0313 | $0.0355 | $0.0344 |
| 2014 | $0.0304 | $0.0299 | $0.0339 | $0.0329 |
| 2015 | $0.0291 | $0.0286 | $0.0324 | $0.0314 |
| 2016 | $0.0277 | $0.0272 | $0.0309 | $0.0300 |
| 2017 | $0.0263 | $0.0259 | $0.0293 | $0.0285 |
| 2018 | $0.0249 | $0.0245 | $0.0278 | $0.0270 |
| 2019 | $0.0235 | $0.0232 | $0.0262 | $0.0255 |
| 2020 | $0.0222 | $0.0218 | $0.0247 | $0.0240 |
| 2021 | $0.0215 | $0.0211 | $0.0239 | $0.0232 |
| 2022 | $0.0208 | $0.0204 | $0.0232 | $0.0225 |
| 2023 | $0.0208 | $0.0204 | $0.0232 | $0.0225 |
| 2024 | $0.0208 | $0.0204 | $0.0232 | $0.0225 |
| 2025 | $0.0208 | $0.0204 | $0.0232 | $0.0225 |
| 2026 | $0.0208 | $0.0204 | $0.0232 | $0.0225 |
| 2027 | $0.0208 | $0.0204 | $0.0232 | $0.0225 |
| 2028 | $0.0208 | $0.0204 | $0.0232 | $0.0225 |
| 2029 | $0.0208 | $0.0204 | $0.0232 | $0.0225 |
| 2030 | $0.0208 | $0.0204 | $0.0232 | $0.0225 |
| 2031 | $0.0208 | $0.0204 | $0.0232 | $0.0225 |
| 2032 | $0.0208 | $0.0204 | $0.0232 | $0.0225 |
| 2033 | $0.0208 | $0.0204 | $0.0232 | $0.0225 |
| 2034 | $0.0208 | $0.0204 | $0.0232 | $0.0225 |

Avoided natural gas cost values used by all Massachusetts Program Administrators for this Plan are from Exhibit B-6 of the final version of the AESC Study. This Exhibit presents

avoided natural gas values for northern and central New England in 2007 dollars. These values were escalated to 2010 dollars for this Plan. Avoided other fuel values used by all Massachusetts Program Administrators for this Plan are from Exhibit F-1 of the final version of the AESC Study. This Exhibit presents avoided other fuel values for New England in 2007 dollars. These values were escalated to 2010 dollars for this Plan. To escalate the avoided costs into 2010 constant dollars, an inflation rate of 2.5 percent per year was applied. This rate was provided to Program Administrators by the DOER for use in 2009 Plans and is approximately the difference in yield between 20 year Treasuries and 20 year Treasury Inflation Protected Securities ("TIPS") and thus reflects market expectations of future inflation. Other than the last two years, it is approximately the long run historical average since the 1990s. The Avoided Cost value components from the 2007 AESC Study, thus escalated, were used in the cost-effectiveness analyses. Avoided water and sewer values used in the analysis are from a survey of public water and sewer rates in Massachusetts cities and towns. The survey was conducted in 2004 by Tighe and Bond. The data in the survey report were weighted by population to determine single water and sewer values for all of Massachusetts. These values were escalated to 2010 dollars, yielding values of $0.0038 per gallon for water and $0.0053/gallon for sewerage. They are assumed to be constant throughout the forecast period.

Avoided Transmission and Distribution capacity values used in the analysis are utility specific. In 2005, the Avoided Energy Supply Cost study consultant, ICF International, created a spreadsheet tool for Program Administrators to use. The tool calculates an annualized value of avoided transmission and distribution capacity values from PA-specific inputs of historic and

forecast capital expenditures and loads, as well as a carrying charge calculated from applicable tax rates and FERC Form 1 accounting data. This tool was recommended for use by all utilities to achieve some consistency in estimating T&D capacity values. T&D capacity values used in the cost-effectiveness analyses are utility specific. Demand and energy losses account for local transmission and distribution losses from the point of delivery to the distribution company's system to the ultimate customer's facility. Since they are a function of the individual utility's system, losses are calculated on a utility-specific basis. The dollar value of the program's benefits is calculated by multiplying the expected savings by the appropriate avoided value component. The avoided value component for each benefit (fuel, non-fuel or non-resource) is the cumulative net present value (2010 dollars) of lifetime avoided costs for each year of the planning horizon from the base year. For example, the avoided value component in Year 10 for any given benefit is the sum of the net present value of the annual avoided costs for the resource for Year 1, Year 2, Year 3, etc. through Year 10, in 2010 dollars. This value is applied to the annual savings for a measure with a 10 year life to generate the lifetime avoided benefit for that measure. Since all of the future year values are in constant 2010 dollars, lifetime benefits thus calculated are discounted back to 2010 using a real discount rate equal to [(1 + Nominal Discount Rate) / (1 + Inflation)] - 1. The nominal discount rate of 3.66 percent was provided by the DOER for use in this Plan, per the guidelines established in D.P.U. 08-50-A.

6. *Avoided Benefits Calculations*

**Avoided Electric Energy Benefits.** The AESC Study identified four electric energy costing periods consistent with ISO New England definitions. Energy prices are divided into the following four time periods:

- Winter Peak: October – May, 6:00 a.m. – 10:00 p.m., weekdays excluding holidays.
- Winter Off-Peak: October – May; 10:00 p.m. – 6:00 a.m., weekdays. Also including all weekends and ISO defined holidays.
- Summer Peak: June – September, 6:00 a.m. – 10:00 p.m., weekdays excluding holidays.
- Summer Off-Peak: June – September; 10:00 p.m. – 6:00 a.m., weekdays. Also including all weekends and ISO defined holidays.

Net energy savings for a program (or measures aggregated within a program) are allocated to each one of these time periods and multiplied by the appropriate avoided energy value. The dollar benefits are then grossed up using the appropriate loss factors.

- Summer Peak Energy Benefit ($) = kWhNet * $Energy\%_{SumPk}$ * $SumPk\$/kWh_{(@Life)}$ * (1 + $\%Losses_{SumPk\text{-}kWh}$)
- Summer OffPeak Energy Benefit ($) = kWhNet * $Energy\%_{SumOffPk}$ * $SumOffPk\$/kWh_{(@Life)}$ * (1 + $\%Losses_{SumOffPk\text{-}kWh}$)
- Winter Peak Energy Benefit ($) = kWhNet * $Energy\%_{WinPk}$ * $WinPk\$/kWh_{(@Life)}$ * (1 + $\%Losses_{WinPk\text{-}kWh}$)
- Winter OffPeak Energy Benefit ($) = kWhNet * $Energy\%_{WinOffPk}$ * $WinOffPk\$/kWh_{(@Life)}$ * (1 + $\%Losses_{WinOffPk\text{-}kWh}$)

**Avoided Generation Capacity Benefits.** Net peak demand savings are multiplied by avoided generating capacity values from the AESC Study and capacity losses downstream of the ISO-delivery point. ISO-New England offers three different definitions of coincident peak demand reduction:

- On-Peak Hours – demand reduction during pre-determined, fixed set of on-peak hours (e.g., 1:00 to 5:00 p.m. non-holiday weekdays during the summer months of June, July, and August or 5 to 7 pm on non-holiday winter weekdays in December and January ).
- Seasonal Peak Hours – demand reduction in hours in which Real-Time load ≥ 90% of the projected seasonal coincident peak demand.
- Critical Peak Hours – demand reduction in Shortage Hours and hours in which Day-Ahead forecasted load ≥ 95% of the projected seasonal coincident peak demand.

The capacity values from the AESC Study may be used with demand reduction determined using any of these three definitions. The equation for winter generation benefit is shown even though the winter generation value is $0/kW.

- Summer Generation Benefit ($) = kWSumNet * SumGen$/kW$_{(@Life)}$ * (1 + %Losses$_{SumkW}$)

- Winter Generation Benefit ($) = kWWinNet * WinGen$/kW$_{(@Life)}$ * (1 + %Losses$_{WinkW}$)

**Avoided Transmission and Distribution Capacity Benefits.** These values are calculated similarly to the avoided generation capacity values, using the PA-specific T&D capacity values. In theory, the benefit could be allocated to summer and winter periods, depending on the relation between summer and winter peaks on the local system. If the local system is summer peaking, then the T&D benefits will be exclusively associated with summer demand reduction.

- Transmission Benefit ($) = [(kWSumNet * Trans$/kW$_{(@Life)}$ * T&D%$_{Sum}$) + (kWWin * Trans$/kW$_{(@Life)}$ * T&D%$_{Win)}$] * [1 + ((Losses$_{SumkW}$ + Losses$_{WinkW}$)/2)]

- Distribution Benefit ($) = [(kWSumNet * Dist$/kWLife$_{(@Life)}$ * T&D%$_{Sum}$) + (kWWin * Dist$/kW$_{(@Life)}$ * T&D%$_{Win}$)] * [1 + ((Losses$_{SumkW}$ + Losses$_{WinkW}$)/2)]

Where T&D%$_{Sum}$ is the portion of the year T&D costs are calculated based on the summer kW (i.e.: 50%) and T&D%$_{Win}$ is the portion of the year T&D costs are calculated based on the winter kW (i.e.: 50%). **Non-Electric Benefits.** These benefits derive from the fact that some energy efficiency projects affect the use of other resources (such as fuels and water) or affect non-resource costs such as labor, materials, productivity, etc. Non-electric benefits are counted for all projects, with the exception of C&I custom projects. Research has not yet produced acceptably stable values of custom non-electric benefits that may be used in program planning.

- Natural Gas Benefits ($) = MMBTU_NetGas * Gas$/MMBTU$_{(@Life)}$
- Oil Benefits ($) = MMBTU_NetOil * Oil$/MMBTU$_{(@Life)}$
- Propane Benefits ($) = MMBTU_NetPropane * Propane$/MMBTU$_{(Life)}$
- Water and Sewerage Benefits ($) = NetWater and/or Sewerage * Water and/or Sewer $/Gal$_{(@Life)}$
- Other Fuels benefits from biofuels, kerosene and wood are similarly calculated

• Non-Resource Benefits = Annual value of non-resource savings in $ * present worth factor$_{(@Life)}$

**Demand Reduction Induced Price Effects.** The AESC Study also quantified a price reduction benefit associated with energy efficiency. This benefit is referred to as the DRIPE. DRIPE are the reductions of wholesale energy and capacity market prices that result from reductions in demand as a result of energy efficiency efforts. The AESC study recommended that both capacity and energy DRIPE be included in benefit-cost screening.

• Capacity-related DRIPE Benefits ($) = kWSumNet * DRIPE$/kW$_{(@Life)}$ * (1 + Losses$_{SumkW}$)

• Summer Peak Energy-related DRIPE Benefit ($) = kWhNet * Energy%$_{SumPk}$ * SumPkDRIPE$/kWh$_{(@Life)}$ * (1 + %Losses$_{SumPk\text{-}kWh}$)

• Summer OffPeak Energy-related DRIPE Benefit ($) = kWhNet * Energy%$_{SumOffPk}$ * SumOffPkDRIPE$/kWh$_{(@Life)}$ * (1 + %Losses$_{SumOffPk\text{-}kWh}$)

• Winter Peak Energy-related DRIPE Benefit ($) = kWhNet * Energy%$_{WinPk}$ * WinPkDRIPE$/kWh$_{(@Life)}$ * (1 + %Losses$_{WinPk\text{-}kWh}$)

• Winter OffPeak Energy-related DRIPE Benefit ($) = kWhNet * Energy%$_{WinOffPk}$ * WinOffPkDRIPE$/kWh$_{(@Life)}$ * (1 + %Losses$_{WinOffPk\text{-}kWh}$)

Further details on the derivation of capacity- and energy-related DRIPE may be found in Chapter 6 of the AESC Study. Briefly, capacity DRIPE was estimated using projections of the theoretical effect DSM would have on what the cost of new generation would be. Energy DRIPE was estimated by analyzing the interactions of small changes in load in each zone on the clearing prices in that zone and on neighboring zones. These estimates are very small when expressed in terms of impacts on the market prices of energy and capacity, i.e., reductions of a fraction of a percent. These impacts are projected to dissipate over four to five years as the market reacts to the new, lower level of energy and capacity required. However, DRIPE impacts

are significant when expressed in absolute dollar terms, since very small impacts on market prices, when applied to all energy and capacity being purchased in the market, translate into large absolute dollar amounts. Thus, consideration of DRIPE impacts can increase the cost-effectiveness of DSM programs on the order of 15 to 20 percent, because the estimated absolute dollar benefits of DRIPE are being attributed to a relatively small quantity of reductions in energy and/or capacity.

## E. Bill Impacts

### 1. *Overview*

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 have sought to develop a statewide Plan that provides for this acquisition with the lowest reasonable customer contribution. G.L. c. 25, § 21(b). Therefore, consistent with the requirements of the Act, the Program Administrators have developed a series of initial estimated statewide bill impacts that provide a broad overview of the general statewide effect that these energy efficiency measures will have on an average residential and C&I customer's bill during the course of the three-year plan. These bill impacts are **very preliminary** estimates, applying various assumptions to derive an average cost to provide energy efficiency measures across the Commonwealth and the various service territories. These assumptions are set forth in the notes accompanying these initial projections. The bill impact that will actually 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, 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 forward capacity market or from cap-and-trade programs such as the RGGI. As a result, this preliminary, statewide bill impact analysis in today's Plan is offered for preliminary instructive purposes only and to demonstrate the Program Administrators' cognizance of the need to consider carefully bill impacts in all planning under the Act. The Program Administrators will work with the Council and its Consultants to prepare refined and detailed bill impact analyses consistent with the requirements set forth in the Department's order in D.P.U. 08-50-A, not only for this statewide Plan, but more particularly for the PA-specific plans to be filed in October.[12] The actual bill impact analyses that each individual Program Administrator will include in its October energy efficiency plan filing can be expected to vary (in many cases, materially) from the statewide, preliminary projections provided herein. The Program Administrators specifically note that, in preparing bill impact analyses, they will be 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:

[12] The Program Administrators plan to participate in the Bill Impact Working Group convened by the Department and the Council to develop appropriate joint methods and types of assumptions and inputs that will be used by each Program Administrator in the presentation of PA-specific Plans.

• Rate and average bill impact analysis should be performed on a portfolio basis, as opposed to on 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: (1) the estimated rates and bills with the energy efficiency programs in place to (2) 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 account for the revenues that are collected through a revenue decoupling mechanism or through an interim lost base revenue adjustment mechanism.

• 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.

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

| | | | Monthly EERF Requirement $/Mo | | | | |
|---|---|---|---|---|---|---|---|
| | | Residential | Small C&I | Large C&I | | % reduction needed to offset EERF charge |
| | | kwh/mo | kwh/mo | kwh/mo | | |
| **2010** | **EERF Rate** | **500** | **2000** | **200,000** | | |
| Residential | $ 0.002793 | $ 1.40 | | | 1.5% | |
| Low Income | $ - | $ - | | | | |
| Commercial & Industrial | $ 0.000422 | | $ 0.84 | $ 84.37 | | |

2. *Preliminary Statewide Bill Impact Analysis Table*

| | | Residential | Small C&I | Large C&I |
|---|---|---|---|---|
| | | kwh/mo | kwh/mo | kwh/mo |
| **2011** | **EERF Rate** | **500** | **2000** | **200,000** |
| Residential | $ 0.005105 | $ 2.55 | | |
| Low Income | $ - | $ - | | |
| Commercial & Industrial | $ 0.002847 | | $ 5.69 | $ 569.40 |

| | | Residential | Small C&I | Large C&I | | % reduction needed to offset EERF charge |
|---|---|---|---|---|---|---|
| | | kwh/mo | kwh/mo | kwh/mo | | |
| **2012** | **EERF Rate** | **500** | **2000** | **200,000** | | |
| Residential | $ 0.008105 | $ 4.05 | | | 4.4% | |
| Low Income | $ - | $ - | | | | |
| Commercial & | $ | | $ 13.55 | $ | 3.4% | 5.3% |

3. *Notes on Preliminary Statewide Bill Impact Analysis/Assumptions*

• Based on preliminary analysis, the average residential customer using 500 kWh of electricity a month would expect to see an increase in their bill by around $1.40 a month in 2010, absent savings from the programs. This amount takes into account funds collected from the system benefit charge, the FCM and RGGI and also a rough estimate of lost base revenue requirements. By 2012, this amount would increase to slightly more that $4.05 per month. To fully offset this amount immediately, the average customer would need to reduce consumption by 2.1% in 2010 and 5.5% in 2012, assuming a retail electricity rate of 18.5 cents (weighted average Massachusetts R-1 rate for May 2009) and/or the programs will need to provide additional savings and benefits equal to this increase. These material benefits will be reviewed with the Council and will be included in the PA-specific filings to be made in October. Also, these statewide analyses do not show any participant benefits in terms of reduced usage and, as noted above, are presented solely on a preliminary basis to reflect the Program Administrators' sensitivity to bill impact issues.

• For a Small Commercial or Industrial customer using 2,000 kWh/month (10 kW in peak demand), in 2010 the bill impact would be slightly less than $1 per month, absent savings from the programs, reaching $14 per month by 2012. In order to fully offset this amount immediately, the average commercial or industrial customer would need to reduce consumption by 3.5% by 2012 and/or the programs would need to provide additional savings and benefits equal to this increase. These material benefits will be reviewed with the Council and will be included in the PA-specific filings to be made in October. Also, these statewide analyses do not show any participant benefits in terms of reduced usage and, as noted above, are presented solely on a preliminary basis to reflect the Program Administrators' sensitivity to bill impact issues.

• For Large C&I customers using 200,000 kWh/month (500 kW in peak demand), in 2010 the bill impact would be approximately $85 per month, absent savings from the programs, reaching $1350 per month by 2012. In order to fully offset this amount immediately, the average commercial or industrial customer would need to reduce consumption by 5% by 2012 and/or the programs would need to provide additional savings and benefits equal to this increase. These material benefits will be reviewed with the Council and will be included in the PA-specific filings to be made in October. Also,

these statewide analyses do not show any participant benefits in terms of reduced usage and, as noted above, are presented solely on a preliminary basis to reflect the Program Administrators' sensitivity to bill impact issues.

• Bill impacts were calculated by using estimated statewide kwh and EERF funding requirements for each sector for each year to determine the EERF rates per sector per year.

• The bill impacts listed in the narrative above are based on the reallocation of Low Income EERF funding to the other sectors.

• In sum, this preliminary statewide analysis will be refined for each program Administrator and does not yet factor in the system cost-benefits to be achieved as a result of the Plan. Consistent with the Order in D.P.U. 08-50-A, these values will be quantified in ongoing work with the Council and provided along with other benefits in the PA-specific October filings. The preliminary analysis does not reflect participant savings. The analysis reflects the Program Administrators' sensitivity to issues of billing impacts, and the Program Administrators will continue to work collaboratively with the Council on these matters.

### F. Program Descriptions

The program designs set forth in this section have been collaboratively developed by the Program Administrators. As a critical part of this program design process, the Program Administrators reached out to interested parties, including the Council's Consultants and the low-income program delivery network in order to develop state-of-the-art program designs that enjoy broad-based support. In some instances, the designs set forth below are fully developed and contain detailed information down to the exact level of proposed customer incentives. In other instances, some details of the program designs remain under discussion and will be further developed, not only during the review of this Plan by the Council, but also in advance of each PA-specific three-year plan to be filed on or before October 31, 2009. In developing these program designs, the Program Administrators sought to be directly responsive to the suggestions advanced in the Council's Priorities Resolution, and the Program Administrators will continue to work with Council members and the Council's Consultants on these designs. A critical component of these program designs is enhanced consistency, integration and coordination

among all Program Administrators. As indicated in the program descriptions below, it is the Program Administrators' goal that, except in limited circumstances based upon a Program Administrator's unique circumstances (*e.g.*, the specific needs of a service territory or the desire to operate a pilot effort), these program designs will be implemented by all Program Administrators on a coordinated statewide basis. This coordination and consistency should: 1) increase customer satisfaction and decrease customer confusion throughout Massachusetts; 2) simplify messages and marketing campaigns to customers, thereby making them more powerful; and, 3) ultimately, help the Program Administrators achieve broader and deeper energy savings. The Program Administrators look forward to reviewing these designs with the Council and other interested parties and finalizing state-of-the-art programs for implementation in 2010.

1. *Residential Programs Descriptions*

## Residential New Construction

| | |
|---|---|
| **Primary Objective** | To capture lost opportunities, encourage th efficient homes and drive the market to on moving towards net-zero energy. |
| **Program Inception** | The program was initially offered in 1998. |
| **2010-2012 Program Goals** | To be provided with October 2009 Filings. |
| **2010-2012 Budget** | To be provided with October 2009 Filings. |
| **Joint vs. Program Administrator- Specific Offering** | Joint |
| **Program Design** | The Program Administrators continue thei comprehensive whole-house approach for Homes with ENERGY STAR® Program. T is a proud participant of the national ENE program and benefits from the regional, as efforts that ENERGY STAR Homes imple committed to achieving both a broader ma |
| **Program Design (cont.)** | penetration of energy-efficient homes as w where possible. The Program Administrat participating builders and recruit new ones ENERGY STAR certification for all home However, the program will also provide in level above Massachusetts State Code but certification standards) as an avenue for br ENERGY STAR. Direct installation of EN compact fluorescent lights ("CFLs") in app sockets, on-site training, and a final verific for all homes participating in the program. four units or fewer will be designated as si five units or more will be classified as mul are five stories or fewer that are permitted group are eligible to participate in the prog an ENERGY STAR-qualified Home. Mixe |

| Package | Requirements | | Single-Family Incentive[1] | Multifam |
|---|---|---|---|---|
| | | | 5-99 units | 100-199 units |
| CODE Plus | 6 ACH CFM 50, 8 percent duct leakage | $325 | $225.00 | $225.00 |
| ENERGY STAR I | ENERGY STAR compliance with a minimum HERS Index of 85 or less | $750 | $650.00 | $500.00 |
| ENERGY STAR II | ENERGY STAR compliance with a minimum HERS Index of 85 or less and 30% improvement or better over the Massachusetts Baseline Home | $1,250 | $1,150.00 | $850.00 |
| ENERGY STAR III | ENERGY STAR compliance with a minimum HERS Index of 85 or less and 60% improvement or better over the Massachusetts Baseline Home | $8,000.00 | $4,000.00 [3] | $3,000.00 [3] |

[1] Starting in 2010 the program will define a single family home as a structure that contains one to four units.

[2] Starting in 2010 the program will define a multi-family home as a structure that contains five or more units.

[3] ENERGY STAR III Multifamily projects will be reviewed for final fee structure; listed are the maximum incentive

**Delivery Mechanism**

The program is administered by a utility and/
Administrator in each service territory and co
through the Joint Management Committee ("
through a competitive bid process, choose an
contractor to oversee the day-to-day operatio
statewide. The contractor is responsible for t
program activity to the respective JMC Progr
contractor will also conduct quality assurance
activities and advise the JMC on necessary pr
enhancements. Throughout the planned time
to continuously strive towards a market-base
contractors who offer energy-efficiency and r
homebuilders for a fee. The Program Admin
continuing to support rater fees for low incon
service territories. The program recognizes t
training necessary to make this program succ
support workforce development efforts throu
The program will support training of increase
greater depth in the fundamentals of building
available technologies, including those for ai
The contractor will be a HERS provider of la
raters become established as part of the open

**Joint Program Administrator**

▪ The Program Administrators are currently w
identify a way to provide complete support to
structures five stories or fewer. It is under co
master metered electric buildings to participa
they are ineligible currently.

**Enhancements Planned for 2010-2012**

▪ The 2009 major renovation pilot projects be
Program Administrators will provide further
JMC to garner greater savings by administeri
Program during 2010-2012. A plan for a com

| | |
|---|---|
| **Residential Major Renovation Pilot** | |
| **Primary Objective** | To capture lost opportunities and encourage e additions and renovations to existing homes. |
| **Initially Offered** | This pilot was originally offered in the 2009 e |
| **2010-2012 Program goals** | To be provided with October 2009 Filings. |
| **2010-2012 Budget** | To be provided with October 2009 Filings. |
| **Program Administrator-Specific Elements** | Joint |
| **Program Design** | This pilot program is designed to help residen renovate or add to their existing homes. Beca nature of major renovations (those that affect of the existing home), this pilot combines ele Residential New Construction Program (for t Residential Conservation Services (for the ex provide a comprehensive whole-house approa |
| **Target Market** | ▪ ✍◆♓●♎♏❒♦<br>▪ Architects<br>▪ Designers<br>▪ Trade allies<br>▪ Home buyers<br>▪ Home improvement specialists<br>▪ Others involved in the addition to and renov single-family homes or three-story or fewer n |
| **Marketing Approach** | Marketing strategies include direct builder |

## Residential ENERGY STAR® HVAC

| | |
|---|---|
| **Primary Objective** | To raise residential consumer awareness and<br>properly installed high-efficiency cooling equ<br>and to similarly increase the market share of<br>labeled warm-air furnaces equipped with an e<br>commutated motor ("ECM") or equivalent ad<br>system. In addition, the program will place in<br>beyond equipment sales to include cost effect<br>opportunities from duct sealing, digital tune-u<br>installation practices, maintenance, and speci<br>systems. |
| **Program Inception** | The Program Administrators introduced their<br>ENERGY STAR-labeled central air condition<br>now called COOL SMART, on April 1, 2004<br>component of the program, a joint electric an<br>in 2003. |
| **2010-2012 Program goals** | To be provided with October 2009 Filings. |
| **2010-2012 Budget** | To be provided with October 2009 Filings. |
| **Joint v. Program Administrator-Specific Offering** | During the period 2010-2012, the COOL SM<br>again be offered by all Program Administrato<br>Western Massachusetts Electric, Unitil, and C<br>did not offer the program in 2007 though 200<br>component of the program will also be offere<br>by the same Program Administrators. |
| **Program Design** | The ENERGY STAR HVAC Program is an i<br>increase consumer awareness and the market<br>STAR-labeled furnaces, central air conditioni<br>source heat pumps and to promote quality coo<br>HVAC technicians and contractors. |
| **Target Market** | There are several target markets: |

## Residential Conservation Services / MassSAVE

| | |
|---|---|
| **Primary Objective** | To educate residential customers about energ and offer information regarding saving energ customer to identify and initiate the process effective energy efficiency upgrades and pra RCS/MassSAVE Program provides an entry participate in all comprehensive energy effic |
| **Program Inception** | During the period 1980-2000, the RCS/Mass educational program encouraging customers efficiency of there homes. In 2001, the RCS began to change its emphasis from education implementation. Customers are now offered implement energy saving measures in their h continued to increase cost effective incentive leading to greater energy savings and increas |
| **2010-2012 Program goals** | To be provided with October 2009 Filings. |
| **2010-2012 Budget** | To be provided with October 2009 Filings. |
| **Joint vs. Program Administrator-Specific Offering** | Joint |
| **Program Design** | Improving on almost three decades of progra RCS/MassSAVE program takes a "one-stop customers. This is a significant leap forward Administrator distinctions indiscernible to co Administrators strive to fully support those w making energy-efficient improvements to the program helps those customers identify and i needed to control their future energy costs. |
| **Program Design (cont.)** | The level of service is intended to be flexible to a broad group of customers, and provide in deep retrofit services to interested parties. A the MassSAVE toll-free number to learn abo asked several questions to determine their ne interest in making energy-efficient improvem |

## Deep Retrofit 1-4 Family Pilot

| | |
|---|---|
| **Primary objective** | To investigate the potential of energy savings through deep retrofits of existing residential b identify how to reduce the costs associated wi |
| **Initially offered** | This pilot was originally offered as a pilot in t Administrators' 2009 plans. |
| **2010-2012 Program goals** | To be provided with October 2009 Filings. |
| **2010-2012 Budget** | To be provided with October 2009 Filings. |
| **Joint vs. Program Administrator-specific offering** | Joint by 2011, maybe individual in 2010 |
| **Program design** | The pilot will assess the costs and benefits of in Massachusetts residences. The design inclu deep retrofits and to gather information on cus behavior modification, and energy savings. T Commonwealth continue to develop informat measures for deep retrofits, the correct way to energy savings for deep retrofits, approaches types, training energy-retrofit contractors, cus marketing materials, and financing mechanisn levels. Program evaluation and case study re treated in 2009 will substantially inform the e subsequent years. |
| **Target market** | ▪ ♑□♋♏ □⬥■♏❐⬥ ♍□■⬥♓♎♏❐ ♋◆♓□■⬥ ♋■♎ □❐ ♏☒◆♏■⬥♓ ❐♏♎◆♍◆♓□■⬥<br>▪ Advanced Remodelers and Builder Remode<br>▪ Architects<br>▪ Designers |

## ENERGY STAR Lighting

| | |
|---|---|
| **Primary Objective** | To increase consumer awareness of the impor purchasing ENERGY STAR-qualified lightin the availability, consumer acceptance, and us energy-efficient lighting technologies and co Program Administrators focused on retail sal lighting through in-store coupons as well as t Over the years, the program has evolved to ut incentives, which dramatically increased sale product for the customer. Additionally, light extended past basic compact fluorescent spira products and solid state lighting ("SSL"). |
| **Program Inception** | The program was initially offered in 1998. |
| **2010-2012 Program goals** | To be provided with October 2009 Filings. |
| **2010-2012 Budget** | To be provided with October 2009 Filings. |
| **Joint vs. Program Administrator-Specific Offering** | Joint |
| **Program Design** | The residential ENERGY STAR Lighting Pro interaction with all the key market players in market, from manufacturers to retail sales sta on involving upstream market players to leve resources. |
| **Program Design (cont.)** | The ongoing collection of data on overall ma product availability, market share, and pricing Administrators up-to-date on changes in the m market. That awareness, in turn, enables Prog to adapt program offerings as needed to main increasing the market share of energy-efficien The program also supports independent, third monitor, and ensure high-quality products in third-party data will also be used in the coord |

## ENERGY STAR Appliances & Products

| | |
|---|---|
| **Primary Objective** | To raise consumer awareness of the benefits ENERGY STAR-qualified consumer produc consumers to purchase qualified appliances a electronics, and to promote higher efficiency and to help customers reduce energy bills by inefficient products. Historically, the progra major appliances such as refrigerators, clothe conditioners, and dishwashers, working with cooperative promotions, and providing mail- purchases. In recent years, electronic device and other ancillary equipment have become i portions of a consumer's energy bill, requirin focus. |
| **Program Inception** | The program began in 1998. |
| **2010-2012 Program goals** | To be provided with October 2009 Filings. |
| **2010-2012 Budget** | To be provided with October 2009 Filings. |
| **Joint vs. Program Administrator-Specific Offering** | Joint |
| **Program Design** | The ENERGY STAR Consumer Products Pr consumers about the benefits of ENERGY S to increase consumer acceptance of those app electronics and to encourage them to look fo ENERGY STAR-qualified models when they The Program Administrators plan to negotiat manufacturers and retailers to leverage rebat funding. The program promotes all high-effi STAR-qualified appliances at the point of sal promotional literature and displays to retailer staffs to ensure |
| **Program Design (cont.)** | they understand and can accurately market th STAR-qualified appliances, and providing la that meet ENERGY STAR standards. Select be included in these activities. The program |

## Residential Pay & Save Financing/Loan Pilot

| | |
|---|---|
| **Primary Objective** | To establish a pilot loan program that creates financing mechanism for customers to financ contribution cost of the implementation and i Efficiency measures. The desired effect is to customers to participate in energy conservatio |
| **Program Inception** | New pilot program (see "Special Notes" rega Pay and Save Pilot Program). |
| **2010-2012 Program Goals** | To be provided with October 2009 Filings. |
| **2010-2012 Budget** | To be provided with October 2009 Filings. |
| **Joint vs. Program Administrator- Specific Offering** | This pilot is a Joint offering. |
| **Program Design** | The program would make funds available to financing energy efficiency improvements an repay those loans through their utility bills wi |
| **Target Market** | To be used by programs designated by Progra |
| **Marketing Strategy/Approach** | Pilot program will be incorporated into the R process. |
| **Target End Uses** | Residential customers who install weatheriza |
| **Recommended Technologies** | Non-portable measures |
| **Financial Incentives** | Financing the customer contribution assists c have the ability to pay the customer contribut of the installation. It is expected that this inc increased customer participation in programs |
| **Delivery Mechanism** | RCS/MassSAVE Program delivery vendors. |
| **Three-Year Deployment** | Once the pilot program is completed on Dece evaluation will commence and a decision to i program into 2010-2012 programs will be ex Administrators. |
| **Special Notes** | The Program Administrators will incorporate Department-approved Energy Pay and Save p |

## Multi-Family Program

| | |
|---|---|
| **Primary Objective** | To acquire reliable reductions in electric ener fuel savings through investments in well-defi energy efficient technologies, and practices i with five or more units through an efficient ta of services to all eligible units in the facility i exterior common areas. |
| **Initially Offered** | The program was initially offered in 2005. |
| **2010-2012 Program Goals** | To be provided with October 2009 Filings. |
| **2010-2012 Budget** | To be provided with October 2009 Filings. |
| **Joint vs. Program Administrator- Specific Offering** | These programs are specific to individual Pro |
| **Program Design** | The program seeks to substantially reduce the of multi-family buildings through the provisi whole-house retrofit services. Eligible custo assessment, education on energy-savings opp installation of low cost efficiency measures. receive up to a 75% discount on the installati cost) measures. |
| **Target Market** | Non-low-income and low-income residential served by electric Program Administrators. |
| **Marketing Approach** | Program administrators will work to develop that focus on:<br><br>• Design and implementation of an outreach a designed specifically for the multifamily mar program participation. Emphasis will be plac landlords on the benefits of undertaking ener<br><br>• Development of a streamlined program app designed to enhance the customer experience more comprehensive approach. This process consideration the unique requirements of the need to reduce administrative burdens for pro |

2. *Low Income Programs Descriptions*

| Package | Requirements | Single-Family Incentive[1] | Multifami |
|---|---|---|---|
| **Primary Objective** | **Low-Income Residential New Construction** | To capture lost opportunities, encourage the efficient homes and drive the market to one i moving towards net-zero energy. | |
| **Program Inception** | | Since 1998 Program Administrators have inc penetration into the residential low-income | |
| | | **3-99 units** | **100-199 units** |
| **2010-2012 Program Goals** | | To be provided with October 2009 Filings. | |
| **CODE Plus** | 6 ACH CFM 50, 8 percent duct leakage | $325 | $225.00 $225.00 |
| **2010-2012 Budget** | | To be provided with October 2009 Filings. | |
| **ENERGY STAR** | ENERGY STAR compliance with a minimum HERS Index of 85 or less | $750 | $650.00 $500.00 |
| **Joint vs. Program Administrator-Specific Offering** | | Joint | |
| **Program Design** | | The Program Administrators continue their s comprehensive whole-house approach for the Homes with ENERGY STAR Program. The to achieving both a broader market penetratio homes as well as deeper energy savings when Program Administrators strive to retain partic recruit new ones. Homebuilders must target certification for all homes submitted to the pr program will also provide incentives for CO Massachusetts State Code but shy of the ENE certification standards) as an avenue for broa to ENERGY STAR. Direct installation of E qualified CFLs in appropriate hard wired soc and a final verification inspection is required participating in the program. All projects four units and fewer will be iden and all projects five units and greater will be classified as multi-family. Buildings that fewer that are permitted under the residential to participate in the program and to be certifi STAR-qualified Home. Mixed-use (Resident may participate if they are permitted in the co long as: (1) the entire structure is five stories structure; (2) the commercial space conditioning and water heating system between the residential and commercial spac qualifications for program participation are: | |
| **ENERGY STAR II** | ENERGY STAR compliance with a minimum HERS Index of 85 or less and 30% improvement or better over the Massachusetts UDRH | $1,250 | $1,150.00 $850.00 |
| **ENERGY STAR III** | ENERGY STAR compliance with a minimum HERS Index of 85 or less and 60% improvement or better over the Massachusetts UDRH | $8,000.00 | $4000.00 [3] $3000.00 [3] |
| **Program Design (cont.)** | | | |

[1] Starting in 2010 the program will define a single-family home as a structure that contains between one and four units.

[2] Starting in 2010 the program will define a multi-family home as a structure that contains five or more units.

[3] Energy Star III Multifamily projects will be reviewed for final fee structure, listed are the maximum incentives p Administrators.

**Delivery Mechanism**

The program is administered by a Program A
service territory and coordinated regionally th
JMC, through a competitive bid process, choo
contractor to oversee the day-to-day operation
statewide. The contractor is responsible for t
program activity to the respective JMC Progr
The contractor will also conduct quality assur
of field activities and advise the JMC on nece
changes and enhancements. Throughout the
JMC plans to continuously strive towards a m
of trained contractors who offer energy-effici
services to homebuilders for a fee. The Progr
may consider continuing to support rater fees
projects in their service territories.

**Delivery Mechanism (cont.)**

The program recognizes the new emphasis on
make this program successful, as well as to su
development efforts through the Green Jobs A
support training of increased frequency and g
fundamentals of building science and the late
technologies, including those for air sealing a
contractor will be a HERS provider of last res
become established as part of the open marke

**Joint Program Administrator Enhancements Planned for 2010-2012**

- The Program Administrators are currently v
identify a way to provide complete support to
structures five stories or fewer. It is under co
master metered electric buildings to participa
they are ineligible currently.

- The 2009 major renovation pilot projects be
Program Administrators will provide further
JMC to garner greater savings by administeri
Renovation Program during 2010-2012. A pl
unified program--either within RCS or within
will be part of the October filing for the 2010
Plan.

- Support code amendments that add to energ

## Residential Low-Income Electric Single Family Program

**Primary Objective**

To deliver energy efficient products and serv
homes of eligible low-income customers to h
energy bills.

**Program Inception**

Some Program Administrators' low-income p
the early nineties. Since 1998, Program Ad
working with LEAN to improve the low-inco
increase funding. From this emerged the Bes
Group, as a vehicle to provide a more coordi
income program and to ensure correct installa
program. Working with the Best Practices W
Program Administrators have broadly expand
offered in the program and have arranged for
implement such measures. A 2002 Low-Inco
Study recommended the following strategies
statewide marketing of programs through a c
outreach to more areas such as health service
agencies, and rental offices at apartment com
marketing efforts to regional and local newsp
marketing in languages not currently availabl
these barriers, the program has: 1) broadened
Administrators and Low-income Weatherizat
Assistance Program Network ("NETWORK"
and mailings to a statewide coordinated appr
awareness and customer education regarding
benefits including local media; 2) increased t
participation to include households with annu
60% of the state median income levels to ass
limited funds the cost of energy saving impro
increased efforts to serve low-income renters

**2010-2012 Program Goals**

To be provided with October 2009 Filings.

**2010-2012 Budget**

To be provided with October 2009 Filings.

**Joint vs. Program**

This program is offered jointly with each Pro
having individual administrative processing.

**Administrator-Specific Offering**

**Program Design**

The Program Administrators, in collaboration

## Low-Income Residential Multi-Family Retrofit

| | |
|---|---|
| **Primary Objective** | To deliver energy efficient products and servi homes of eligible low income customers livin homes to help them lower their energy bills. defined as five units or more. |
| **Program Inception** | Some utilities low-income programs date bac Since 1998, Program Administrators have be Best Practices Working Group to provide a c |
| **2010-2012 Program Goals** | To be provided with October 2009 Filings. |
| **2010-2012 Budget** | To be provided with October 2009 Filings. |
| **Joint vs. Program Administrator-Specific Offering** | This program is offered jointly with each Pro conducting individual administrative processi |
| **Program Design** | The Program Administrators in collaboration organizations such as the DHCD, and Commu ("CAP") agencies, make up the Best Practice The working group's objective is to collabora all aspects of the low-income program, includ planning, delivery, implementation, standardi marketing, training, cost effectiveness, evalua assurance. This program piggybacks on the c income energy efficiency program. Educatio included in all Program Administrators' energ programs. The low-income program plans to education materials and material distribution<br><br>• Customer Education packages: Common lea customer audit packs<br><br>• Materials for landlords, property managers, management personnel |
| **Target Market** | Residential customers living in dwellings wit who are at 60 percent of the state median inc landlords and property managers of these bui of the occupants must qualify as low-income |

3. *C&I Program Descriptions*

## Overview of C&I Efforts

The Commonwealth of Massachusetts is facing an unprecedented opportunity to build upon the past twenty years of effective energy efficiency delivery strategies for commercial, industrial and municipal customers. Indeed, the passing of the Green Communities Act establishes the direction that Program Administrators will adopt going forward to address the new legislation that requires energy delivery suppliers to meet future energy needs through cost-effective energy and demand reduction resources. The strategies to promote greater energy savings and peak demand reductions will build upon existing programs to date, with the intent to move to larger scale delivery of renewable, peak demand and energy efficiency solutions. The depth of existing programs will significantly expand over the next three years and new initiatives will be introduced to increase participation and savings. Existing programs addressing 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 to meet the mandate to increase energy savings. The platform for increasing savings cost effectively is based on pursuing the following principles: 1) integrating gas and electric programs into a portfolio of fuel-neutral programs to the extent reasonable; 2) striving for seamless delivery from the customer's perspective; 3) deeper penetration of energy efficiency and automated load management measures in existing programs combined with the introduction of innovative and targeted approaches and options; and 4) developing an expanded, trained workforce capable of providing consistent program messaging and services, while maintaining high quality levels.

## Consistent Messaging

A critical component of integration and seamless delivery is consistent messaging. A statewide website (marketing portal) and marketing approach to make customers aware of program offerings will minimize the market confusion that can result from competing advertising campaigns that may overlap in the mass media. In addition, individual Program Administrators will undoubtedly want to, and should, 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 activities should be undertaken in consultation with, and with the support of, all other Program Administrators in order to avoid inadvertent inconsistent messaging.

## Increased Savings Targets

Meeting targeted 2010 through 2012 savings goals will require expanding existing programs and strategies to achieve deeper, more comprehensive savings; introducing and promoting new initiatives and technologies; and increased marketing of all program offerings. Initiatives and approaches that will be expanded in 2010 include, but are not limited to, municipal initiatives; whole building assessment; advanced lighting solutions; and initiatives targeting specific markets, such as the "Office of the Future" approach targeting commercial buildings, as well as an emphasis on increased automation of loads to provide customers with flexible supply opportunities. Each of these initiatives is described in more detail in the C&I program descriptions.

## Review of New Technologies

There is a steady flow of new technologies being developed and offered to increase the efficiency of energy use for commercial and industrial 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 device will provide cost effective energy savings for their customers. To address the need for these reviews, the Program Administrators have established a Standing Technical Committee ("STC"). The STC consists of key technical staff from each Program Administrator as well as the Consultants. The committee reviews technical issues of statewide interest; it 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 administering utilities. The STC has developed a set of protocols for the content of their review and procedures for documenting and disseminating their conclusions and technical interpretations. Requests for program consideration of a new or unfamiliar technology that come from a vendor or customer are forwarded to the technical committee by the receiving utility. This group can undertake or direct such tasks as:

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

- 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 utility program staff and contractors.

- 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 administering utilities to address unanticipated program implementation issues.

## Community-Based Efforts

When thoughtfully designed and executed, community-based efforts can be a key tool in effecting deep, comprehensive penetrations of energy efficiency in a neighborhood, city, or town. The Program Administrators seek to harness the power of communities to achieve broad-based participation in the Commonwealth's programs. Over the years, both here in Massachusetts and elsewhere, much has been learned about why some community efforts succeed and others fail. The guiding principles of a successful community-based marketing initiative must include at a minimum the following attributes:
**Community Engagement** Successful community-based partnerships fully connect communities and utilities; they focus on grass-roots community outreach by providing focused energy education and resources linked to local motivation and empowerment to manage and reduce energy consumption. These partnerships develop and deliver comprehensive and individualized initiatives. The keys to success are understanding and addressing the unique needs and characteristics of partner communities to achieve all cost-effective energy savings including gas and electric opportunities and to reduce greenhouse gas emission. Successful partnerships involve all sectors within the community and may include such activities as:

- Facilitating collaboration among students, teachers, parents, utilities and the greater community to provide energy education fostering long-term energy savings.

- Assisting school systems in developing comprehensive, standards-based curricula, resources, materials and professional development for educators, school facility audits and special events.

• Connecting local businesses with their serving utilities to address the specific challenges each business faces in reducing energy usage, lowering utility bills, cutting greenhouse gas emissions, and educating their tenants, management and facility operations personnel.

In successful programs, the Program Administrator promotes a portfolio of opportunities that addresses all the community's expressed needs--services for new construction, home energy services, and ENERGY STAR products for existing buildings, as well as information and facilitation of renewable energy, including information about combined heat and power, net metering, and interconnection of generators. The Program Administrator provides energy saving tips on everything from heating and air conditioning to water heating and lighting, from cooking to refrigeration.
**Community Commitment** Community marketing achieves deeper penetration by adding a "pull" component to the traditional "push" of energy efficiency programs. Successful efforts are truly driven by the community and its recognized leaders, with the Program Administrator providing program project management and technical support in addition to guidance on overall energy savings goals. Without full community ownership, the program will achieve no more success than one driven by a traditional marketing effort.

With this in mind, Program Administrators will seek a significant commitment from local leaders both inside and outside of government. For a community to drive a program, it must own it as well. The paramount goal and measure of success for a community-based initiative is to achieve higher levels of cost-effective energy efficiency penetration than traditional delivery

strategies. Therefore, the same cost-effectiveness criteria will be applied to community-based initiatives as to other initiatives. **Selection of Communities** Proven elements of success have been competition and exclusivity. Thus, the Program Administrators will issue a competitive solicitation to select the communities with the greatest opportunities for success, based on the quality of thought and levels of commitment displayed in their submissions. Because community-based efforts require a substantial and focused effort by both the Program Administrator and the community, the Program Administrators must focus their energies by limiting their initiatives to a few communities at any given time. Thus, the communities selected will be those that display the criteria established above, where local leverage can bring expectations of success beyond current program delivery models.

## Workforce Development

Additional staffing resources, both internal and external, will be needed to achieve mandated saving levels. Expanding outreach to customers will be an important factor in increasing participation and the number of completed projects. As the number of participants and projects increase, additional professional contractors will be required for providing technical review of applications, on-site energy analysis, technical and design assistance for comprehensive projects and project commissioning services. Program Administrators will support workforce development through a number of initiatives including:

- Working with colleges and universities to educate them on industry needs and develop appropriate coursework

- Supporting co-op programs

• Working with vendors on cross-training initiatives

## Long-term Goals

The 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 Administrator, or has facilities or projects in multiple utility service areas. Program Administrators will explore ways to accommodate this goal, potentially including providing services under contract to other Program Administrators (particularly in unique circumstances). For this Plan, the intent is to establish goals and budgets based on current programs and initiatives in progress. The PA-specific plans submitted in October 2009 will contain more detail on market approaches and will address areas of success as well as the ability to expand customer markets and potential and fill gaps requiring new strategies.

Achieving the multiple goals set forth in the Act will take time. In each of the next three years, Program Administrators expect to see increased consistency in participation requirements; available core services and measures; conditions, exclusions and limits; and incentive amounts and/or calculations.

13 http://www.energystar.gov/index.cfm?c=evaluate_performance.bus_portfoliomanager.

## C&I Retrofit Program for Existing Buildings

| | |
|---|---|
| **Primary Objective** | Focus on energy efficiency opportunities associat existing mechanical, electrical and thermal syster commercial, industrial, governmental and institut buildings by providing high efficiency options fo equipment that continues to function, but is outda inefficient, and can be replaced with a premium e product. As part of these efforts, determining spe load management plans to enable participants to r time-based opportunities to manage their electric loads will be developed. This program also assist improving their operation and maintenance practi |
| **Initially Offered** | Program Administrators' portfolios of programs h retrofit services since 1988. Programs have evolv improved over time using a combination of strate successfully address customer barriers in this mar attributes of program services include the recogni building performance begins with providing custo solutions that result in better peak and overall ene management, incentives to drive customers to rep inefficient equipment and systems, and a means t results of these replacements through effective co practices. The program has been responsive to ch available new technology and standards for highe practices. The program has incorporated more co solutions and incentive structures that promote hi participation and adapted offerings to meet the ne expectations of customers to reduce costs. In add infrastructure of practitioners who influence the s replacement, and peak load management of mech electrical and gas equipment and systems—contra allies and suppliers—has grown. Lessons learned spawned a number of new initiatives that are both customer focused including initiatives targeting c towns, schools, and industrial processes with high options. |
| **2010 – 2012 Program Goals** | To be provided with October 2009 filings. |
| **2010 - 2012 Budget** | To be provided with October 2009 filings. |

**Marketing Approach (cont.)**

key solutions to customers. In order to increa
awareness and drive customers to action there
website and statewide media marketing. Add
approaches that may be used by one or more I
Administrators to increase participation and c
broader savings include direct mail; seminars
power breakfasts; webinars; participation in tr
conferences; co-marketing through trade indu
and civic groups that represent the target mark
extensive outreach capabilities; and informati
ESCos and contractors. In addition, Program
expect to enhance the above strategies by usin
broad-based radio, printed matter and email-b
addition, email alerts and other low-cost mean
will be adopted to advance customer participa
Administrators are currently using on-line con
developed for their customers to bring both ne
technologies forward in a cost effective way v
penetration. Moreover, other social marketing
used to increase customer awareness of Progr
services and the means to access these service
of these strategies and others will be integrate
marketing plan that will identify key drivers,
and tactics to increase customer participation.

**Target End Uses**

Targeted end uses include, but are not limited
lighting controls, motors and drives, HVAC e
management systems, compressed air and uni
processes, and furnaces and boilers. Building
and any commercially available energy efficie
be considered. Site-specific custom measures
distributed generation, may also be considered

**Recommended Technologies**

Recommended technologies include efficient
efficient lighting fixtures, lighting controls, ef
systems, efficient HVAC systems, CHP, comp
advance gas technologies,
Energy Recovery Ventilation Units (“ERVs”)
and humidification.

**Financial Incentives**

Both prescriptive incentives (fixed amounts fo
and custom incentives (based on the unique en

[14] From "*The Role of Energy Codes in Public Policy A White Paper by the Northwest Energy Codes Group*" - December 2008

## C&I Lost Opportunity Program

| | |
|---|---|
| **Primary Objective** | To capture lost opportunities and encourage b construction and renovation of commercial, in and government facilities and failed equipmen |
| **Initially Offered** | The portfolios of Program Administrators hav construction services since 1987. Programs h improved over time using a combination of st successfully address customer barriers in this attributes include recognizing that achieving b performance begins with providing technical a and commissioning. Program Administrators practices in the early stages of customers' new The principles of an integrated approach for b energy reductions are applied to ensure the tec achievable potential is optimized through the construction process. Material to this strategy that active participation in the development an commercial building codes and standards will specifications of performance through evolvin compliance levels. Lessons learned from this spawned a number of new initiatives that are l customer focused including *Advance Building* Office of the Future and initiatives targeting d performance laboratories and other industrial performance options. |
| **2010 – 2012 Program Goals** | To be provided with October 2009 Filings. |
| **2010 - 2012 Budget** | To be provided with October 2009 Filings. |
| **Joint vs. Program Administrator- Specific Offering** | Consistent statewide basic program with indiv Administrators offering pilots to test the viabi and options. Pilot initiatives under considerat implementation in 2010 address data centers, laboratories, a transition to LED installations Zero Net Energy Buildings. Detailed informa offerings and budgets will be provided in the |
| **Program Design** | The program offers C&I customers the opport financial incentives, technical services, and co services for their projects. The program addre of time-dependent projects; |

16 Advanced Buildings Core Performance is a prescriptive program intended to "achieve significant, predictable energy savings in new commercial buildings." Advanced Buildings Core Performance was developed by the New Buildings Institute. For more information, go to www.advancedbuildings.net

federal standards. Support provided by Program Administrators in the past includes testifying on behalf of legislatio and federal legislators, and writing letters of support for key legislation on codes and standards.

**Advancements to Massachusetts Building Energy Codes:** Program Administrators have worked with other interes Massachusetts Board of Building Regulations and Standards ("BBRS") on the advancement of building energy codes As active members of the Energy Advisory Committee15 ("EAC"), Program Administrators have helped BBRS plan stringent energy codes and provided support for the training of building design professionals and code enforcement o We have also supported a movement to have the state allow a "stretch" energy code. The stretch code would be base *Buildings Core Performance*16, which stipulates criteria more stringent than the current energy code. The stretch cod a community in lieu of the current energy code, which would help advance energy efficiency design practices in the s

**Code Compliance:** Program Administrators support training of code officials and building design professionals. Th practitioners improve code compliance. The Program Administrators will make recommendations to BBRS and seek developing training and outreach efforts that might be offered for the current code and any stretch codes that might b Program Administrators and BBRS will coordinate efforts to develop and implement a plan. **Product Availability:** P Administrators work with distribution houses to facilitate product access and provide competitive pricing. In some c bidding for specific products (lamps, ballast, fixtures, drives, etc.), which are then promoted to customers and vendor vital to smaller customers and vendors who do not have the resources and size to procure at bulk pricing.

15 The Energy Advisory Committee was initiated by the BBRS over 10 years ago and is made up of building design practitioners and o advises the BBRS on matters related to residential and non- residential building energy codes in the state.

**Target Market**

The target market is all time-dependent energ
opportunities in the C&I sector. Marketing w
engineers and owners of new buildings and di
trade allies for new equipment.

**Marketing Approach**

Projects involving new construction have sign
dynamics than retrofit projects. New construc
longer lead-times and involves multiple decis
influencers as compared to retrofit projects. In
retrofit projects typically involve turn-key ver
specifically on efficiency attributes, a similar
new construction. Products are usually specif
supplier may increase profits by "up-selling,"
still achieved at low-bid/base-efficiency. Whi
a key decision maker, it is critical that all stak
approached, educated and influenced towards
efficiency. Although this starts with the archi
design/product can be changed (value-enginee
specification) by the engineer, contractor, dist
In order to address this, specific outreach strat
for each of these stakeholders groups. For cha
providing extensive one-on-one communicati
outreach strategy, building relationships and e
to efficiency. This direct marketing is suppor
other channels including brown bag education
training such as Labs21, newsletters, and oper
marketing pieces have been developed to purs
leads identified through such publications as t
Construction Database and New England Con
Additional marketing approaches used by one
Administrators include direct contact with cus
through trade publications and advertising in l
publications, seminars and training sessions. T
awareness, there will be a statewide website a
marketing. For time-dependent projects invo
equipment replacement or the purchase of new
marketing efforts focus on customers and equ
than on developers and designers. Program A
the equipment replacement track to customers
extensive one-on-one communication. Supple

## C&I Small Business Services

| | |
|---|---|
| **Primary Objective** | The primary objective of the Small Business Program is to provide cost-effective, retrofit s basis. |
| **Initially Offered** | The portfolios of Program Administrators beg services for small business customers in 1990 have evolved and improved over time, using strategies to successfully address customer ba The prime delivery system for small business direct installation model. The Program Admi competitive bid on the labor and materials co improved lighting equipment, lighting contro improved refrigeration measures for walk-in business services that are market driven, the s benefits from a turnkey process that has a sin an audit to identify better lighting options and measures. SBS has evolved over time to incl Administrators offering on- and/or off-bill fi customers finance the cost of installing lighti Also, the SBS Program has added additional lighting and lighting control equipment as tec improved. Over the past several years, the pr incorporated additional comprehensive soluti performance equipment such as the advance l improved lighting fixtures available today. S an incentive covering a portion of the equipm the Program Administrators have learned that jurisdiction, it is possible to provide lower inc attractive customer penetration rates. In addi reduction techniques will be employed to allo either third-party energy supplier time-sensiti those enrolled in the ISO-NE Price Response savings opportunities. |
| **2010 – 2012 Program Goals** | To be provided with October 2009 Filings. |
| **2010 - 2012 Budget** | To be provided with October 2009 Filings. |
| **Joint vs. Program Administrator- Specific Offering** | The Program Administrators offer consistent programs and services, with individual Progra |

## C&I Pay & Save Financing/Loan Pilot

| | |
|---|---|
| **Primary Objective** | To establish a pilot loan program that creates financing mechanism for customers to finance contribution cost of the implementation and in energy efficiency measures. The desired effe a barrier for customers to participate in energy |
| **Program Inception** | New pilot program (see Special Notes regardi Pay and Save Pilot Program) |
| **2010-2012 Program Goals** | To be provided with October 2009 Filings. |
| **2010-2012 Budget** | To be provided with October 2009 Filings. |
| **Joint vs. Program Administrator- Specific Offering** | Joint offering. |
| **Program Design** | The program would make funds available to c assist in financing energy efficiency improver enable customers to repay those loans through bills without interest. |
| **Target Market** | To be used by programs designated by Progra Administrators. |
| **Marketing Strategy/ Approach** | Pilot program will be incorporated into the sm audit process as well as other C&I programs |
| **Target End Uses** | C&I customers who install non-portable meas |
| **Recommended Technologies** | Non-portable measures |
| **Financial Incentives** | Financing the customer contribution assists cu not have the ability to pay the customer contri the time of the installation. It is expected that will allow for increased customer participatio |

| | |
|---|---|
| **Delivery Mechanism** | C&I program delivery vendors. |
| **Three-Year Deployment** | Once the pilot program is completed on Dece<br>an evaluation will commence and a decision t<br>this program into 2010-2012 programs will b<br>Program Administrators. |
| **Special Notes** | The Program Administrators will incorporate<br>Department-approved Energy Pay and Save p<br>offered to residential and small business custo<br>1, 2009 – December 31, 2009 (D.P.U. 09-07)<br>financing initiative which may be developed. |

### G. Special Marketing and Education Activities

In order to achieve the aggressive goals set forth in this Plan, the Program Administrators will undertake a comprehensive marketing and public outreach campaign. The Program Administrators are aware that this is an area of particular interest to the Councilors and look forward to working with the Council to discuss potential strategies and ideas. Core goals of the Program Administrators in any marketing campaign will include: reaching the maximum level of customers possible; providing messages that are not overly technical and that clearly describe the benefits of energy efficiency; exploring targeted marketing to unique communities throughout the state; and utilizing diverse media (*e.g.*, internet, bill inserts, television, radio, billboards) to disseminate consistent and clear messages. The Program Administrators are aware that, in addition to their efforts, the Commonwealth seeks to promote energy efficiency and the Program Administrators will look to coordinate activities with applicable governmental initiatives, such as the efforts contemplated under Section 108 of the Green Communities Act, which provides for a collaborative pilot effort by the DOER and the University of Massachusetts at Boston to establish an educational outreach program, including educational programs provided at community colleges and community centers. The Program Administrators will look to the DOER for further guidance with respect to this pilot effort. The Program Administrators will also continue to work with local schools, including technical vocational high schools and community colleges, to support comprehensive standards-based education in order to promote a more energy-conscious and educated society.

## H. Evaluation and Monitoring

This section provides an overview of the types of evaluation and monitoring strategies that are utilized by the Program Administrators and establishes a set of core principles to guide the evaluation and monitoring process during the three-year Plan period, 2010-2012.

### 1. *Background: Types of Evaluation and Monitoring Activity*

The Program Administrators utilize several types of evaluation studies including impact and process evaluations, market progress and assessment studies and market-potential studies. Each type of evaluation is defined below. When implemented in relation to the 2010-2012 Plan, these evaluations will collectively generate data that that will facilitate the achievement of the objectives contained in the Green Communities Act and will assist the Council, DOER, and the Department in measuring progress toward statewide energy efficiency goals. The types of evaluation studies that the Program Administrators plan to utilize to provide value over the 2010-2012 period are as follows: An **Impact Evaluation** is designed to assess direct and indirect quantitative changes (*e.g.*, kWh, kW, therms) attributable to a specific energy-efficiency program. These studies typically rely on billing-data analyses, end-use metering data and/or detailed on-site engineering assessments to gauge impacts. A **Process Evaluation** is a systematic assessment of an energy efficiency program for the purposes of documenting program operations and identifying and recommending improvements to increase the program's efficiency or effectiveness in achieving energy savings, while maintaining high levels of participant satisfaction. Process evaluations generally include assessment of:

- Level of customer satisfaction through surveys
- Vendor selection process
- Company staff and vendor training
- Effectiveness of the program-delivery mechanism
- Effectiveness of program promotion
- Remaining barriers to program participation including an assessment of why some customers choose not to participate in the program
- Review of measures offered through the program to determine whether measures are acceptable, appealing and valued by customers
- Identification of lessons learned and specific actionable recommendations for program improvement
- A review of program tracking databases to ensure that data that may be necessary to support future program-evaluation efforts (including impact evaluations) are collected

A **Market Progress & Assessment** study is an analysis that provides an assessment of whether, and to what extent, a specific market or market segment is functioning with respect to the definition of well-functioning markets or with respect to other policy objectives. The studies often cover markets where specific market-transformation programs have been implemented or are contemplated. Generally, a Market Progress & Assessment study will include a characterization or description of the specific market or market segments under review, including a description of the types and number of buyers and sellers in the marketplace; the key actors who influence the market; the type and number of transactions that occur on an annual basis, and the extent to which market participants consider energy efficiency as an important part of these

[17] Economically Achievable Energy Efficiency Potential in New England, May 2005; prepared by Optimal Energy, Inc. for Northeast Energy Efficiency Partnership, Inc.

transactions. This analysis may also include an assessment of whether a market has been sufficiently transformed to justify a new market-intervention strategy or the reduction or elimination of specific program interventions. Market Progress & Assessment studies may also be blended with strategic planning analysis to produce recommended programs designs or budgets. A "baseline" Market Progress & Assessment study is used to characterize a particular market before or during a specific intervention in the market for the purpose of guiding the intervention and/or assessing its effectiveness at a future point. A **Potential Study** is conducted to assess future savings that may be expected for different technologies and customer markets over a specified time horizon. Potential studies are time consuming and tend to be more costly than other evaluations. For this reason, Potential Studies are generally undertaken less frequently than other evaluations or studies. The Program Administrators would recommend that only one Potential Study be conducted in the three-year period commencing January 1, 2010. "Potential" is typically defined in terms of:

• Technical Potential: Technical Potential is defined as "the complete penetration of all measures analyzed in applications where they are deemed technically feasible from an engineering perspective."[17]

• Maximum Achievable Potential: Maximum Achievable Potential is defined as the maximum penetration of an efficient measure adopted on the basis of estimates of area-specific building stock, useful lifetimes, energy-using equipment saturations and realistic efficiency penetration levels, which are achievable by a date certain if all remaining standard efficiency equipment were to be replaced on burn-out (*i.e.*, at the end of its useful measure life), and where all new

construction and major renovation activities in the Commonwealth are completed using energy-efficiency equipment and construction/installation practices. In certain circumstances, where early replacement of specific measures is becoming a standard practice, Maximum Achievable Potential includes the retrofit of measures before the end of their useful measure life (*i.e.*, T8 lighting, thermostats, insulation and weatherization of existing homes). This calculation is independent of consideration of cost effectiveness or customer behavior.

• Economically Achievable Potential: The Economically Achievable Energy Efficiency Potential is defined as that portion of the Technical Potential that is cost-effective (either from a customer, societal or total resources perspective).

• Realistically Achievable Potential or Potentially Obtainable Scenario: A Potentially Obtainable Scenario is defined as an estimate of the potential for the realistic penetration over time of energy efficiency measures that are cost effective, taking customer behavior, priorities and price into consideration.

Each of the foregoing types of evaluation studies has a unique function and will provide distinct benefits in terms of assessing the appropriateness, efficacy and results of programs undertaken in the three-year period of the Plan (2010-2012). The Program Administrators seek to develop the optimal blend of these studies for the Plan period, and will remain flexible in terms of the need to adapt evaluation strategies to address performance of new programs initiated as part of the three-year Plan.

### 2. *Evaluation and Monitoring: Core Principles for 2010-2012*

Currently, Program Administrators conduct evaluation and monitoring activities using experienced staff who are specifically trained in evaluation and monitoring techniques, along

with third-party contractors who are hired as a result of periodic, competitive solicitations for the purpose of performing independent assessments of program effectiveness, that are also subject to regulatory review. For the 2010-2012 Plan, Program Administrators plan to work cooperatively with the Council, DOER, and ultimately, the Department, to identify the appropriate process for undertaking evaluation and monitoring activities in an environment of substantially ramped-up efforts on proven energy efficiency programs, as well as newly initiated efforts on programs that are relatively untested by comparison. As stated above, the Program Administrators anticipate that a combination of evaluation methodologies would be optimal in terms of identifying appropriate energy efficiency programs, assessing program efficiency and measuring program results. Specifically, the Program Administrators anticipate a combination of Impact Evaluations, Process Evaluations, Market Progress & Assessment studies, and a Potential Study will be appropriate. To establish the appropriate approach for evaluation and monitoring of energy-efficiency programs and initiatives under the statewide Plan for 2010-2012, the Program Administrators propose the following set of Core Principles:

- Overall Principles: All evaluation and monitoring activities should be designed to promote transparency, consistency, timeliness, objectivity and credibility. The Program Administrators recognize that, given the level of increased expenditures on energy efficiency called for in this Plan, there is a need for full confidence in savings measurements arising from actions taken under the Plan.

- Statewide Evaluation Where Practicable: Program evaluations should be undertaken on a statewide basis where there is uniformity across Program Administrators in terms of program design and implementation. Statewide program evaluations are not practicable where projects or programs have unique characteristics in specific sectors;

where differentiated delivery mechanisms are used by Program Administrators; and/or where material differences in geographical territories or customer demographics have an impact on program implementation or result. Program Administrators estimate that the substantial majority of all evaluation activities can be accomplished on a statewide basis. It is also contemplated that some studies, while conducted as a single statewide study, will be designed to produce Program Administrator-specific results. However, flexibility in the general statewide approach should be maintained for exceptions, such as projects or programs targeted to specific C&I customers, or other "custom" projects such as the Marshfield Energy Challenge, where Program Administrator-specific or smaller group evaluations will necessary and appropriate.

• Coordination of Impact Evaluations: Program Administrators will conduct generally applicable Impact Evaluations through coordination with the Regional Evaluation, Measurement and Verification Forum, administered by NEEP or directly with other Program Administrators in the Commonwealth, as appropriate.

• Transition: Evaluation approaches relating to programs implemented in 2009 should be tailored to existing PA-specific efforts. Statewide evaluations under the 2010-2012 Plan should take effect for evaluations of 2010 programs in 2011. Statewide efforts should begin earlier if a framework already exists to enable the effort, such as GasNetworks efforts, RCS/MassSave efforts, and residential lighting.

• Research Areas: Evaluation activities should be divided into multiple, defined statewide research areas, as appropriate. The designated statewide research areas should be oriented to specific target markets (*e.g.*, residential retrofit, large C&I, etc.),

each attended to by a designated Program Administrator, a third-party evaluation contractor and an assigned liaison with the Council, as designated from time to time by the Council.

• Contract Responsibility: As contemplated by the Green Communities Act, Program Administrators will serve as the main mechanism for contracting with the third-party evaluation contractors and will have responsibility for funding and contract management for evaluation activities. Competitive solicitation processes, bid review, analysis and selection, and contract execution should be conducted by the Program Administrators, given the legal responsibility arising from the contracts and the obligation to demonstrate cost-effectiveness and administrative cost-containment efforts to the Department.

• Use of Competitive Solicitations: Program Administrators have an obligation to demonstrate cost-effectiveness and containment of administrative costs to the Department. Therefore, in general, third-party evaluators should be selected by Program Administrators utilizing periodic competitive procurement practices as contemplated in the Green Communities Act. The Program Administrators will consult with the Council and/or its designated liaison to develop selection processes that are designed to foster heightened interest among skilled evaluators and to help develop the pool of qualified evaluators working in the field.

• Evaluation Priorities: Program Administrators will coordinate with the Council and/or its designated liaisons to establish key priorities for evaluation of the 2010-2012 programs, including identification of: (1) candidate programs for evaluation; (2) the desired analytical scope; and (3) the specific data sets to be generated from the

evaluation. For example, different evaluations of the same program can focus on diverse points of information, such as energy savings, greenhouse gas reductions, participation levels, processes for improving the program and market characteristics. Program Administrators will seek to reach a consensus with the Council and/or its designated liaison regarding specific timetables and milestones for prioritized evaluations and Program Administrators will estimate costs and budgets for the prioritized evaluation and monitoring activities. The Program Administrators will provide the Council and/or its designated liaison with the opportunity to comment on proposed scopes of work and interim work product developed as part of the evaluation process, subject to the development of a review process that allows for expeditious completion of identified studies and the production of widely-accepted and useful results. Section 3 below, which is not meant to be an exclusive list, reflects the Program Administrators' suggestions for several key initiatives that should take place in the upcoming three years.

• Establishing Evaluation Priorities: In developing evaluation priorities, consideration should be given to various factors, including but not limited to: the length of time since a program or end-use was evaluated; the maturity of the program and specific measures; the significance of expected savings for the end-use or measure to the overall portfolio of savings; the stability of prior evaluation results for the program aspect under consideration, and the expected costs associated with such activity. Special attention may be given to first time evaluations of new programs after sufficient time has been allowed to create a suitable population for study. The benefits of achieving exact precision in evaluation results should also be balanced

with the cost of obtaining that precision so that objective, reviewable and reliable results are obtained at a reasonable cost.

• Electric and Gas Integration: To the extent practicable, electric and gas evaluation efforts should be integrated over time. Increased integration of delivery of electric and gas energy efficiency programs will be initiated through the upcoming three-year Plan. These efforts are not likely to be sufficiently mature during the first three-year Plan, however, to support a fully integrated evaluation effort, nor are the possible levels of increased administrative costs associated with such an effort warranted at this time given the unlikelihood that useful results would be produced. As the integration of program delivery increases, integrated evaluation activities should be considered and implemented to the extent practicable and where there is a reasonable expectation that reliable information of value will be produced and will warrant the cost.

• Next Steps on Evaluation Framework: The Program Administrators propose that the Council conduct a technical session devoted to the consideration of the evaluation and monitoring framework. The objectives of the technical session would be to: (1) advise the Council of the current program evaluation structure and its strengths and weaknesses; (2) discuss the Core Principles that should be embodied in the statewide evaluation framework, as described herein; (3) discuss the nature and magnitude of the potential costs associated with evaluation activities; and (4) provide an overview of the regional evaluation landscape, including regional efforts being coordinated with ISO-NE, the National Action Plan for Energy Efficiency (NAPEE), and NEEP.

• Consistency with Green Communities Act: The evaluation and monitoring framework should be consistent with the terms of the Green Communities Act, which requires that the electric and gas energy efficiency programs be administered by the electric and gas distribution companies, respectively (or municipal aggregators, where applicable[18]). *See* G.L. c. 25, §§ 19(a)-(b). Under the Act, Program Administrators are subject to the oversight of the Department and the Department is charged with ensuring that programs are delivered "in a cost effective manner capturing all available efficiency opportunities, minimizing administrative costs to the fullest extent practicable and utilizing competitive procurement processes to the fullest extent practicable." *Id.*[19] The Core Principles developed by the Program Administrators are designed to balance the roles of the Council, the Department and the Program Administrators under the Act.

[18] Municipal aggregator energy efficiency plans are subject to review and certification pursuant to G.L. c. 164, § 134(b). [19] The Act further provides that the Department "shall determine the effectiveness of the Plan on an annual basis." G.L. c. 25, § 21(d)(2).

This is the first statewide Plan developed pursuant to the Green Communities Act. Accordingly, discussion and collaboration between the Program Administrators, the Council and its Consultants is necessary to develop the parameters of an optimal Evaluation and Monitoring framework. The Program Administrators look forward to discussing these matters further with the Council and would like to emphasize that they have considered carefully the initial evaluation presentation made to the Council by its Consultants on April 21, 2009. This presentation has helped bring into focus essential concepts and the Program Administrators anticipate that a robust and productive discussion will occur on these issues (perhaps through a

technical session as recommended by the Program Administrators) following the submission of the Plan to the Council.

### 3. *Specific Evaluation and Monitoring Activities for 2010-2012*

The Program Administrators recommend that the following studies be initiated in 2010 or 2011 on a statewide basis to the extent possible, even in advance of evaluation of the statewide programs proposed in this Plan for 2010-2012. The Program Administrators strongly emphasize that this list is not exclusive, and much more activity will be necessary at the same time as the Program Administrators and the Council develop a mutually agreeable framework for evaluation consistent with the Core Principles described above. Having a list of certain initial activities listed below, however, can help focus review of the Plan and development of an optimal evaluation and monitoring framework.

- C&I market characterization study
- Residential lighting market evaluation (electric only)
- Study revisiting free ridership and spillover survey and process in Massachusetts
- C&I Small Business Services Program--Small business impact evaluation
- C&I Retrofit Program for Existing Buildings--Lighting impact evaluation (electric only)
- C&I Lost Opportunity Program--Unitary HVAC load shape study
- Residential High Efficiency Heating Program - impact evaluation (gas only)

## I. Performance Incentives

The Council's Priorities Resolution addressed the development of performance incentive mechanisms[20] to be incorporated by the Program Administrators in their energy efficiency plans. Specifically, Council Priority #4 states that: The Commonwealth should employ the right structure and level of performance incentive for PAs who administer and deliver demand-side management programs striking the appropriate balance between fiscal responsibility and positive economic signals for the PAs to achieve strong efficiency performance and customer value. As set out in the GCA, the PAs shall coordinate with the Council, as part of the development of the statewide and individual three-year electric and gas energy efficiency plans, to develop appropriate performance incentive mechanisms. The Council's Priority #4 is consistent with the Green Communities Act, which specifies that an incentive mechanism proposal, which is to be designed by the distribution companies and reviewed by the Council, shall be included in an energy efficiency plan. Following the Council's approval and comment, the Act requires the Department to review each distribution company's energy efficiency plan. Given this construct, the Department found, in its order in DPU 08-50-A, that establishing performance incentive principles, rather than a prescribed incentive mechanism, appropriately complied with the Act. Therefore, in reviewing the performance incentive mechanism included in an energy efficiency plan, the Department stated that it will rely on the following principles: • Performance incentive mechanisms should be designed to encourage distribution companies to pursue all available cost-effective energy efficiency. • The amount of funds available for performance incentive mechanisms should be kept as low as possible, in consideration of the other principles adopted herein, in order to minimize the costs to electricity and gas customers.

[20] Performance incentives are not applicable to the Cape Light Compact.

• Performance incentive mechanisms should be designed in such a way as to encourage energy efficiency program designs that will best achieve the Commonwealth's energy goals, particularly with regard to the goals stated in the Green Communities Act. • Performance incentives should be based on clearly-defined goals and activities that can be sufficiently monitored, quantified and verified after the fact. • Performance incentives should be available only for activities where the distribution company plays a distinct and clear role in bringing about the desired outcome. • Performance incentive mechanisms should be as consistent as possible across all electric and gas distribution companies. Any deviations across distribution companies should be clearly justified. • Performance incentive mechanisms should be created in such a way to avoid any perverse incentives. • Any modifications to a previously approved performance incentive mechanism should be fully justified at the time they are proposed to the Department. The Department expects that stakeholders will consider and propose performance incentives that are relatively consistent from one three-year energy efficiency plan to the next. Distribution companies may propose modifications to an approved performance incentive mechanism in any subsequent three-year energy efficiency plan, but they must provide sufficient justification demonstrating how the proposed modifications will improve upon the performance incentive mechanism with consideration of each of the design principles listed above. D.P.U. 08-50-A, at 49-50. Consistent with the Department's Performance Incentive guidelines, the Program Administrators have developed a high-level set of guidelines that will support the Program Administrators in developing a more detailed performance incentive proposal over the next few months. These principles are, as follows:

- The very substantial percentage of the savings should accrue to customers

- Utility incentives should align with the state's energy policy goals

- Incentive structures for gas and electric programs should align

- Incentives should recognize and reward achievement of aggressive targets

- Incentives should represent send appropriate economic signals to the Program Administrator

- Savings and net benefits should be the primary drivers of assessing performance

- Incentive targets should be company-specific recognizing differences in service territories

- Incentive models should be performance based incentives to encourage stretch

- Incentive awards should be based on performance against approved plan target which will be developed annually

- The energy efficiency plans should be grounded in well-supported planning assumptions that withstand external scrutiny

- Goals for incentives should be developed annually.

Each utility Program Administrator currently plans to file a performance incentive proposal in its PA-specific Plan to be filed in October. It is the goal of these Program Administrators that the framework for each of these proposals will be consistent and based upon the above-referenced guiding principles.

1. *Performance Incentives Summary Table*

The following table is presented for illustrative purposes in accordance with the filing procedures developed in the D.P.U. 08-50 Working Group. It is based upon the assumption that the Program Administrators are eligible for an after-tax return of 5% consistent with current practice for many Program Administrators. This table does not reflect a proposal of the Program Administrators, as the issue of the exact level of performance incentives remains under discussion.

**2010**

| Sector | After-Tax Performance Incentives | % of After-Tax Performance Incentives | % of Total Program Costs | Pre-Tax Performance Incentives | % of Pre-Tax Performance Incentive | % of Total Program Costs |
|---|---|---|---|---|---|---|
| Residential | $3,624,462 | 33% | 5% | $5,966,826 | 33% | 8% |
| Low Income | $1,511,930 | 14% | 5% | $2,489,294 | 14% | 8% |
| C&I | $5,929,789 | 54% | 5% | $9,763,824 | 54% | 8% |
| GRAND TOTAL | $11,066,181 | 100% | 5% | $18,219,944 | 100% | 8% |

**2011**

| Sector | After-Tax Performance Incentives | % of After-Tax Performance Incentives | % of Total Program Costs | Pre-Tax Performance Incentives | % of Pre-Tax Performance Incentive | % of Total Program Costs |
|---|---|---|---|---|---|---|
| Residential | $4,673,395 | 30% | 5% | $7,693,410 | 30% | 8% |
| Low Income | $1,997,087 | 13% | 5% | $3,287,898 | 13% | 8% |
| C&I | $8,677,597 | 57% | 5% | $14,286,583 | 57% | 8% |
| TOTAL | $15,348,080 | 100% | 5% | $25,267,891 | 100% | 8% |

**2012**

| Sector | After-Tax Performance Incentives | % of After-Tax Performance Incentives | % of Total Program Costs | Pre-Tax Performance Incentives | % of Pre-Tax Performance Incentive | % of Total Program Costs |
|---|---|---|---|---|---|---|
| Residential | $5,827,192 | 27% | 5% | $9,593,122 | 27% | 8% |
| Low Income | $2,653,296 | 13% | 5% | $4,368,250 | 13% | 8% |
| C&I | $12,723,780 | 60% | 5% | $20,947,088 | 60% | 8% |
| TOTAL | $21,204,268 | 100% | 5% | $34,908,460 | 100% | 8% |

**2010-2012**

| Sector | After-Tax Performance Incentives | % of After-Tax Performance Incentives | % of Total Program Costs | Pre-Tax Performance Incentives | % of Pre-Tax Performance Incentive | % of Total Program Costs |
|---|---|---|---|---|---|---|
| Residential | $14,125,049 | 30% | 5% | $23,253,358 | 30% | 8% |
| Low Income | $6,162,314 | 13% | 5% | $10,145,443 | 13% | 8% |
| C&I | $27,331,166 | 57% | 5% | $44,997,494 | 57% | 8% |
| TOTAL | $47,618,528 | 100% | 5% | $78,396,295 | 100% | 8% |

## J. Cost Recovery

The Program Administrators emphasize that cost recovery, including the recovery of Lost Base Revenues ("LBRs") and performance incentives (or through implementation of a Department-approved decoupled rate structure), is a critical element of this Plan. In order for the Program Administrators to pursue the aggressive goals set forth herein – which goals have not been achieved on a statewide basis in any other jurisdiction to the Program Administrators' knowledge – it is essential that the cost recovery be well understood and 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.

As contemplated in the Act, recovery of all costs associated with the materially increased energy efficiency effort reflected in the Plan, as well as recovery of LBR consistent with the established guidelines of the Department and the opportunity to earn a performance incentive, are integral elements of this Plan. Accordingly, the electric Program Administrators have each proposed an energy efficiency cost recovery mechanism[21] relating to their energy efficiency efforts, as discussed herein.

[21] Please note the Cape Light Compact has not included LBR estimates as this is still pending outcome of various Department proceedings, including D.P.U. 08-113.

In addition to the newly expanded and approved funding sources available for energy efficiency programming as result of the Act, discussed herein in Section II.B, the Department is directed by the Act to ensure that electric and natural gas resource needs are first met through the use of all cost-effective energy efficiency and demand resources. G.L. c. 25, § 21. To that end, the Act directs electric companies, gas companies and municipal aggregators to include in their

Plans "a fully reconciling funding mechanism which may include, but which shall not be limited to, the charge authorized" by the Department. *Id.* Moreover, after reviewing a Program Administrator's Plan, the Department is directed by the Act to 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 II.D. *Id.* 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. *Id.* 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 SBC and through other sources.

In this context, the electric 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 SBC; (2) participation in the FCM; (3) proceeds from participation in cap-and-trade programs such as RGGI, and (4) proceeds available from other private or public funds that may be available for energy efficiency or demand resources.[22] 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 also include recovery of incremental LBR for energy

[22] An EERF will also be established for the Cape Light Compact through the EERF tariff submitted to the Department by NSTAR Electric.

efficiency measures installed that produce incremental savings that exceed the savings levels from 2007 energy efficiency activities, until such time as the electric distribution companies have new base rates approved by the Department that include a mechanism to "decouple" rates from energy consumption (*see* Order on Decoupling, D.P.U. 07-50-A, at 83 (2008)). 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. The electric Program Administrators will include EERF calculations for calendar year 2010 in their respective PA-specific Plan filings with the Department in October 2009, and will submit new EERFs annually for calendar years 2011 and 2012 during the course of the implementation of this three-year statewide Plan.

1. *Calculation of Lost Base Revenue*

The following table provides a preliminary statewide estimate of LBR recovery for 2010-2012 in accordance with the filing processes developed by the D.P.U. 08-50 Working Group. The Program Administrators emphasize that these numbers are estimates. Actual amounts will vary significantly by Program Administrator and will be presented, where applicable, on a PA-specific basis in the October 2009 filings.

**Calculation of Lost Base Revenue, 2010**

| Program | 2007 Savings (kWh) | Savings in 2010 from Measures Installed in 2009 (kWh) (2) | | Savings in 2010 from Measures Installed in 2010 (kWh) (2) | | Total Incremental Savings (kWh) | LBR Rate ($/kWh) (1) | Lost Base Revenue ($) |
|---|---|---|---|---|---|---|---|---|
| | | Total | Incremental | Total | Incremental | | | |
| Residential | 93,099,519 | 106,396,000 | 13,296,481 | 151,600,608 | 58,501,089 | 71,797,570 | 0.042 | $ 3,049,067 |
| Low Income | 4,607,497 | 5,817,000 | 1,237,000 | 9,892,288 | 5,284,791 | 6,521,791 | 0.002 | $ 12,223 |
| C&I - kWh LBR | 149,416,811 | 167,317,602 | 17,900,791 | 186,307,063 | 38,186,252 | 56,087,043 | 0.024 | $ 1,366,223 |
| C&I - Winter kW LBR | 2,267 | 2,677 | 410 | 3,144 | 877 | 1,288 | 5.225 | $ 80,752 |
| GRAND TOTAL | 247,123,827 | 279,530,602 | 32,434,272 | 347,799,959 | 101,972,132 | 134,406,404 | | $ 4,427,513 |

**Calculation of Lost Base Revenue, 2011**

| Program | 2007 Savings (kWh) | Savings in 2011 from Measures Installed in 2009 (kWh) (2) | | Savings in 2011 from Measures Installed in 2010 (kWh) (2) | | Savings in 2011 from Measures Installed in 2011 (kWh) (2) | | Total Incremental Savings (kWh) | LBR Rate ($/kWh) (1) | Lost Base Revenue ($) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Total | Incremental | Total | Incremental | Total | Incremental | | | |
| Residential | 93,099,519 | 106,396,000 | 13,296,481 | 152,187,988 | 59,088,469 | 204,367,235 | 111,267,716 | $ 183,652,666 | 0.044 | $ 8,163,683 |
| Low Income | 4,607,497 | 5,817,000 | 1,237,000 | 9,953,564 | 5,346,067 | 12,376,536 | 7,769,039 | $ 14,352,106 | 0.002 | $ 27,482 |
| C&I - kWh LBR | 149,416,811 | 167,317,602 | 17,900,791 | 188,974,694 | 40,853,883 | 234,110,173 | 84,693,362 | $ 143,448,036 | 0.025 | $ 3,581,119 |
| C&I - Winter kW LBR | 2,267 | 2,677 | 410 | 3,223 | 956 | 3,779 | 1,512 | $ 2,878 | 5.168 | $ 178,494 |
| GRAND TOTAL | 247,123,827 | 279,530,602 | 32,434,272 | 351,116,246 | 105,288,419 | 450,853,944 | 203,730,117 | $ 341,452,808 | | $ 11,772,285 |

**Calculation of Lost Base Revenue, 2012**

| Program | 2007 Savings (kWh) | Savings in 2012 from Measures Installed in 2009 (kWh) (2) | | Savings in 2012 from Measures Installed in 2010 (kWh) (2) | | Savings in 2012 from Measures Installed in 2011 (kWh) (2) | | Savings in 2012 from Measures Installed in 2012 (kWh) (2) | | Total Incremental Savings (kWh) | LBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Total | Incremental | Total | Incremental | Total | Incremental | Total | Incremental | | |
| Residential | 93,099,519 | 106,396,000 | 13,296,481 | 152,187,988 | 59,088,469 | 205,161,744 | 112,062,225 | 218,517,816 | 125,418,297 | 309 |
| Low Income | 4,607,497 | 5,817,000 | 1,237,000 | 9,953,564 | 5,346,067 | 12,462,616 | 7,855,119 | 16,427,045 | 11,819,548 | 26 |
| C&I - kWh LBR | 148,120,811 | 158,327,602 | 17,900,791 | 188,974,694 | 40,853,883 | 236,800,190 | 88,679,379 | 327,594,226 | 179,473,415 | 326, |
| C&I - Winter kW LBR | 2,267 | 2,677 | 410 | 3,223 | 956 | 3,779 | 1,512 | 4,826 | 2,559 | |
| GRAND TOTAL | 245,827,827 | 270,540,602 | 32,434,272 | 351,116,246 | 105,288,419 | 454,424,550 | 208,596,723 | 562,539,087 | 316,711,260 | 662, |

**Total Lost Base Revenue, 2010-2012 (3)**

| Program | 2010 | 2011 | 2012 | TOTAL |
|---|---|---|---|---|
| Residential | $ 3,049,067 | 8,163,683 | 13,984,799 | $ 25,197,550 |
| Low Income | $ 12,223 | 27,482 | 50,797 | $ 90,502 |
| Commercial & Industrial | $ 1,446,974 | 3,759,613 | 8,673,373 | $ 13,879,961 |
| GRAND TOTAL | $ 4,508,265 | 11,950,779 | 22,708,969 | $ 39,168,013 |

## Notes:

(1) Estimated statewide proxy figures.
(2) Total kWh saved should match numbers in savings tables (See II.D.3.ii. Savings)
(3) N/A

2. *Calculation of EERF*

**Calculation of the Energy Efficiency Reconciliation Factor, 2010**

| Sector | EERF Revenue Requirement (1) | Annual kWh (2) | EERF ($/kWh) (3) |
|---|---|---|---|
| Residential | $42,344,917 | $13,486,718,578 | 0.00314 |
| Low Income | $5,414,152 | $3,423,875,414 | 0.00158 |
| Commercial & Industrial | $4,855,127 | $31,032,957,417 | 0.00016 |
| TOTAL | $52,614,196 | $47,943,551,410 | 0.00110 |

**Calculation of the Energy Efficiency Reconciliation Factor, 2011**

| Sector | EERF Revenue Requirement (1) | Annual kWh (2) | EERF ($/kWh) (3) |
|---|---|---|---|
| Residential | $77,947,652 | $13,691,824,977 | 0.00569 |
| Low Income | $12,483,437 | $3,496,496,339 | 0.00357 |
| Commercial & Industrial | $70,279,555 | $31,463,532,557 | 0.00223 |
| TOTAL | $160,710,644 | $48,651,853,873 | 0.00330 |

**Calculation of the Energy Efficiency Reconciliation Factor, 2012**

| Sector | EERF Revenue Requirement (1) | Annual kWh (2) | EERF ($/kWh) (3) |
|---|---|---|---|
| Residential | $124,731,482 | $13,953,197,888 | 0.00894 |
| Low Income | $22,809,754 | $3,569,118,945 | 0.00639 |
| Commercial & Industrial | $182,869,751 | $31,830,633,467 | 0.00575 |
| TOTAL | $330,410,986 | $49,352,950,300 | 0.00669 |

**Notes:**

(1) See Table II.B.2.v. EERF Funding

(2) Statewide aggregate figures

(3) EERF = EERF Revenue Requirement / Annual kWh

See Section II.E for preliminary

**Mid-Term Revisions**

Although the Program Administrators have endeavored to anticipate and analyze a wide range of possibilities in devising the Plan, it is not only inevitable, but indeed desirable, that the Program Administrators retain flexibility to make ongoing revisions and enhancements to the Plan during its three-year term ("Term") in order to reflect in-the-field conditions, technological advances and state-of-the-art new techniques. During the Term, the Program Administrators will monitor and evaluate the effectiveness of various programs, and may determine that certain

enhancements, reallocations or modifications are appropriate to best achieve the Plan's energy efficiency goals. Likewise, the Program Administrators need to be able to incorporate technological advances as they become available without being unduly inhibited by the need to seek advance regulatory review and approval (with accompanying administration costs and implementation delays). While the Program Administrators propose to retain significant 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. As stated in D.P.U. 08-50-A, the Department "expect[s] that Program Administrators will make minor modifications as a matter of course but that significant modifications will require Department review and approval." More specifically, as expressly authorized in D.P.U. 08-50-A, during the Term, the Program Administrators will have the authority to make modifications, reallocations and enhancements to their individual plan (including, without limitation, budgetary reallocations and additions or subtractions of program measures). However, in accordance with D.P.U. 08-50-A, any such modification, reallocation or enhancement will 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 that 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.

With specific respect to the process for material modifications that fall within the D.P.U. 08-50-A standards, the Program Administrators propose to utilize the exact process set forth in D.P.U. 08-50-A, with one clarification/adjustment as highlighted below: A Program Administrator that seeks to make such a modification shall submit its proposal for review by the Council and submit a request for approval as part of its annual energy efficiency report filing to the Department **or, if appropriate under the circumstances on account of timing concerns, through a separate proposal filed in advance of its annual energy efficiency report filing.** Any such request must be accompanied with (1) a justification for why the modification is appropriate, and (2) a description of how the modification was reviewed and decided upon by the Council. D.P.U. 08-50-A at 64 (bold materials added). This clarification/adjustment is appropriate in order to accommodate, in special circumstances, requests for program modifications that may be time sensitive or necessary to address potential lost opportunities and that, therefore, should not be delayed pending the filing of a Program Administrator's annual report (which typically is made in the summer). This limited clarification/adjustment to the process set forth in D.P.U. 08-50-A adds a reasonable degree of flexibility for unique circumstances, ensuring that customers can benefit in a timely fashion from material enhancements (as opposed to delaying the implementation of such enhancements until after an annual report filing). The Program Administrators expect that any usage of this timing exception would be rare. The Program Administrators would also recommend that the Council and the Department each adopt a 45-day standard timeframe (that can be exceeded as may be necessary) for a decision on any proposed mid-course modification. Such a 45-day standard timeframe seeks to balance the need for prudent review with the need for implementation of material program enhancements on as timely a basis as reasonably practicable.

The Program Administrators note that, in adopting the appropriate flexibility provided by the Department in D.P.U. 08-50-A, they are not proposing that such flexibility apply to any of the mandatory low-income program funding levels established in G.L. c. 25, Section 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. The Program Administrators believe that the 20 percent bandwidth adopted by the Department will permit the Program Administrators to make the sort of on-the-ground assessments and refinements that are necessary to promote innovation and efficiency. Indeed, retaining the flexibility to make changes and reallocations within that bandwidth is critical. Further, requiring review for all modifications would carry a substantial administrative cost and would have the unfortunate effect of inhibiting valuable innovation. The balance struck by the Department in D.P.U. 08-50-A ensures regulatory oversight while permitting the Program Administrators to remain agile and responsive in implementing state-of-the-art energy efficiency programs for the benefit of customers during the Term.

## III. GREEN COMMUNITIES ACT – DEPARTMENT OF PUBLIC UTILITIES

### A. Acquisition of All Available Cost Effective Energy Efficiency

Please refer to the discussion in Section II.A above in this Plan.

### B. Allocation of Funds

1. *Minimum Requirement for Low Income*

The Act requires that electric energy efficiency funds be allocated to customer classes in proportion to their contributions to those funds. G.L. c. 25, § 19 requires "…that at least 10 per cent of the amount expended for electric energy efficiency programs… shall be spent on comprehensive low-income residential demand side management and education programs."

Based on the budget figures set forth in this Plan, 14% of the total budget will be allocated to the low-income residential subclass in 2010, and 13.5% and 13% in years 2011 and 2012, respectively.

**Electric Minimum Allocation to Low Income for 2010**

| Sector | SBC Collections | % of Total SBC Collections | Budget | % of Total Budget |
|---|---|---|---|---|
| Residential | $33,672,015 | 28.1% | $85,639,831 | 34.1% |
| Low Income (1) | $8,604,470 | 7.2% | $35,077,960 | 14.0% |
| Commercial & Industrial | $77,694,894 | 64.8% | $130,179,889 | 51.9% |
| TOTAL | $119,971,379 | 100.0% | $250,897,679 | 100.0% |

**Electric Minimum Allocation to Low Income for 2011**

| Sector | SBC Collections | % of Total SBC Collections | Budget | % of Total Budget |
|---|---|---|---|---|
| Residential | $34,183,703 | 28.1% | $110,813,735 | 31.6% |
| Low Income (1) | $8,787,100 | 7.2% | $47,500,124 | 13.5% |
| Commercial & Industrial | $78,658,831 | 64.7% | $192,913,963 | 54.9% |
| TOTAL | $121,629,635 | 100.0% | $351,227,822 | 100.0% |

**Electric Minimum Allocation to Low Income for 2012**

| Sector | SBC Collections | % of Total SBC Collections | Budget | % of Total Budget |
|---|---|---|---|---|
| Residential | $34,835,568 | 28.2% | $139,171,612 | 28.3% |
| Low Income (1) | $8,969,825 | 7.3% | $63,904,849 | 13.0% |
| Commercial & Industrial | $79,576,983 | 64.5% | $288,457,669 | 58.7% |
| TOTAL | $123,382,376 | 100.0% | $491,534,130 | 100.0% |

**Electric Minimum Allocation to Low Income for Three Years**

| Sector | SBC Collections | % of Total SBC Collections | Budget | % of Total Budget |
|---|---|---|---|---|
| Residential | $102,691,286 | 28.1% | $335,625,177 | 30.7% |
| Low Income (1) | $26,361,396 | 7.2% | $146,482,933 | 13.4% |
| Commercial & Industrial | $235,930,708 | 64.6% | $611,551,521 | 55.9% |
| TOTAL | $364,983,389 | 100.0% | $1,093,659,630 | 100.0% |

### C. 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 & Administrative" 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, the Department, the DOER, the Attorney General's Office, and other interested parties have begun discussions 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 results of this effort will allow all interested stakeholders to review administrative costs in an objective manner.

The Program Administrators also emphasize that, especially in light of the increased levels of activity contemplated under the Act, it is necessary and appropriate for all Program Administrators to maintain a skilled and dedicated administrative staff in order to ensure that: programs are delivered successfully; that the Act is complied with; that the directives of the Council, Department and DOER are all responded to in a timely manner; and that substantial savings are achieved and documented. In sum, 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.

### D. Competitive Procurement Process

As set forth in Section IV.A.4 above, the programs shall be administered by the electric distribution companies and by municipal aggregators with energy plans certified by the Department under G.L. c. 164, § 134(b). In authorizing such programs, the Department shall ensure that they are delivered in a cost-effective manner capturing all available efficiency opportunities, minimizing administrative costs to the fullest extent practicable and utilizing competitive procurement processes to the fullest extent practicable. The Program Administrators are committed to utilizing the competitive procurement process to the fullest extent possible. Historically, the Program Administrators have utilized the competitive procurement process for retaining third-party contractors and vendors for activities including but not limited to program delivery, quality control, monitoring and evaluation, marketing and website design. Therefore, consistent with past practice in the procurement of energy efficiency services, the Program Administrators anticipate that they will issue requests for proposals to engage the appropriate third party contractors and vendors to provide energy efficiency programs and services, will consider the input and direction of the Council and its Consultants with respect to the retention of necessary Consultants, and where necessary will work collaboratively to ensure that energy efficiency services have been procured in a manner that minimizes cost to the ratepayers while maximizing the associated return on that investment.

### E. Energy Efficiency Reconciliation Factor

Pursuant to G.L. c. 25, § 19, prior to the approval of any EERF recovery factor within an energy efficiency plan, the Department shall consider: (a) the effect of any rate increases on

residential and commercial customers; (b) the availability of other private or public funds for use towards energy efficiency or demand resources; and (c) whether past programs have lowered the cost of electricity to residential and commercial customers. Pursuant to this series of factors and considerations for Department evaluation in its review and findings relative to the additional funding required for energy efficiency measures, consistent with the Act and the Department's own precedent in D.P.U. 08-50-A at 56-60, the Program Administrators have included very preliminary, statewide customer bill impacts with this Plan, as discussed above in Section II.E. These rough bill impacts estimates will be refined and revised, and each PA-specific Plan filed in October 2009 will contain detailed billing analyses as required in D.P.U. 08-50-A. Additionally, the Program Administrators have analyzed and continue to fully analyze the availability of potential revenue sources other than those from the SBC, RGGI, or FCM related proceeds. Lastly, the Program Administrators have amply demonstrated that the BCRs associated with the Plan are robust and well above the prescribed levels. Therefore, the Program Administrators have amply met the requirements in G.L. c. 25, § 19. Further, on the issue of cost effectiveness and lowering the cost of electricity, the Program Administrators have shown that implementation of energy efficiency programs in the past has lowered the total, long-term costs paid for electricity by its customers in the aggregate, and that approval of this Plan would further reduce total, long-term costs under this three-year term. As a result, the Program Administrators have ample record to rely upon to show that they have met all considerations for the review and approval of an EERF pursuant to G.L. c. 25, § 19.

## IV. GREEN COMMUNITIES ACT – ENERGY EFFICIENCY ADVISORY COUNCIL

### A. Additional Benefits

1. *Reduction in Peak Load*

Please refer to discussion of Demand Response in Section II.A.5 above.

2. *Economic Development and Job Growth/Retention*

The economic development and job creation benefits of energy efficiency are well documented. In developing this three-year Plan to meet the ambitious goals set forth in the Green Communities Act, the Program Administrators recognize the importance of thoughtful planning in ensuring that these benefits are fully realized by the Commonwealth and its citizens. In its April 2007 report, "Massachusetts Saving Electricity: A Summary of the Performance of Electric Efficiency Programs Funded by Ratepayers Between 2003 and 2005," the DOER provided a compelling overview of the fact that the benefits that accrue as a result of these programs are many times the initial investment. Indeed, the report indicates that for an investment of $371 million in ratepayer funds over the three-year period DOER reviewed (2003-2005), the lifetime economic impacts of the efficiency investments made during those years will stimulate over 11,000 job years, increase personal disposable income by $650 million and will add almost $1.4 billion to the Gross State Product. Assuming the energy efficiency programs accrue economic development benefits at the same rate going forward as they did between 2003 and 2005, the economic development benefits of this three-year plan are 33,670 job-years (which equates to approximately 3,300 jobs), and $4.285 billion in gross state product.

Energy efficiency puts cash in the pockets of consumers and helps free up capital for local businesses in multiple ways. First, customers who implement measures may see an

immediate impact in terms of bill savings. In this Plan, the Program Administrators have proposed a number of measures to help defray upfront investment costs and deliver net savings from the beginning. One important example is the Small Business Services delivery model—which includes both direct installation and innovative financing practices that limit or reduce up-front cost share—has been held up as a national model to address the deep and broad savings potential in this market. Second, load reductions contribute to lower wholesale energy prices. According to the DOER analysis, over the three years analyzed, Massachusetts efficiency programs delivered a cumulative benefit of $19.5 million. As a result, funds that were going primarily to pay for natural gas and other fuels (a majority of which were likely left the state and even the country) are available to contribute to local economic development. Energy efficiency investments save money for the consumers, who can reapply those savings to other investments, which impact the economy. One of the most important economic impacts of energy efficiency is job growth and job retention. States that pursue energy efficiency spur job growth. Energy efficiency investments create jobs most directly through the work required to produce and install energy-efficiency products. A majority of the workforce needed to implement energy efficiency by necessity is local, as much of the work involved requires on-site construction and installation.

In Massachusetts, for example, an annual growth rate of 20 percent is expected in industries related to clean energy. The largest sector of this industry is jobs associated with energy efficiency and demand response, representing 44 percent of the sector. [23] The Clean Energy Census performed by the Massachusetts Renewable Energy Trust and Global Insight

[23] Massachusetts Clean Energy Industry Census; prepared by Global Insight, Inc. for the Massachusetts Technology Collaborative Renewable Energy Trust, August 2007, p. 1.

notes that the job creation is quite broad-based, with a number of clean energy businesses in the Berkshires, around Springfield and Worcester, and up and down the Massachusetts coastline. Moreover, this study notes that the job creation associated with clean energy requires workers at every level of the economic spectrum, from Ph.D. researchers to solar panel installers, energy auditors, and maintenance technicians for wind turbines.[24] This three-year Plan represents a tremendous opportunity for job growth in Massachusetts. While this is one of the most highly anticipated positive results of the significant ramp up in energy efficiency spending, Program Administrators recognize that significant effort will be needed to ensure that demand for talent is consistently matched with supply of available labor.

[24] New England Clean Energy Council's Energy Workforce Summit Focused on Meeting Demand for the Fast-Growing Regional Clean Energy Industry. [25] *Mobilization for Federal Recovery Infrastructure Investment Report*, February 2009. [26] *Id.*

Initial analysis indicates there is indeed potential for a labor shortfall over the next three years. Data suggest the largest sector impacted by job growth will be the construction trades.[25] The Governor's task force on the *Mobilization for Federal Recovery Infrastructure Investment Report* cautioned of the potential for short-term workforce shortages in energy efficiency contractors in place to do construction.[26] In order to better understand these trends support has been provided to the New England Clean Energy Council's workforce development task force which is currently conducting a state assessment of job demands and job availability. The results of this study will help Program Administrators target workforce development initiatives at appropriate target markets.

One of the key roles played by Program Administrators is to interface with the energy efficiency service provider community (*e.g.*, builders, contractors, electricians and other trade

allies) to communicate growing demand in specific areas and work together to identify and address potential gaps. Indeed, the Program Administrators have been participating in this type of dialog for many months to ensure sufficient infrastructure is in place to meet the savings targets included in the Program Administrators' respective 2009 plans. Furthermore, the Program Administrators recognize that training will be essential to ensuring the availability of a highly qualified and well staffed network of efficiency providers. Many in the workforce will need to have skills upgraded or developed. The Program Administrators will look to cooperate with the DOER and other state agencies interested in job training and workforce development over the three-year term of the Plan. The Program Administrators recognize this workforce challenge and have accordingly addressed it in their plans by supporting and allocating funds for workforce growth and training initiatives. The Program Administrators believe that a three-year planning horizon will make it much easier to forecast and communicate demand relative to the previous one-year planning process (for electric Program Administrators). Without adequate assurances that work will be available over a significant period of time, individuals will be reluctant to invest in training and businesses will be slow to hire for fear of needed to turn around and downsize in the next season. Job retention will be achieved with consistent, sustainable funding of energy efficiency programs. Sustainable level of programs refers to programs which do not run out of either markets to serve or energy efficiency products with which to serve those markets. Achieving a sustainable level of programs and associated spending, implies that a consistent work effort is achieved and maintained for the long term.

This three-year Plan represents a rapid growth in energy efficiency savings and programs. It is important to note that for job retention, a sustainable level of spending on energy efficiency

programs is imperative. Inconsistent program spending creates uncertainly in the marketplace, leading to workforce and material shortages and oversupplies associated with spending that goes up and down unpredictability. Hence, a foundation for job retention will be to reach a sustainable level of program activities which signal on-going work demand to the marketplace.

## V. APPENDICES

### A. Glossary of Defined Terms

**APPENDIX A**

GLOSSARY OF DEFINED TERMS

| | |
|---|---|
| Act | An Act Relative to Green Communities, Chapter 169 of the Acts of 2008. Signed into law on July 2, 2008. |
| ACCA | Air Conditioning Contractors of America |
| AESC | Avoided-Energy-Supply-Component |
| ACEEE | American Council for Energy Efficient Economy |
| AFUE | Annual Fuel Utilization Efficiency |
| BCRs | Benefit/Cost Ratios |
| BFM | Brushless Fan Motors |
| CAP | Community Action Program |

GLOSSARY OF DEFINED TERMS

| | |
|---|---|
| CC | Conservation Charge |
| CEE | Consortium for Energy Efficiency |
| CFL | Compact Fluorescent Light |
| CHP | Combined Heat and Power |
| C&I | Commercial and Industrial |
| Consultants | Consultants employed by the Energy Efficiency Advisory Council |
| Council | Energy Efficiency Advisory Council |
| Department | Massachusetts Department of Public Utilities |
| DHCD | Massachusetts Department of Housing and Community Development |
| DHW | Domestic Hot Water |

GLOSSARY OF DEFINED TERMS

| | |
|---|---|
| DOER | Massachusetts Department of Energy Resources |
| D.P.U. 08-50-A | 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 issued on March 16, 2009. |
| DR | Demand Response |
| DRIPE | Demand Reduction Induced Price Effect |
| DSM | Demand-Side Management |
| ECM | Electronically Commutated Motor |
| EER | Energy Efficiency Rating |
| EERF | Energy Efficiency Reconciliation Factor |
| ENERGY STAR® | Brand name for the voluntary energy efficiency labeling initiative sponsored by the U.S. Environmental Protection Agency and Department of Energy. |
| ERVs | Energy Recovery Ventilation Units |

GLOSSARY OF DEFINED TERMS

| | |
|---|---|
| ESCos | Energy Service Companies |
| ESQI | ENERGY STAR Quality Installation standards. |
| EPA | Environmental Protection Agency |
| FCM | Forward Capacity Market |
| 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. |
| GWSA | Global Warming Solutions Act |
| HSPF | Heating Season Performance Factor |
| HERS | Home Energy Rating System |
| HVAC | Heating, Ventilation, and Air Conditioning |
| IAPMO | International Association of Plumbing and Mechanical Officials |

GLOSSARY OF DEFINED TERMS

| | |
|---|---|
| JMC | Joint Management Committee |
| LEAN | The Low-Income Energy Affordability Network |
| LED | Light Emitting Diode |
| LBR | Lost Base Revenue |
| NATE | North American Technician Excellence |
| NCPs | Negotiated Cooperative Promotions |
| NEEP | Northeast Energy Efficiency Partnerships |
| NETWORK | Low-Income Weatherization and Fuel Assistance Program Network |
| OTF | Office of the Future |
| PAs or Program Administrators | Utilities and municipal aggregators that offer energy efficiency programs. Electric Program Administrators in Massachusetts include: Cape Light Compact, Unitil, National Grid, NSTAR Electric Company and Western Massachusetts Electric Company. |

GLOSSARY OF DEFINED TERMS

| | |
|---|---|
| PHA | Public Housing Authority |
| PHCC | Plumbing Heating Cooling Contractors Association |
| Plan | Statewide electric efficiency investment plan submitted to the Energy Efficiency Advisory Council on April 30, 2009. |
| PP&A | Program Planning and Administration |
| Priorities Resolution | The Energy Efficiency Advisory Council's "Resolution Concerning Priorities to Guide the Development, Implementation and Evaluation of the PA Efficiency Plans" dated March 24, 2009. |
| QIV | Quality Installation and Verification |
| RCS | Residential Conservation Services |
| RGGI | Regional Greenhouse Gas Initiative |
| SBC | System Benefit Charge |
| SBS | Small Business Services |

GLOSSARY OF DEFINED TERMS

| | |
|---|---|
| SEER | Seasonal Energy Efficiency Rating |
| SSL | Solid State Lighting |
| STC | Standing Technical Committee |
| T&D | Transmission and Distribution |
| Term | Three-year term of the energy efficiency plan |
| TBC | Thermal Bypass Inspection Checklist |
| TRC | Total Resource Cost |
| UDRH | User Defined Reference Home |
| USGBC | US Green Buildings Council |
| WBA | Whole Building Approach |
| Websites | Refers to the websites www.richmaylaw.com/eeplan (interim) and www.ma-eeac.org (permanent) |

**B. Proposed Council Timeline**

**Appendix B** *Note: This is a working draft of the planning schedule **Electric and Gas Energy Efficiency Plan Filings, 2010-2012 Three Phases: to April 30, May 1 to July 29, and July 30 to October 31 Proposed Timeline, with Proposed Revisions by the Program Administrators April 30, 2009 (revised draft)** *Phase I: Development of Statewide Energy Efficiency Plans* February 10/24, 2009 - Council meetings. Council develops and communicates draft priorities (Council Resolution) for the three-year Plans and considers initial responses from Program Administrators. March 5, 2009 - Consultants develop and DOER distributes draft outline and draft timeline for the April 30 statewide Plans (Electric and Gas), for Council consideration. Additional documents for Council review and consideration distributed prior to the Council meeting.

March 10, 2009 - Council meeting. Council reviews (1) outline and (2) timeline for the April 30 statewide Plans. (3) Council, with the support of the Consultant presentation, reviews MA energy and environmental policies, including the GCA and GWSA statutes, and considers electric energy savings necessary to achieve the policy goals and GCA requirements. (4) PAs present highlights and themes of some proposed key program strategies as an informational update,

with Consultant recommendations, for Council discussion. (5) Council reviews and discusses revised Resolution. March 24, 2009 - Council meeting. Council reviews additional progress on key concepts and information for the April 30 Plans, primarily: (1) updates on the Plan outline and timeline; (2) summary of 08-50-A decision; (3) Council Resolution; (4) the program strategies for "broader and deeper" savings, including those strategies that respond to the Council Resolution; (5) preliminary electric energy savings levels developed by the Consultant, at the portfolio and sector levels (and for at least some major market segments), and initial estimates of electric benefits, costs, and net economic benefits; (6) preliminary gas savings levels; (7) the proposed approach for the GCA-required assessment of the potential for all available cost-effective energy efficiency; and (8) initial concepts for other related Plan topics (e.g., evaluation/M&V, performance incentives, etc.). April 14, 2009 - Council meeting. Council reviews additional progress on key concepts and information for the April 30 Plans, primarily: (1) summary of DPU 08-50-A Decision from Commissioner Tim Woolf; (2) environmental benefits and economic analysis background; (3) Three-year Plans: schedule, process, and template (Plan Template from 08-50 working group process, schedule for development of April 30 Statewide Plans with update from the PAs, and process and timeline for review of April 30 Statewide Plans focusing on the April 30 through July 29 period); (4) electric bill impact analysis, preliminary approach from EEAC Consultants; (5) gas energy savings estimates and initial economic analysis by the EEAC Consultants; (6) follow up on key program strategies for "deeper and broader" savings (customer repayment/on-bill financing, and electric and gas integration); (7) performance incentives, review of current electric mechanism; (8) scope and process for the assessment of all available cost-effective potential; and (9) Council website update.

April 21, 2009 - Council meeting. Council reviews additional progress on key concepts and information for the April 30 Plans, primarily: (1) Three-year Plans: process and schedule, revised timeline (process and revised timeline for review of the April 30 Statewide Plans focusing on the April 30 through July 29 period; May 5th PA briefing on April 30 Statewide Plans, with a Council working session in the afternoon); (2) bill impact analysis, working group process and schedule; (3) evaluation (EM&V) administration and framework; (4) performance incentives: overview of incentive designs and practices in other states; (5) scope and process for the assessment of all available cost-effective potential; (6) proposed process for addressing new measures (technologies and strategies); and (7) marketing, education, and outreach. April 30, 2009 - Initial filing of (1) statewide Electric three-year energy efficiency Plan, and (2) statewide Gas three-year energy efficiency Plan. Electronic filing of the Plans with the Council (with hard copies to follow). *Phase II: Council Review of Initial Plans and Development of Updated Efficiency Plans* Some Council meetings might need to be longer or be scheduled in two parts, with a technical working session (or working groups) as well as the regular meeting, to allow for more detailed discussions of specific topics. For example, working groups on specific topics could be scheduled immediately prior to the regular Council meetings, at 1:00/1:30 pm (or in the morning), and the working groups could report to the full Council during the regular meeting. Also, some of the discussions will be iterative, with interactions and communications outside of formal technical sessions, *e.g.*, there will likely be some working groups and some PA/Consultant meetings to address details. May 5, 2009 - PA Briefing on 2009 Statewide Plans (morning) and Council Working Session (afternoon).

- PA briefing and overview of Electric and Gas Plans; PA presentations with questions and initial Council discussion (10:00 to noon).

- Council working session (1:00 to 4:15). Council asks additional questions, discusses the statewide Plans, and identifies topics or issues to address during its review. Consultants compile initial list of topics and issues to address

during the Council's review. Consultants provide initial review comments.

May 12, 2009 - Council meeting and possible technical working session or working groups. Council identifies and reviews initial list of topics and issues to address during its review of the Plans (list compiled by Consultants with input from Councilors), and develops Council work plan and schedule for the review. Council Consultants provide review comments, following up on the May 5 briefing, for Council consideration. Council asks additional questions, discusses the statewide Plans, and provides initial comments orally. May 15, 2009 - Council distributes/posts the work plan and schedule for its review of the Plans, and notifies PAs regarding areas of interest/topics for review in further technical working sessions or working groups. May 13-26, 2009 - Working groups continue discussions. May 26, 2009 - Council meeting and possible technical working session or working groups. PA responses to questions (those that required follow up) and identified topics and issues. Council identifies any additional questions or information needed from the PAs. Council discusses the Electric and Gas Plans, and develops preliminary comments on the Plans. [Other topics TBD.] May 29, 2009 - Council distributes/posts its preliminary comments on the statewide Electric and Gas Plans. Additional questions or requests for additional information issued by the Council. (Requests for information can also be issued before this date, and the PAs will seek to respond within 10 days as a general rule.)

June 9, 2009 - Council meeting and possible technical working session or working groups. Council follow up on outstanding topics and issues, PA responses to requests for information, and PA responses

to preliminary Council comments. Council continues drafting its written comments on the Plans. [Topics TBD.] June 23, 2009 - Council meeting and possible technical working session or working groups. Council completes its written comments on the (then current) statewide Plans. [Topics TBD.] June 26, 2009 - Council distributes/posts its comments on the statewide Plans. July 9, 2009 - Updated draft statewide Plans (Electric and Gas) submitted by PAs (addressing Council comments and suggestions). July 14, 2009 - Council meeting. Council reviews updated draft statewide Plans and provides any additional comments and suggestions. July 23, 2009 - Updated revised/final statewide Plans submitted by the PAs. July 23-28, 2009 - Council reviews updated revised/final statewide Plans (Electric and Gas) and completes drafting of its comments on the Plans. July 29, 2009 - Council submits approval, conditional approval, or comments on the updated statewide Electric and Gas Plans.

*Phase III: Development of Program Administrator-Specific Plans*

(Note: Process and specific schedule to be developed further at a later date. Add interactive and review steps between July and October 31. Council Consultants will be working with the PAs on the development of the individual PA Plans. The Council should review work products and have the opportunity to ask questions and provide comments during the development process.

Also, the Council should review and comment on a draft of each of the PA-specific Plans prior to the Plans being filed with the DPU. This interactive and iterative process will be filled out at a later date.) October 31, 2009 - PA-specific Plans filed at the DPU. October 31, 2009 - Updated, integrated statewide Plans (Electric and Gas) filed that include any updated information revised through the process of developing the separate PA-specific October 31 Plans filed by the PAs. January 1, 2010 - PA-specific three-year Plans go into effect. Notes: 1) In the period between July 29, 2009 and October 31, 2009, the PAs will be able to prepare refined PA-specific plans and address any items in Council comments due on July 29, 2009. 2) DPU review of the October 31, 2009 filings is being addressed by the DPU separately and is beyond the scope of this draft timeline.

## C. Bibliography

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## D. Evolving Trends in Cost/Budgets

### 1. *Market EE Activity Table*

**Electric PA's EE Activities**

| Year | Sector | Benefits ($) | | | | | | TRC Costs ($) | | TRC B/C Ratio | Net Benefits | Savings | | Avg Measure Life (yrs.) | | TR Summer Demand Cost ($/Lifetime kW) | | TR Ene ($/Lifet saved) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Capacity | Energy | DRIPE (Capacity & Energy) | Non-Elec. Resource | Non-Resource | Total Benefits | PA | Customer | TOTAL | | | | Capacity (kW) | Energy (MWH) | Gas (Therms) | Other Fuels (MMBTU) | | |
| | | | | | | | | | | | | Annual (Summer) | Lifetime | Annual | Lifetime | Annual | Lifetime | Annual | Lifetime | |
| | Residential | $98,251,747 | $202,820,900 | $48,945,776 | $122,916,139 | $14,222,481 | $487,157,043 | $88,203,679 | $17,697,233 | $105,900,912 | 4.60 | $381,256,130 | 30,534 | 349,406 | 307,450 | 2,369,178 | 192,779 | 1,485,538 | 24,066 | 185,453 | 7.7 |
| | Low Income | $9,633,442 | $25,835,844 | $3,427,089 | $37,497,424 | $39,638,161 | $116,031,960 | $37,567,254 | $0 | $37,567,255 | 3.09 | $78,464,706 | 2,209 | 35,473 | 21,415 | 310,593 | 30,436 | 441,436 | 4,450 | 64,546 | 14.5 |
| | C&I | $198,850,140 | $388,170,666 | $71,429,881 | $278,182 | $8,711,235 | $667,440,105 | $134,998,894 | $48,298,461 | $183,297,355 | 3.64 | $484,142,752 | 54,996 | 737,591 | 319,618 | 4,246,748 | 6,634 | 88,149 | (465) | (6,182) | 13.3 |
| **2010** | **Total** | **$306,735,329** | **$616,827,410** | **$123,802,746** | **$160,691,745** | **$62,571,878** | **$1,270,629,108** | **$260,769,828** | **$65,995,694** | **$326,765,522** | **3.89** | **$943,863,587** | **87,740** | **1,122,469** | **648,483** | **6,926,519** | **188,662** | **2,015,123** | **22,827** | **243,817** | **10.7** |
| | Residential | $133,647,170 | $270,699,410 | $44,607,790 | $167,040,509 | $16,095,812 | $632,090,691 | $113,979,208 | $23,768,076 | $137,747,284 | 4.59 | $494,343,423 | 38,658 | 445,440 | 395,934 | 3,058,797 | 220,955 | 1,706,992 | 27,924 | 215,729 | 7.7 |
| | Low Income | $12,270,496 | $32,144,488 | $2,956,689 | $60,902,876 | $47,137,569 | $155,412,118 | $50,788,022 | $0 | $50,788,023 | 3.06 | $104,624,081 | 2,640 | 41,981 | 25,905 | 369,878 | 33,625 | 480,111 | 6,232 | 88,989 | 14.3 |
| | C&I | $264,828,678 | $509,830,120 | $60,565,630 | $12,573 | $9,754,218 | $844,991,219 | $200,005,681 | $65,939,448 | $265,945,129 | 3.18 | $579,046,089 | 67,849 | 909,280 | 398,416 | 5,296,266 | 6,631 | 88,149 | (334) | (4,436) | 13.3 |
| **2011** | **Total** | **$410,746,344** | **$812,674,018** | **$108,130,109** | **$227,955,959** | **$72,987,599** | **$1,632,494,028** | **$364,772,911** | **$89,707,525** | **$454,480,436** | **3.59** | **$1,178,013,593** | **109,147** | **1,396,700** | **820,255** | **8,724,941** | **213,903** | **2,275,253** | **28,230** | **300,282** | **10.6** |
| | Residential | $163,617,383 | $322,387,690 | $30,296,137 | $196,990,027 | $17,316,810 | $730,608,047 | $142,844,003 | $28,799,405 | $171,643,408 | 4.26 | $558,964,639 | 46,556 | 536,765 | 462,099 | 3,579,083 | 248,540 | 1,925,008 | 31,450 | 243,591 | 7.7 |
| | Low Income | $16,696,467 | $44,655,104 | $2,309,482 | $108,158,438 | $60,886,504 | $232,705,996 | $68,273,099 | $0 | $68,273,099 | 3.41 | $164,432,899 | 3,524 | 55,570 | 35,266 | 501,202 | 37,880 | 538,350 | 8,743 | 124,260 | 14.2 |
| | C&I | $368,235,196 | $693,473,712 | $50,111,792 | ($349,468) | $11,887,237 | $1,123,358,470 | $298,886,808 | $93,519,423 | $392,406,232 | 2.86 | $730,952,238 | 89,109 | 1,196,073 | 525,098 | 6,998,311 | 6,614 | 88,149 | (643) | (8,575) | 13.3 |
| **2012** | **Total** | **$548,549,046** | **$1,060,516,506** | **$82,717,412** | **$304,798,998** | **$90,090,551** | **$2,086,672,513** | **$510,003,910** | **$122,318,829** | **$632,322,739** | **3.30** | **$1,454,349,776** | **139,189** | **1,788,408** | **1,022,463** | **11,078,596** | **235,483** | **2,551,507** | **33,158** | **359,275** | **10.8** |
| | Residential | $395,516,301 | $795,907,999 | $123,849,703 | $486,946,675 | $47,635,103 | $1,849,855,781 | $345,026,890 | $70,264,715 | $415,291,604 | 4.45 | $1,434,564,192 | 115,748 | 1,331,611 | 1,165,483 | 9,007,058 | 662,274 | 5,117,539 | 83,441 | 644,773 | 7.7 |
| | Low Income | $38,600,405 | $102,635,436 | $8,693,260 | $206,558,739 | $147,662,234 | $504,150,073 | $156,628,375 | $0 | $156,628,377 | 3.22 | $347,521,686 | 8,373 | 133,023 | 82,586 | 1,181,674 | 101,941 | 1,459,896 | 19,426 | 277,795 | 14.3 |
| | C&I | $831,914,014 | $1,591,474,498 | $182,107,303 | ($58,712) | $30,352,690 | $2,635,789,794 | $633,891,384 | $207,757,332 | $841,648,716 | 3.13 | $1,794,141,079 | 211,954 | 2,842,944 | 1,243,132 | 16,541,325 | 19,879 | 264,448 | (1,442) | (19,194) | 13.3 |
| **GRAND** | **$1,266,030,72** | **$2,490,017,93** | **$314,650,267** | **$693,446,702** | **$225,650,027** | **$4,989,795,64** | **$1,135,546,64** | **$278,022,047** | **$1,413,568,69** | **3.53** | **$3,576,226,95** | **336,07** | **4,307,5** | **2,491,2** | **26,730,** | **784,09** | **6,841,8** | **101,42** | **903,37** | **10.7** |

**Notes:** (1) GHG for information purposes only; it is not included in TRC test