

MA EEAC



CONSULTANT TEAM

**Report to the Energy Efficiency Advisory Council  
On  
2012 Mid-Term Modifications Proposed  
by the  
Massachusetts Electric and Gas Program Administrators**

November 4, 2011



## Introduction and Summary of Findings

This report presents our review of the proposed 2012 Mid-Term Modifications (MTMs) and associated materials filed with the DPU by the Program Administrators (PAs) last Friday, 28 October 2011. The PAs have made a number of adjustments, modifications, and corrections since their preliminary MTM proposals. Our report provides an update to our earlier review of those materials (provided in advance of the October Council meeting); highlights of the PAs' proposed benefits, savings, and costs for 2012 and the Three-Year Plan period; and an analysis of how the proposed MTM benefits and savings compare to the goals for 2012 and the Three-Year Plan period. This report also includes observations on the proposed modifications and notifications related to the residential, low income, and commercial and industrial programs, as well as comments on the 2012 EM&V plan, performance incentive mechanism and performance metrics, and Technical Reference Manual (TRM).

The following are some of the most important high-level findings of our review.

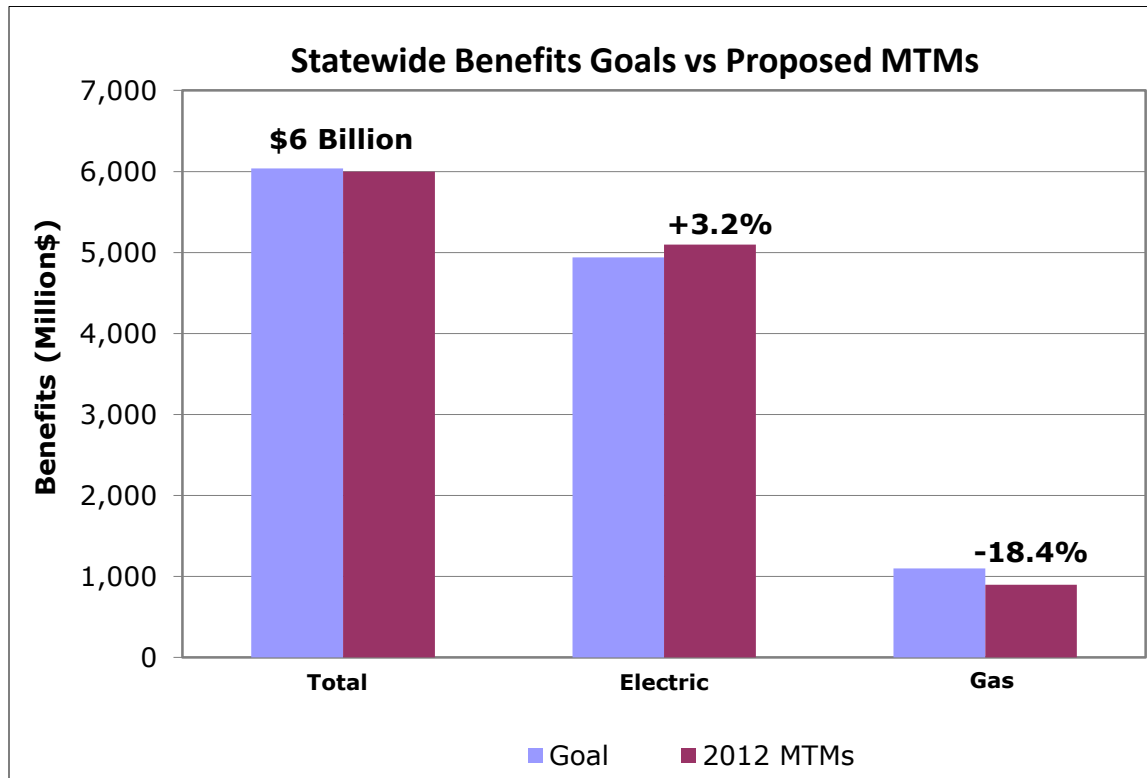
- The proposed MTMs represent a commitment by the PAs to achieve benefits and savings that are at or near the original Three-Year Plan goals
- The PAs have proposed several changes to their program designs, many of which we believe will improve program success and achievement
- Ambitious EM&V activities have been largely successful to date; continued emphasis on this important function will be necessary despite recent changes in PA evaluation personnel and staffing levels.

## Benefits, Savings, and Costs

### Benefits – On Track for \$6 Billion

The proposed MTMs indicate that Massachusetts remains on course and on target to achieve the \$6 billion in benefits proposed in the original Three-Year Plan for 2010-2012. Achieving this goal will be a huge accomplishment for the PAs and the Commonwealth. The PAs' proposal to achieve the Three-Year Plan benefits goals through the 2012 MTMs is a very positive step forward and demonstrates the PAs' commitment to these goals.

The chart below presents the total Three-Year benefit goals for both electric and gas PAs. The more than \$5 billion in electric program benefits (middle columns) set forth in the proposed 2012 MTMs are 3.2% higher than the EEAC-adopted benefits goals. The gas program benefits (right-hand columns) proposed in the 2012 MTMs are about 18% lower than the EEAC benefits goals, due primarily to lower gas avoided costs and somewhat lower-than-expected energy savings as documented in evaluation (EM&V) studies. Please refer to Appendix A for similar charts showing electric and gas benefits goals vs. proposed MTMs for each individual PA.

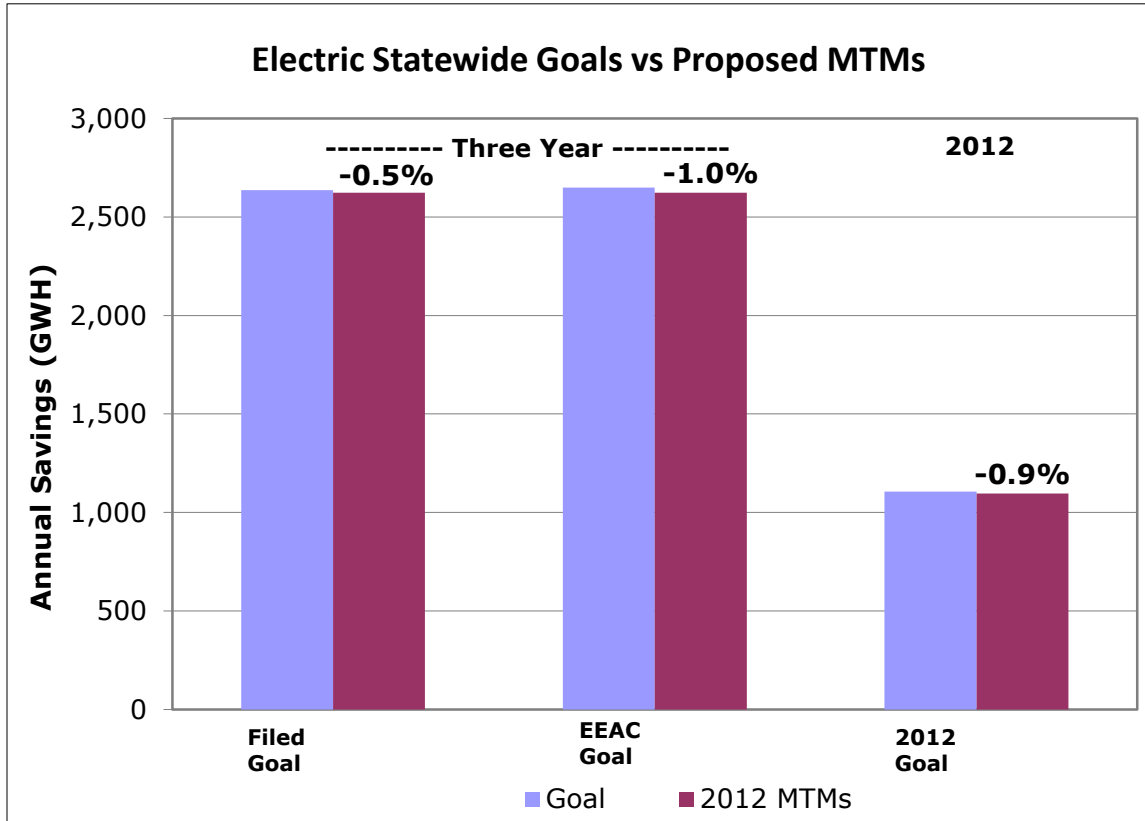


### Energy Savings – Close to Goals

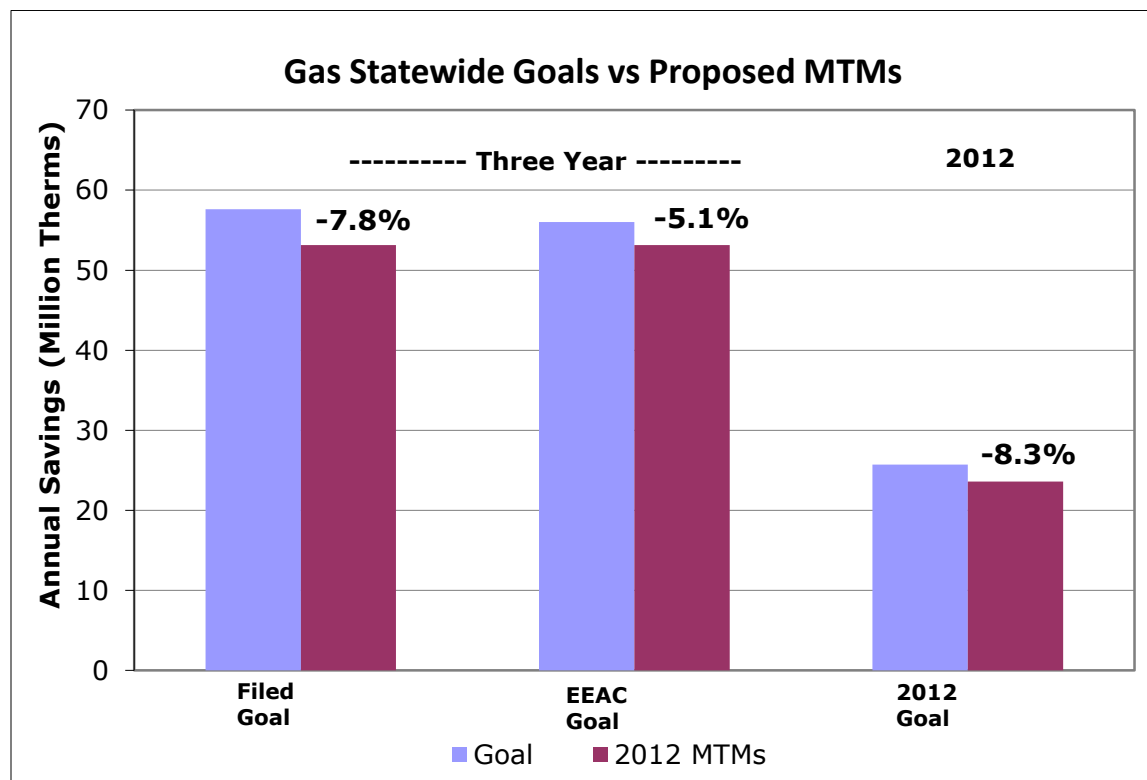
Our analysis of the PA-proposed MTM savings levels focuses on both 2012 and the total Three-Year Plan period as compared to the EEAC’s adopted savings goals. In its prior actions, the EEAC has provided some flexibility regarding annual savings goals and has accepted some PA-proposed revisions to annual savings levels, including in the 2011 MTM process. At the same time, the EEAC has stated its position in its Resolutions that the PAs are expected to achieve the overall Three-Year Plan benefits and savings goals. For example, the EEAC resolution on the 2011 MTM Memorandum of Agreement, stated:

“We expect the PAs to achieve all the goals of the original Three Year Plans, including savings and benefits... PAs (should) make every effort to achieve all the goals of the Three-Year Plans. The EEAC is committed to achieving the savings and benefits of the Three Year Plans; therefore, any shortfall in savings or benefits in any program year should be made up during the remaining time in the three-year period.” - EEAC Resolution, 2011 MTM Memorandum of Agreement, April 2011.

On the electric side, the PAs propose Three-Year Plan period MTM savings that are 99% of the EEAC-adopted savings goals, just 26,005 MWh shy of the goal. For 2012, the PA-proposed MTM savings are 0.9% lower than the goal filed with the DPU. The proposed electric energy savings in the MTMs will reduce energy bills for many consumers and businesses, and we commend the PAs for their continued commitment to the goals. Please refer to the chart below and additional charts in Appendix A.



The PA-proposed MTM savings for natural gas over the Three-Year Plan period and for 2012 are somewhat lower compared to goals. The MTM gas savings are 95% of the EEAC-adopted gas savings goal and 7.8% lower than the PA-proposed gas goal filed with the DPU, about 2.9 million therms shy of the EEAC energy savings goal. The PA-proposed MTM gas savings for 2012 are 8.3% lower than the goal filed with the DPU. Considering the challenges that the gas programs have faced over the last two years, we feel that this is a very positive result rather than cause for concern.



### Program Costs – Lower than Planned

The PAs propose to spend less than the DPU-approved budget levels for both the electric and gas energy efficiency programs. Therefore, the energy savings are being achieved and will continue to be achieved at lower costs to ratepayers than originally planned. This increase in cost-efficiency appears to be a result of increased coordination, more effective program delivery, and better leveraging of the ratepayer funding.

### Commonalities and Differences among PAs’ Proposals

We also reviewed the MTMs with regard to an outstanding task from the 2011 MTM Memorandum of Agreement (section 2.2.3), to examine possible continuing differences in common planning assumptions, methods, and key indicators across the PAs (e.g., program savings per measure, program cost/savings, program savings/participant).

“Regarding the development of the 2012 MTMs, the Program Administrators agree to continue to seek to further enhance common program planning, using consistent assumptions, methods, and data, to support enhanced statewide planning and delivery of programs to customers, and to meet, at the appropriate time in the 2012 MTM development process, to examine and address differences that are known from prior filings (including but not limited to the 2011 MTMs) or observed as the 2012 MTMs are developed. This approach is expected to enhance the 2012 MTM process and facilitate review of assumptions and data, and reduce issues relating to 2012 MTMs.” - 2011 MTM Memorandum of Agreement, April 2011, section 2.2.3.



While the common inputs from EM&V studies and the TRM have reduced such differences, a review of key indicator data reveals large differences across the PAs in a variety of programs and sectors. We note a few below as examples. We expect the PAs will examine the current data and address any remaining differences.

- Among the electric PAs, the difference in the cost per annual MWh between the least and most costly PAs is on the order of 2.3 times in the residential sector, 2.7 times in the low income sector, and 1.9 times in the C&I sector.
- For the residential MassSave program, on a cost per annual MWh basis, the cost to deliver the program at the most costly PA is 51% greater than the state average.
- For the C&I large retrofit program, on a cost per annual MWh basis, the cost to deliver the program at the most costly PA is 42% greater than the state average.
- Among the gas PAs, the difference in the cost per annual therm between the least and most costly PAs is on the order of 2.3 times in the residential sector, 2.7 times in the low income sector, and 1.5 times in the C&I sector
- For the residential Heating and Water Heating program, on a cost per annual therm basis, the cost to deliver the program at the most costly PA is 53% greater than the state average;
- For the C&I large retrofit program, on a cost per annual therm basis, the cost to deliver the program at the most costly PA is 73% greater than the state average;

## Program-Level Observations

Specific highlights of program MTMs are presented below. Please also refer to Appendices B1 and B2 for tables summarizing the PAs' proposed MTMs and DPU notifications in more detail.

### Residential Electric

- **Summary:** Overall, PAs propose to increase 2012 annual goal by 12.1%, with a 3-year increase of 1.7%, thus exceeding the sector target.
- **Low Income:** PAs propose to reduce 2012 annual goal by 11.1%, with a 3-year reduction of 0.4%. This comes close to meeting targets.
- **Lighting Program:** The PAs increased their 2012 Lighting Program savings substantially above both their 2012 annual (42.2%) and their Three-Year Plan 2012 (18.1%) goal. In the 2011 MTMs the PAs proposed to rebate on average 1.64 lighting products per PA household (HH). In their final 2012 MTMs this average increases to 2.44 units/HH; up from the 1.94 units/HH that was initially proposed by the PAs in early October.
- **Home Energy Services Program:** Electric savings are up 15% in 2012, with the 3-year savings at 100.4% of goal.
- **Cool Smart Program:** The PAs have reduced overall program savings by approximately 51% since the 10/6/11 MTMs, due primarily to the application of evaluation study results (reduced per unit savings for ECM fans) and an adjusted measure mix (fewer heat pump hot water heaters).

---

## Residential Gas

- **Summary:** Overall, PAs proposed to reduce 2012 annual goal by 10.2%, with a 3-year reduction of 5.2%. This represents progress relative to the previous proposed savings numbers; however it remains short of meeting targets.
- **Low Income:** Overall, PAs proposed to reduce 2012 annual goal by 11.2%, with a 3-year reduction of 0.9%. This comes close to meeting targets.
- **Residential Heating & Water Heating:** For 2012, all of the PAs have filed a reduction in savings due to evaluation results showing lower savings per unit, and most of the PAs have filed a budget increase due to strong demand for program services.
- **Home Energy Services Program:** Projected 2012 savings are up 33.8% in 2012, compared to goal, with 3-year savings at 101.3% of goal.

---

## Residential and Low Income Program Design

- **Combined Low Income Program:** All of the PAs proposed to combine their Low Income single family and Low Income multifamily retrofit programs into a single Low Income Retrofit program. The Consultant Team supports this proposal and encourage the PAs to think broadly about other potential program consolidations that would result in overall program synergies with regard to most effectively serving customers, maximizing administrative efficiencies, and optimizing program cost-effectiveness.
- **Behavioral Program Expansion:** WMECO is proposed to change their behavioral feedback pilot into a full program in 2012. The Consultant Team supports evolving and expanding the behavioral feedback pilots into programs with energy savings.
- **Pre-weatherization:** We did not observe a notification about addressing pre-weatherization in 2012. Per DOER's suggestion to the PAs, we would recommend text "proposing a commitment to finding and implementing a solution (to pre-weatherization) in 2012."

---

## C&I Electric

- **Summary:** PAs proposed to reduce 2012 annual goal by 4.6%, with a 3-year reduction of 2.5%. This comes close to meeting targets. Budgets are 9.2% and 7.3% lower for 2012 and 3-year, respectively.
- **Improved Cost-efficiency:** The proposed reduction in budgets is proportionally greater than that for savings, which is a positive sign that overall the PAs have improved cost efficiency, suggesting the PAs could close the savings gap given the significant remaining budget.
- **New Construction:** Overall, PAs proposed to increase 2012 annual goal by 24.9%, with a 3-year increase of 12.2%. Budgets are 4.7% and 5.4% lower for 2012 and 3 year, respectively. Some PAs are increasing their goals for this program (NSTAR and National Grid) while others (CLC, WMECO and Unutil) are decreasing. A significant portion of the collective increase is related to addition of the upstream lighting initiative. Some of the difficulty smaller PAs are having with this program may be a result of differences in these small territories in terms of new construction activity related to the economy.

- **Large Retrofit:** Overall, PAs proposed to reduce 2012 annual goal by 7.0%, with a 3-year reduction of 5.2%. Budgets are 2.1% and 4.6% lower for 2012 and 3 year, respectively. All PAs except CLC proposed savings reductions. CLC proposed a large increase. This reflects recent experience on the Cape that much more opportunity is available in large retrofit as compared to new construction relative to the original 3-year plan projections.
- **Small C&I Direct Install:** Overall, PAs proposed to reduce 2012 annual goal by 25.7%, with a 3-year reduction of 9.3%. Budgets are 23.8% and 12.3% lower for 2012 and 3-year, respectively. NSTAR and Unitil proposed increased goals, while Grid, WMECO and CLC proposed reductions. CLC proposed a very large decrease. This reflects reported recent experience on the Cape where they project to achieve about 50% of 2011 goals and have therefore adjusted projections commensurately for 2012. We have not been able to investigate why this program is unable to achieve greater savings, but understand it may be related to a number of factors unique to the Cape such as a preponderance of very small customers, the seasonality of many business, and reluctance to invest due to the recession.

---

## C&I Gas

- **Summary:** Overall, PAs proposed to reduce 2012 annual goal by 6.1%, with a 3-year reduction of 3.7%. This falls short of meeting the originally filed targets in the 3-year plans. Budgets are 6.8% and 9.3% lower for 2012 and 3-year, respectively. The shortfall for C&I total is approximately 1,007 thousand therms. With \$2.5 million in available budget compared to original goals, this translates into \$2.48/first-year-Therm. While this may not be sufficient to close the gap, it might be able to support somewhat higher goals if fully expended.
- **New Construction:** The PAs proposed to increase 2012 annual goal by 5.1%, with a 3-year increase of also 5.1%. Budgets are 16.1% and 1.5% higher for 2012 and 3-year, respectively. Increased cost/therm in 2012 reflects recent evaluation impacts and lower avoided costs that will likely make achieving targets somewhat more costly than in the past. Only NSTAR is increasing goals significantly, while all other PAs propose reduced goals.
- **Large Retrofit:** Reduce 2012 annual goal by 8.9%, with a 3-year increase of 6.7%. Budgets are 17.0% and 13.8% lower for 2012 and 3-year, respectively. As with new construction, increased costs per therm reflect evaluation impacts and lower avoided costs. Columbia and New England are proposed increased goals, while all other PAs propose reduced goals.
- **Small C&I Direct Install:** Overall, PAs proposed to reduce 2012 annual goal by 33.7%, with a 3-year increase of also 19.3%. Budgets are 27.2% and 22.7% lower for 2012 and 3-year, respectively. These figures reflect significant decreases, while maintaining roughly similar cost/therm saved. Note that the original 3-year gas plans for Small C&I DI were highly speculative because they had no experience with this program or the measures being implemented until the latter half of 2010. However, the Consultant Team believes greater opportunities for gas savings in these DI projects are possible, and expects to explore this aggressively with PAs in 2012. NSTAR and Berkshire are increasing goals, while all other PAs proposed reduced goals. In the case of Berkshire, the projected 2012 savings are dramatically increased (more than doubled). On the other side of the ledger, New England gas proposed a large decrease, 71% for 2012. However, because these percentage variances are compared to original 3-year plan goals filed well prior to gaining experience with this program, much of the large variances reflect inaccurate forecasts that have now been adjusted.

## 2012 Evaluation, Measurement, and Verification (EM&V) Plan

We have worked with the PAs on multiple iterations of the EM&V plan and support the submitted document. We provide the following observations as background for the Council.

- The plan is at least as much a status report as it is a plan, with the great majority of the listed studies being either already in progress or, in a few cases, recently completed. Further, of the subset of studies listed that are not already in progress, most are due to begin imminently. There are few studies identified that are scheduled to begin in 2012.
- We believe this near-term focus is largely due to recent losses and turnover in EM&V staff at the PAs. The PAs have lost as many as six experienced evaluators in recent months (a significant fraction of their total capacity) due to force reductions and other factors, at a time when there are a large number of studies in progress, leaving them little time for longer-term planning.
- Given these resource constraints, we do not believe it would be productive to push for more of a longer-term EM&V planning effort at this time. Instead, we believe that the most important current outcomes are 1) completing the in-progress studies in a timely and high-quality manner and 2) launching the additional work that is needed in the near-term. We also note that the listed studies do not represent the totality of what will need to be accomplished by the end of 2012. The plan contains wording that acknowledges this latter fact.
- Since the EM&V draft plan presented to the Council in early October, and based on input from the Consultant Team and DOER, the PAs have added two studies to the plan: 1) a market assessment study focused on mid-sized customers with electric demand of 300-750 kW; and 2) a study of the job creation effects of the Commonwealth's energy efficiency programs, following up on a similar study performed in 2009, and to be performed by the same researchers as the earlier study. The Consultant Team believes these are valuable additions to the plan.
- It may be necessary to add additional near-term EM&V work (for late 2011 and early 2012) to support the legislatively-required assessment of energy efficiency potential for the next Three-Year Plan and/or the development of the next Three-Year Plan (initial draft due to the EEAC in April 2012). However, because the approach to both of these is under development, it would be premature to put them in the 2012 EM&V plan.

## Performance Incentives and PY 2012 TRM

### Performance Incentive Mechanism

We have reviewed the proposed performance incentive mechanism and the structure of the calculations and note that it appropriately reflects the model used in previous filings. As the PAs describe in their MTM filings (Appendix D, section V), the payout rates used to calculate the savings and value components of the performance incentives have been adjusted to be reasonably consistent with the allocations to the three components (savings, value, and performance metrics) set forth in the Three-Year Plans, and to provide a more appropriate level of PI monies to the performance metrics. The Consultant Team support this modification for the 2012 PI mechanism.

## Performance Metrics

- **Residential:** The draft 2012 Residential metrics have been completed with input from the PAs and the Consultant Team. The allocation of incentive monies between the two metrics has been weighted toward Metric #1 (60%) to support the Council priority of obtaining deeper savings.
- **Low Income:** The draft 2012 Low Income metrics have been completed, with input from LEAN, the PAs, and the Consultant Team.
- **C&I:** The C&I metrics are completed, through direct negotiations between PAs and the Consultant Team. They continue the basic metric framework used in 2011, but with increasing targets. These metrics focus on encouragement of deeper per project savings for each major program as well increased CHP projects.
- **Cross Sector:** We have reviewed the PA-proposed cross sector metrics (other financing capital and cost-efficiency) and we believe, as best we can determine, that the 2012 metrics address the comments we provided and are appropriate for 2012. However, there appear to be some inconsistencies in the documentation in the PAs' MTM filings; one filing is missing the documentation for the cost-efficiency metric, which we believe was an administrative omission.

## Technical Reference Manual, PY2012 Version

The TRM provides savings assumptions that help to inform the savings targets for the 2012 Plan, and will be used to track 2012 savings. The PAs provided draft updates to TRM sections beginning in late August. An interactive process with the PAs resulted in several sets of comments from the Consultant Team, responses from the PAs, and revised drafts of the TRM. Comments were prioritized based primarily on their potential impact on claimed savings. All top-priority comments were addressed to our mutual agreement for the 2012 Plan, and we have agreed to continue discussions on some priority comments in the coming months. All comments have been tracked so that they may be addressed in future versions of the TRM, to support both annual planning and tracking of actual savings.

Highlights of our review and the PAs' refinements to the TRM include:

- Revisions to gross impact factors and net-to-gross ratios, which have a large impact on claimed savings. These have largely been revised based on recent impact evaluation studies, including all those completed since the previous version of the TRM. For some measures the PAs have agreed to values that will lower claimed savings, reflecting evolving market conditions.
- The impact of Federal lighting standards that go into effect incrementally from 2012 through 2020. These new standards produce complex, changing baselines against which savings are claimed. The PAs have adjusted some savings assumptions accordingly, and anticipate making future adjustments as the new standards are implemented. This is a top-priority for continued collaboration with the PAs for the next version of the TRM.
- Revisions to HVAC equipment baselines based on new federal standards and State code.
- Revised assumptions for residential and low-income non-resource impacts, incorporating the results of a 2011 study performed for the PAs (NMR Group, Tetra Tech, August 2011).



Some of the key “priority 2” issues that we recommend (and expect) to be addressed in the subsequent version of the TRM include:

- Developing more detailed savings algorithms for some “deemed savings” measures that have a wide range of potential savings.
- Developing a reference document for the PAs’ “common assumptions”, to better document the rational for such decisions and when they are made, and to aid in prioritization of their review.
- Improving the documentation of the sources or derivations of some savings assumptions, and confirming those assumptions.
- Reviewing and confirming baseline wattage assumptions for some C&I measures.

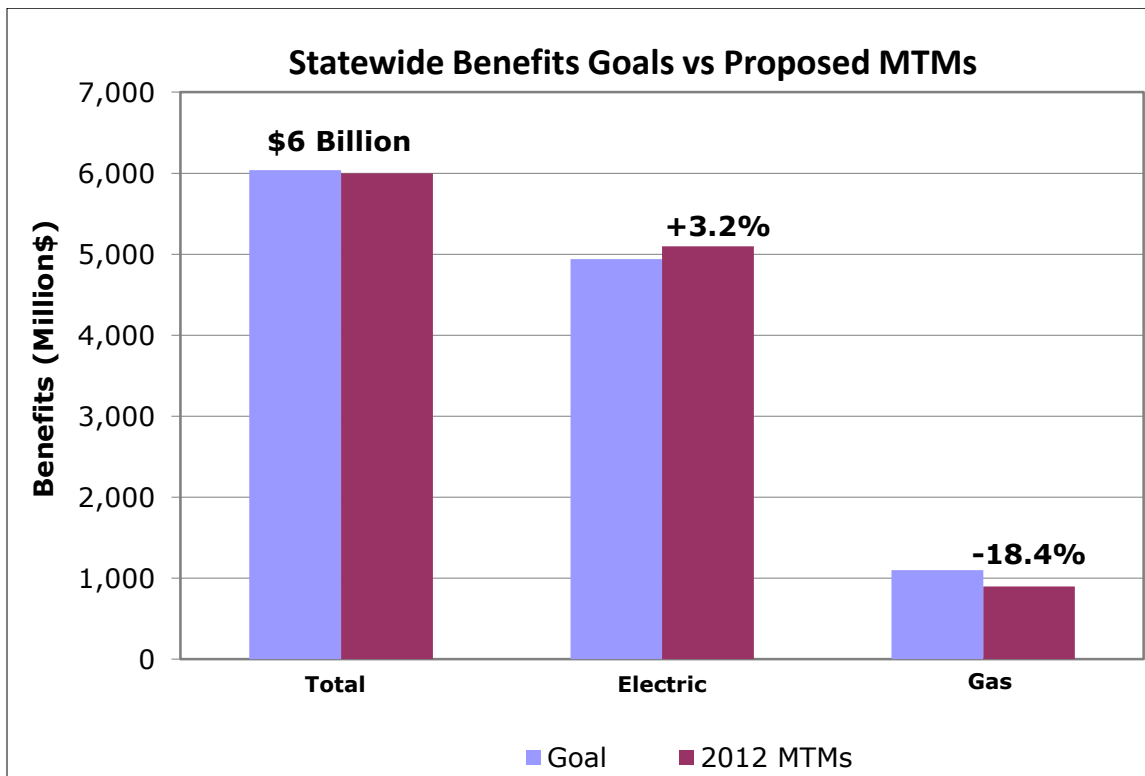
In summary, while many issues will carry forward to future versions, this second version of the statewide TRM has important improvements over the previous version. It will be important to ensure that the next update cycle begins early enough to provide adequate time to address pending issues.

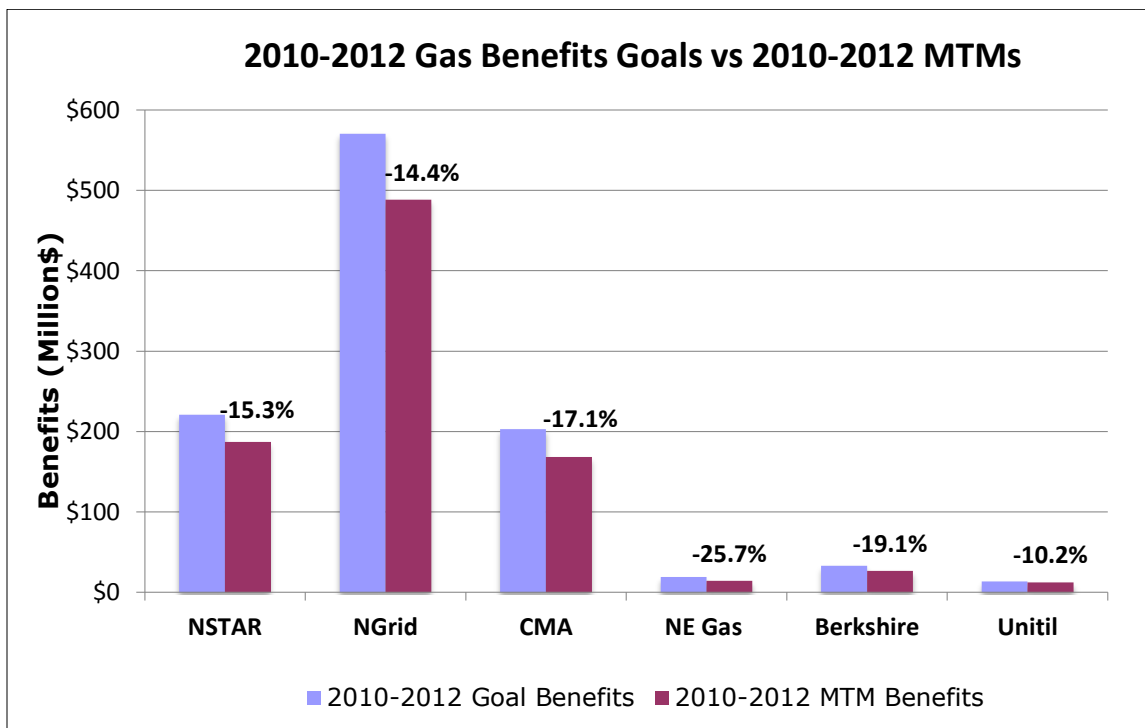
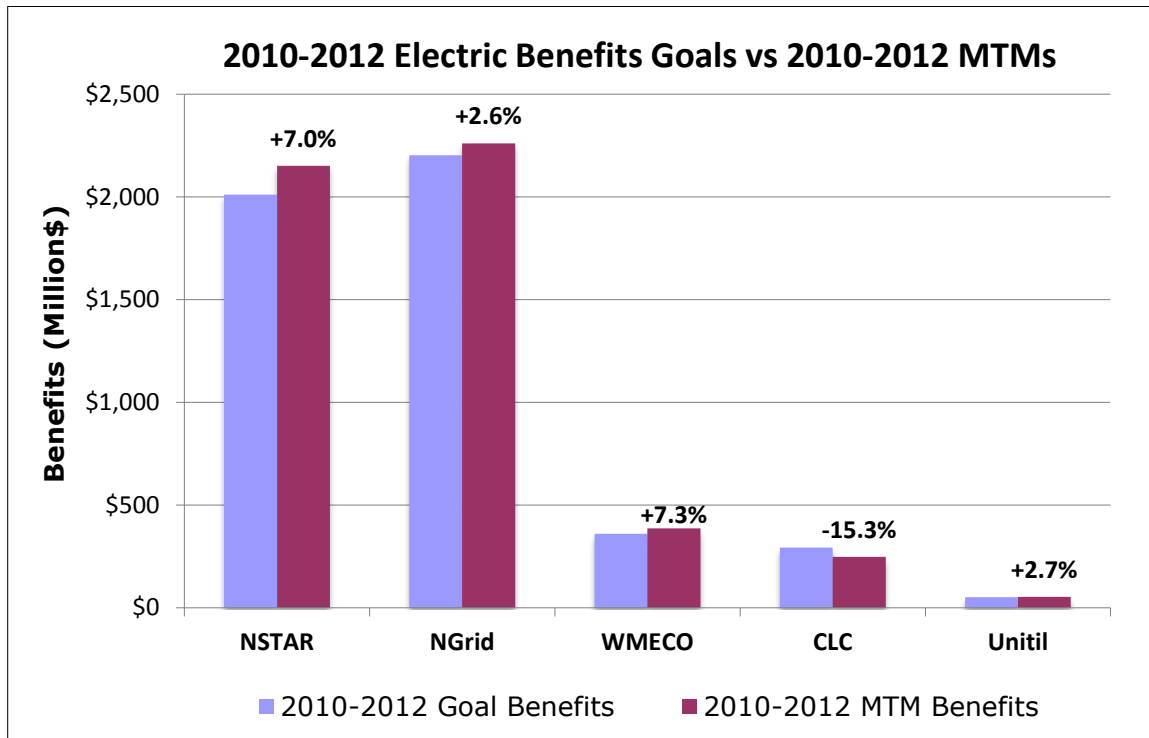
## **Appendix A**

### **Charts**

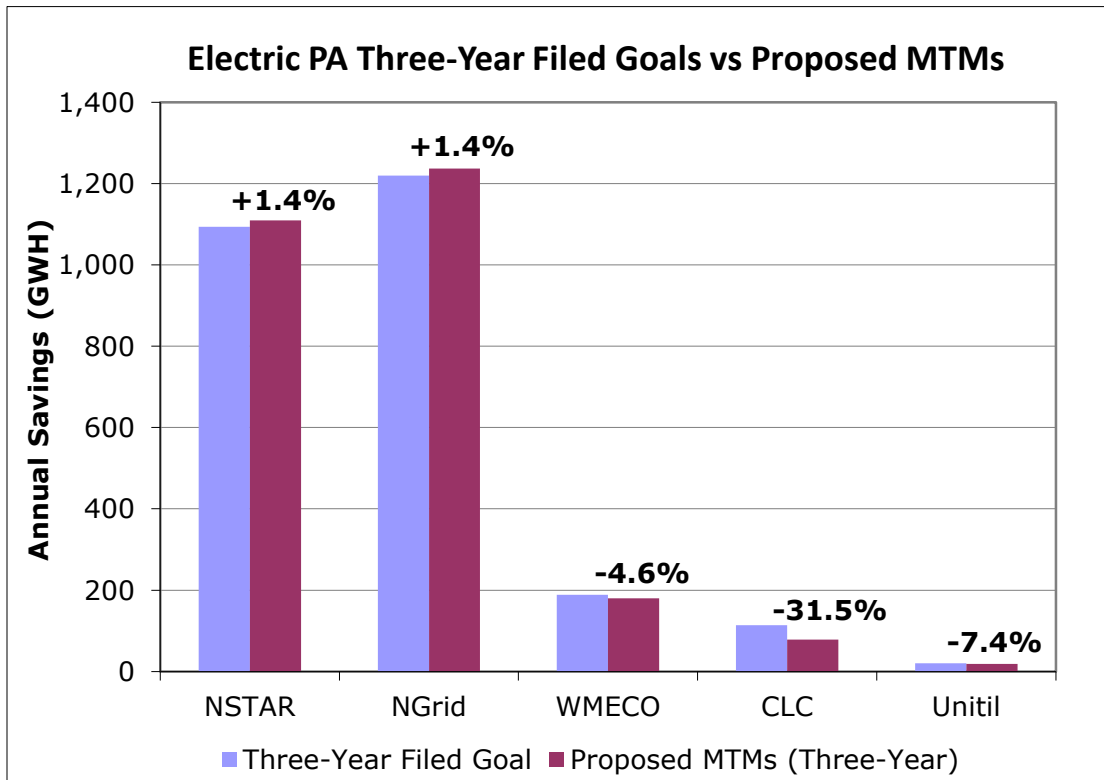
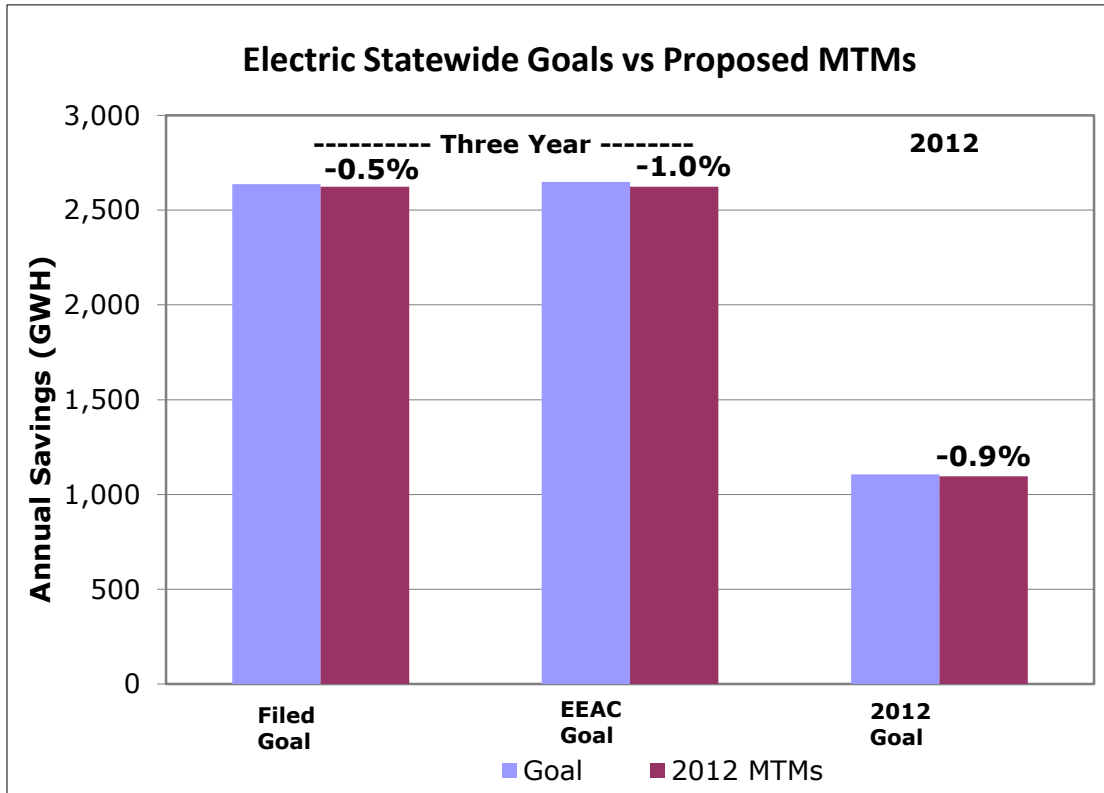
The proposed MTMs indicate that Massachusetts remains on course and on target to achieve the \$6 billion in benefits proposed in the original Three-Year Plan for 2010-2012. Achieving this goal will be a huge accomplishment for the PAs and the Commonwealth. The PAs proposal to achieve the Three-Year Plan benefits goals through the 2012 MTMs is a very positive step forward and demonstrates the PAs' commitment to these goals.

The chart below presents the total Three-Year benefit goals for both electric and gas PAs. The more than \$5 billion in electric program benefits (middle columns) set forth in the proposed 2012 MTMs are 3.2% higher than the EEAC-adopted benefits goals. The gas program benefits (right-hand columns) proposed in the 2012 MTMs are about 18% lower than the EEAC benefits goals, due primarily to lower gas avoided costs and somewhat lower-than-expected energy savings as documented in evaluation (EM&V) studies. Subsequent charts show the benefits goals vs. proposed MTMs for each individual PA, first for electric programs, then for gas.

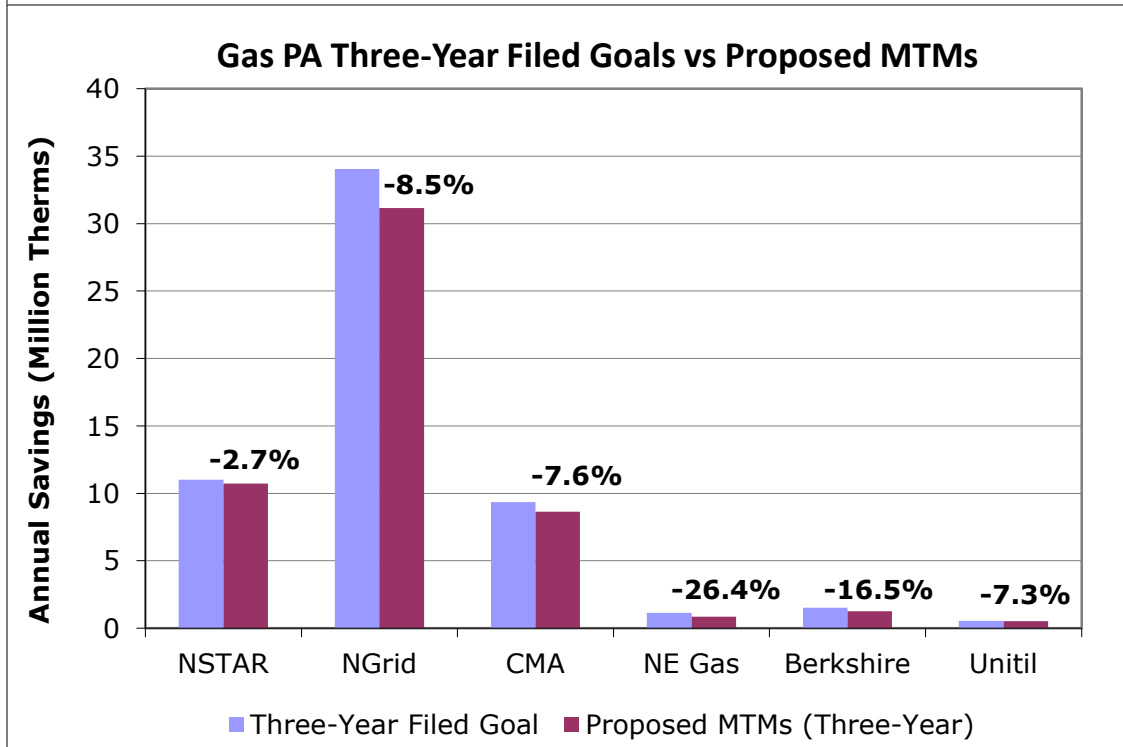
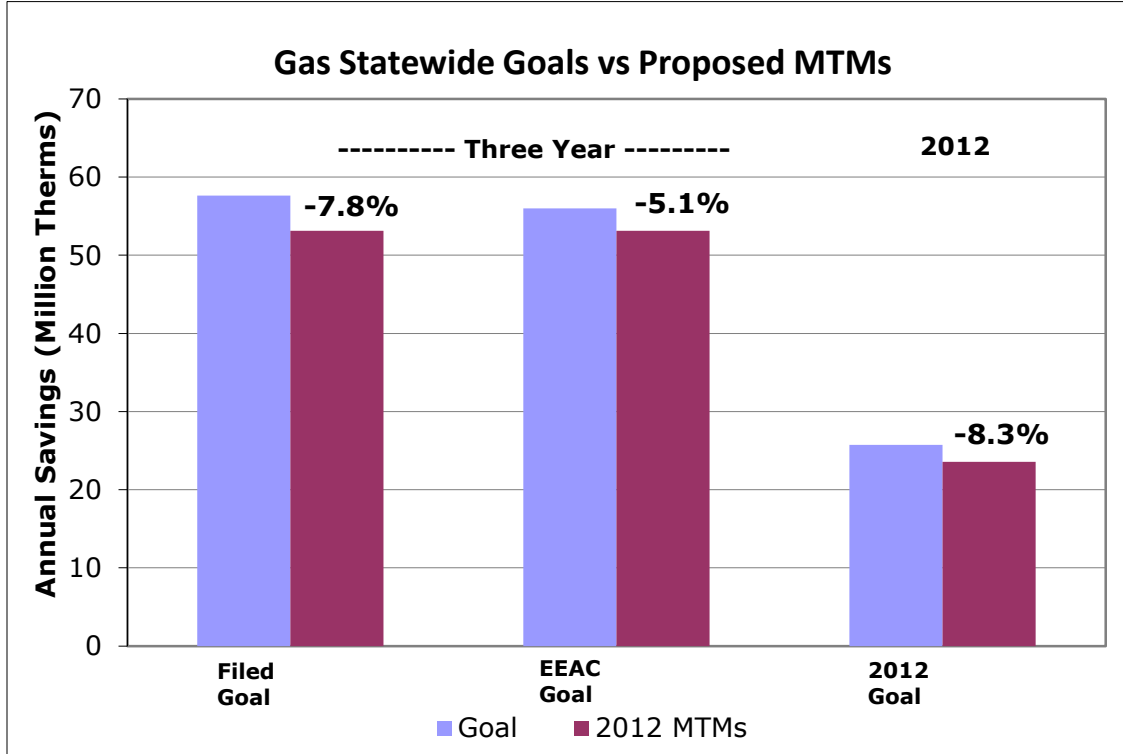




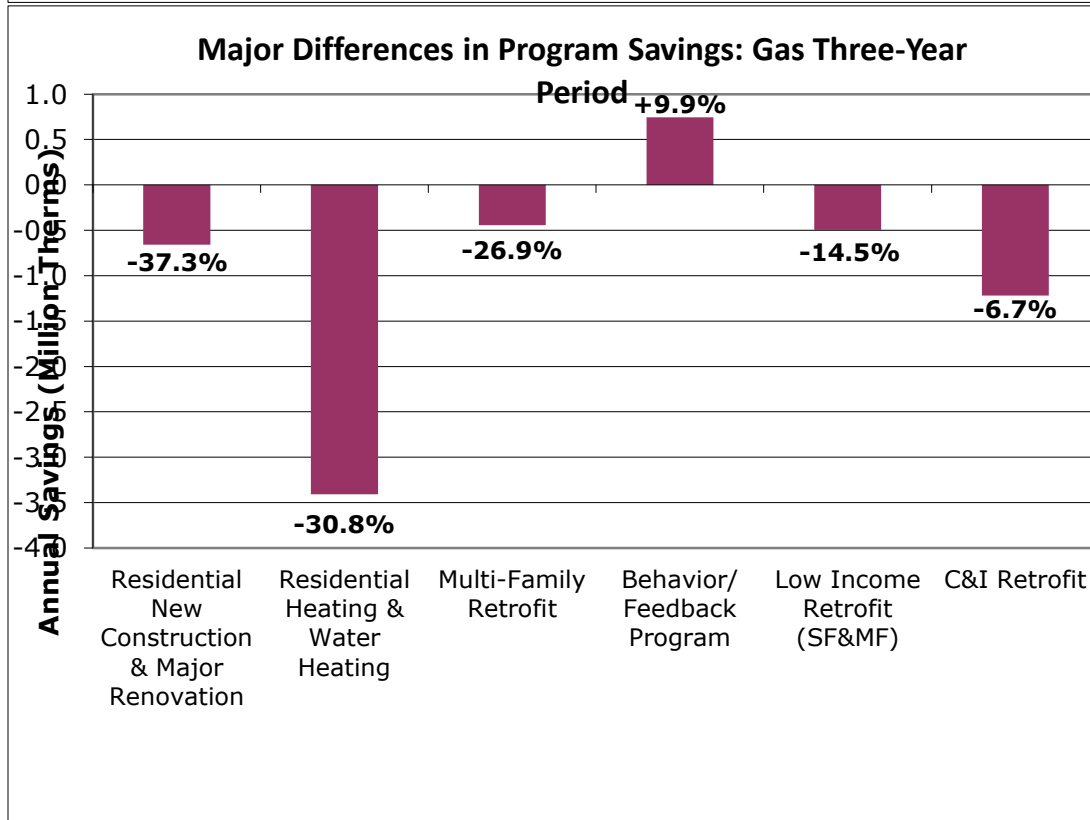
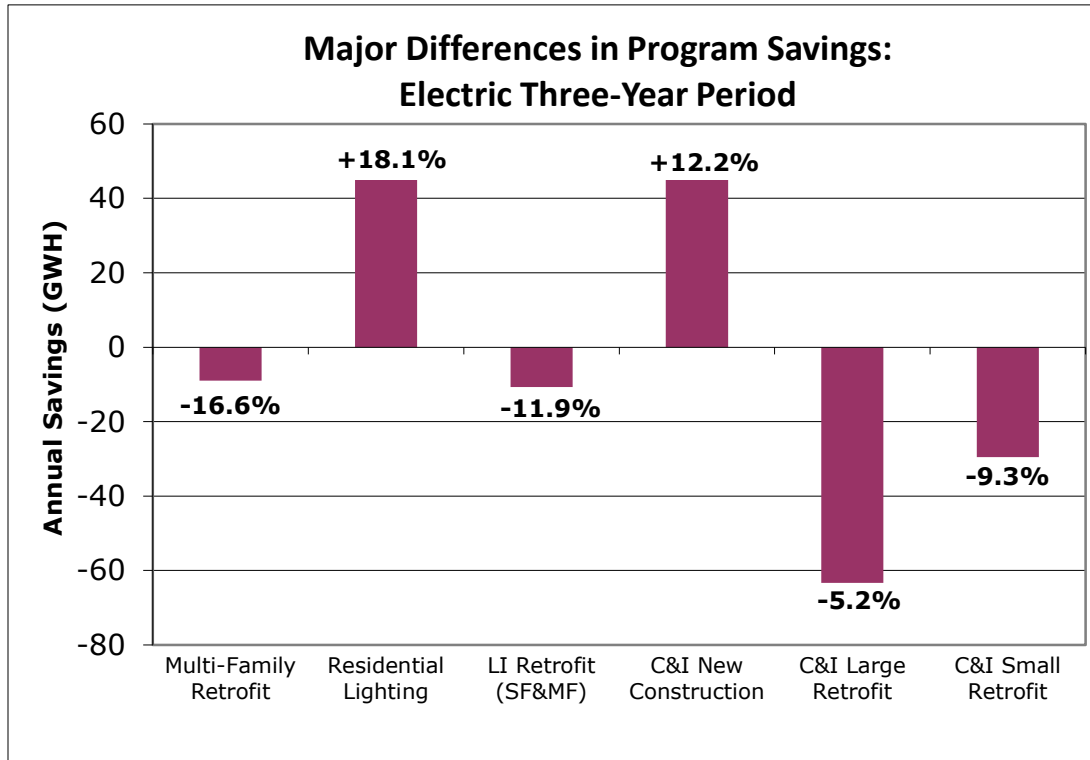
The PAs propose MTM Three-Year savings that are 99% of the EEAC electric savings goals. NSTAR and National Grid propose MTM Three-Year savings higher than their filed goals, other PAs proposals are lower.



The PAs propose MTM Three-Year savings that are 95% of the EEAC gas savings goals. All PAs proposed savings lower than their goals.



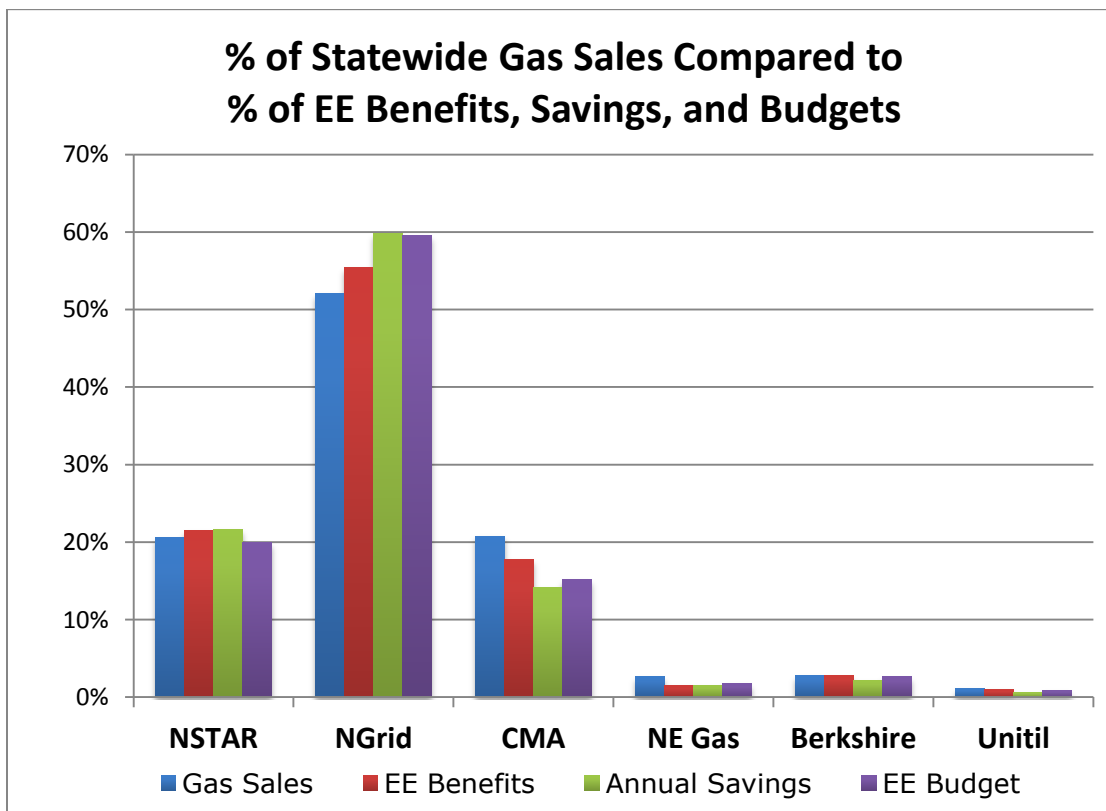
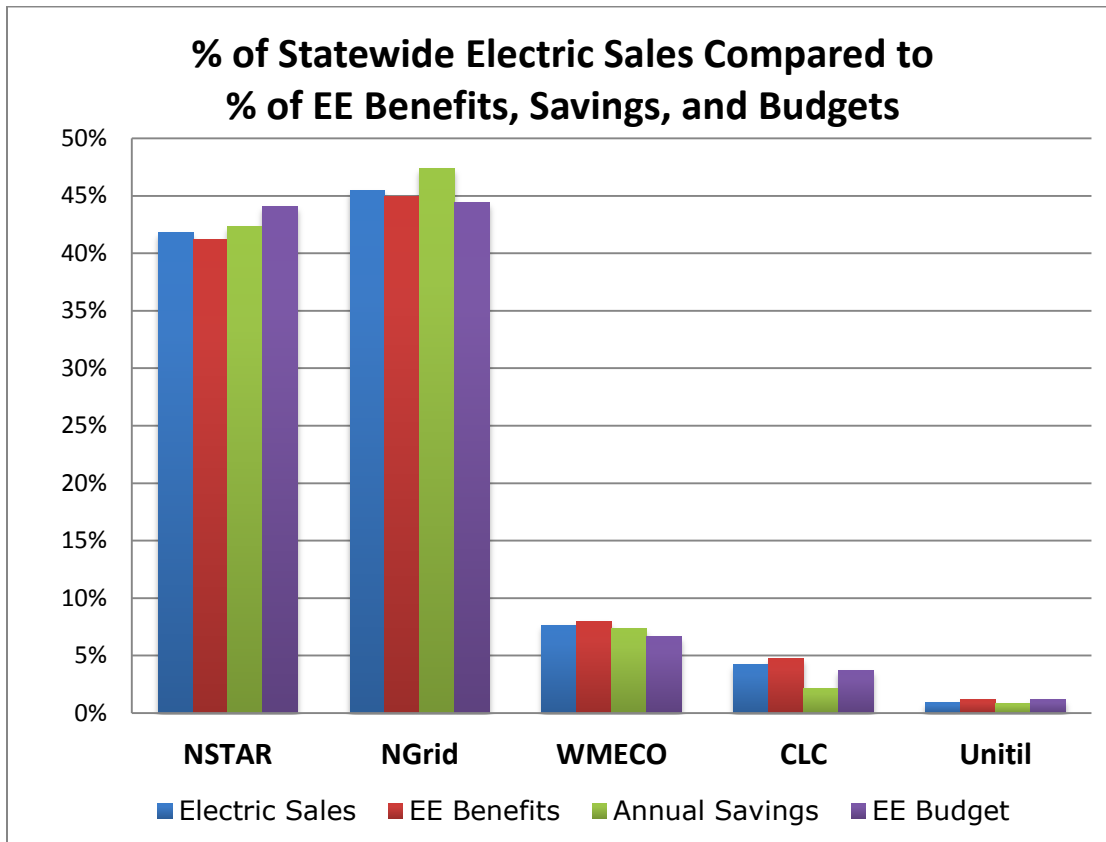
MTM electric savings are increased in some programs, and decreased in others (see selected key programs below). The PAs proposed savings reductions for most of the gas programs.



The two tables below summarize the changes in savings and benefits that the PAs made to the 2012 MTMs between the October EEAC meeting and the final MTMs, plus each PA's annual savings as a percent of their Three-Year Plan goals.

PA	Annual Energy Savings, Three-Year (2010-2012)				Change in	
	October 11 EEAC		Final MTMs		Annual Energy Savings	
	Savings	% of Goal	Savings	% of Goal	Change	% Change
<b>Electric</b>						
National Grid	1,224,350	0.4%	1,236,700	1.4%	12,349	1.0%
NSTAR	1,107,878	1.3%	1,109,227	1.4%	1,349	0.1%
WMECo	171,734	-9.1%	180,139	-4.6%	8,405	4.9%
CLC	73,699	-35.0%	78,177	-31.5%	4,479	6.1%
Unitil	17,670	-12.7%	18,752	-7.4%	1,081	6.1%
<b>Statewide EEAC</b>	<b>2,595,361</b>	<b>-2.0%</b>	<b>2,622,995</b>	<b>-1.0%</b>	<b>27,634</b>	<b>1.1%</b>
<b>Gas</b>						
National Grid	30,765,733	-9.6%	31,152,133	-8.5%	386,400	1.3%
NSTAR	10,716,645	-2.7%	10,716,645	-2.7%	0	0.0%
CMA	8,470,926	-9.5%	8,646,928	-7.6%	176,001	2.1%
NE Gas	835,826	-28.4%	844,266	-26.4%	8,440	1.0%
Berkshire	1,253,631	-16.9%	1,259,423	-16.5%	5,792	0.5%
Unitil	515,289	-6.7%	511,802	-7.3%	-3,487	-0.7%
<b>Statewide EEAC</b>	<b>52,728,849</b>	<b>-5.9%</b>	<b>53,131,197</b>	<b>-5.1%</b>	<b>402,347</b>	<b>0.8%</b>

PA	Benefits in \$, Three-Year (2010-2012)				Change in	
	October 19		Final MTMs		Benefits	
	Benefits	% of Goal	Benefits	% of Goal	Change	% Change
<b>Electric</b>						
National Grid	2,269,616,941	3.0%	2,260,798,613	2.6%	-8,818,329	-0.4%
NSTAR	2,139,154,913	6.4%	2,151,119,130	7.0%	11,964,216	0.6%
WMECo	386,596,891	7.4%	386,088,182	7.3%	-508,709	-0.1%
CLC	241,820,620	-17.7%	248,682,067	-15.3%	6,861,447	2.8%
Unitil	52,204,617	4.1%	52,038,037	2.7%	-166,580	-0.3%
<b>Statewide</b>	<b>5,089,393,982</b>	<b>3.5%</b>	<b>5,099,447,819</b>	<b>3.7%</b>	<b>10,053,837</b>	<b>0.2%</b>
<b>Gas</b>						
National Grid	488,531,901	-14.4%	488,531,901	-14.4%	0	0.0%
NSTAR	187,225,679	-15.3%	187,225,679	-15.3%	0	0.0%
CMA	168,318,979	-17.1%	168,318,979	-17.1%	0	0.0%
NE Gas	13,995,431	-26.7%	14,174,298	-25.7%	178,867	1.3%
Berkshire	26,818,876	-19.1%	26,818,876	-19.1%	0	0.0%
Unitil	12,106,543	-10.5%	12,145,302	-10.2%	38,759	0.3%
<b>Statewide</b>	<b>896,997,409</b>	<b>-15.4%</b>	<b>897,215,035</b>	<b>-15.4%</b>	<b>217,626</b>	<b>0.0%</b>





## **Appendix B1**

### **Residential & Low Income Summary of PA-Proposed 2012 MTMs -DPU Triggers and Notifications-**



**Residential & Low Income  
Summary of PA-Proposed 2012 MTMs**

(Note: All percentages are relative to 3-year targets, unless otherwise specified)

**Electric PAs and Programs**

	Electric HVAC	Gas Heating & Hot Water	Lighting & Appliances	Multifamily	Home Energy Services	New Construction	Behavior Feedback	Deep Energy Retrofit	Other Pilots	Low Income
NSTAR-E		N/A	<p><b>DPU Trigger:</b></p> <p>27.6% lighting savings increase in 2012;</p> <p><b>Notification:</b></p> <p>19.2% appliance savings decrease due to evaluation results.</p>	<p><b>DPU Trigger:</b></p> <p>37.9% PI \$ decrease</p>	<p><b>DPU Trigger:</b></p> <p>33.9% PI \$ increase</p>	<p><b>DPU Trigger:</b></p> <p>29.5% savings increase due to strong participation and more lighting units.</p>	<p><b>DPU Trigger:</b></p> <p>Adding Behavior Feedback program</p>			<p><b>DPU Triggers:</b></p> <p>*Combine SF &amp; MF retrofit into one program;</p> <p>*21.2% increase in new construction savings due to strong participation and more lighting units.</p>

	Electric HVAC	Gas Heating & Hot Water	Lighting & Appliances	Multifamily	Home Energy Services	New Construction	Behavior Feedback	Deep Energy Retrofit	Other Pilots	Low Income
Grid-E	<p><b>DPU Trigger:</b> (121.2% PI \$ increase;  <b>Notification:</b> 34.8% savings decrease in 2012.</p>	N/A	<p><b>DPU Triggers:</b> *47.0% increase in lighting savings (more CFLs);  *42.1% PI \$ increase (lighting), and *20.6% budget increase.  <b>Notification:</b> 24.8% budget decrease in 2012 (appliances).</p>	<p><b>Notification:</b> 25.5% budget decrease in 2012.</p>	<p><b>DPU Trigger:</b> 25.4% PI \$ decrease.</p>	<p><b>DPU Triggers:</b> *28.2% savings increase due to more CFLs &amp; heat pumps; *33.0% PI \$ increase;  <b>Notification:</b> 21% 2012 budget decrease due to lower avg incentive levels.</p>		<p><b>Notification:</b> 31% 2012 budget increase due to increased demand</p>	<p><b>DPU Triggers:</b> *Major renovation: 27.4% budget decrease; *Lighting design: 21.8% budget increase;  * V3 ES Homes: 64.8% budget decrease; *Community-based: 54.7% budget increase; *RD&amp;D: similar budget to 2011.</p>	<p><b>DPU Trigger:</b> Combine SF &amp; MF retrofit into one program; New construction PI \$ increase of 62.4%.  <b>Notifications:</b> SF &amp; MF PI \$ decrease of 41.4% in 2012.</p>

	Electric HVAC	Gas Heating & Hot Water	Lighting & Appliances	Multifamily	Home Energy Services	New Construction	Behavior Feedback	Deep Energy Retrofit	Other Pilots	Low Income
CLC	<p><b>DPU Triggers:</b>            *24.5% savings decrease;             * 21.7% budget decrease (participation levels not continuing to increase).</p>	N/A	<p><b>DPU Triggers:</b>            Lighting:            * 28.9% savings decrease;             *26.1% budget decrease (measure mix change, 2011 YTD actuals).</p>	<p><b>DPU Triggers:</b>            *63.9% savings decrease;            *66.1% budget decrease due to lack of MF buildings.</p>	<p><b>Notification:</b>            28.5% decrease in 2012 savings (due to 2012 budget adjustments).</p>	<p><b>DPU Triggers:</b>            *46.2% savings increase;            *32.8% budget increase due to start of large project.</p>		<p><b>Notification:</b>            34.7% budget decrease in 2012 due to limited demand for current pilot model, as marketed.</p>	<p><b>DPU Triggers:</b>            *Home automation: terminated;            *Heat pump water heater: terminated;            *Major renovation: 61.8% budget decrease;            *Lighting design: 49.8% budget decrease.</p>	<p><b>DPU Triggers:</b>            *Combine SF &amp; MF retrofit into one program. Retrofit: 32.7% savings decrease;             New Construction: *39.8% savings increase, and             *35.7% budget increase</p>

	Electric HVAC	Gas Heating & Hot Water	Lighting & Appliances	Multifamily	Home Energy Services	New Construction	Behavior Feedback	Deep Energy Retrofit	Other Pilots	Low Income
WMECO	<b>DPU Triggers:</b> *161% savings increase; *73.3% budget increase due to strong participation; *403.1% PI \$ increase.	N/A	<b>DPU Triggers:</b> *Lighting: 20.9% PI \$ decrease; *Appliances: 36.9% budget increase due to strong demand. <b>Notification:</b> Lighting: 31.1% increase in 2012 budget due to increased demand	<b>DPU Triggers:</b> *32.6% savings decrease; *26% budget decrease due to 2010 program ramp-up; *21.6% PI \$ increase.	<b>DPU Trigger:</b> 106.2% PI \$ increase.	<b>DPU Trigger:</b> 37.2% savings increase due to 2010 savings coming in higher than planned.	<b>DPU Triggers:</b> *33.6% pilot budget decrease; *Convert pilot to program in 2012, with \$268,000 budget.	<b>DPU Trigger:</b> 23.9% budget decrease due to lagging customer demand.		<b>DPU Trigger:</b> *Combine SF & MF retrofit into one program. New Construction: *44.5% increase in savings due to increased demand.

	Electric HVAC	Gas Heating & Hot Water	Lighting & Appliances	Multifamily	Home Energy Services	New Construction	Behavior Feedback	Deep Energy Retrofit	Other Pilots	Low Income
FGE-E	<p><b>DPU Triggers:</b> *140.6% PI \$ increase; *27.7% savings increase.</p> <p><b>Notifications:</b> 34.9% 2012 budget increase due to increased demand;</p>	N/A	<p><b>DPU Trigger:</b> Lighting: 28.4% savings increase;</p> <p><b>Notifications:</b> *22.1% 2012 budget increase due to more EM&amp;V studies; *32.3% PI \$ increase in 2012.</p>	<p><b>DPU Triggers:</b> *178.5% savings increase, and 175.5% budget increase due to 2010 &amp; 2012 allocations not originally included in 3-year budget; *776.8% PI \$ increase.</p>	<p><b>DPU Trigger:</b> 21.8% PI \$ increase;</p> <p><b>Notifications:</b> *46.4% savings decrease, and *27.8% 2012 budget decrease due to funding allocation to MF program.</p>	<p><b>DPU Trigger:</b> 147.8% PI \$ increase.</p>		<p><b>Notification:</b> 21.3% budget decrease (very small budget).</p>	<p><b>DPU Trigger:</b> 66.2% budget decrease in Residential Education Program.</p>	<p><b>DPU Trigger:</b> Combine SF &amp; MF retrofit into one program; New Construction: 25.6% savings decrease.</p> <p><b>Notifications:</b> Retrofit: 38.8% 2012 savings decrease, resulting in 15.9% 2012 LI sector savings decrease.</p>

**Gas PAs and Programs**

	<b>Electric HVAC</b>	<b>Gas Heating &amp; Hot Water</b>	<b>Lighting &amp; Appliances</b>	<b>Multifamily</b>	<b>Home Energy Services (Wz)</b>	<b>New Construction</b>	<b>Behavior Feedback</b>	<b>Deep Energy Retrofit</b>	<b>Low Income</b>
NSTAR-G	N/A	<b>DPU Trigger:</b> 35.8% savings decrease due to evaluation results; <b>Notification:</b> 39.6% PI \$ increase in 2012.	N/A		<b>Notifications:</b> *34.7% 2012 savings increase due to increased savings from spillover;  *41.3% PI \$ increase in 2012.	<b>Notification:</b> 35.0% PI \$ increase in 2012.	No 2012 budget proposed.	<b>Notification:</b> 38.4% budget decrease due to not taking on any additional projects in 2012.	<b>DPU Trigger:</b> Combine SF & MF retrofit into one program. <b>Notifications:</b> *Retrofit: 24.2% 2012 savings decrease; *Retrofit: 64.8% PI \$ increase in 2012.
Grid-G	N/A	<b>DPU Trigger:</b> 30.8% savings decrease due to evaluation results. <b>Notification:</b> 26.2% PI \$ decrease in 2012;	N/A	<b>DPU Triggers:</b> *23.5% PI \$ decrease; *36.4% savings decrease based on revised assumptions.	<b>DPU Trigger:</b> 34.4% PI \$ increase; <b>Notification:</b> 43.5% savings increase in 2012.	<b>DPU Trigger:</b> 33.3% savings decrease due to new energy code.		<b>Notification:</b> 23.8% budget increase in 2012.	<b>DPU Triggers:</b> *Combine SF & MF retrofit into one program. *26.6% sector PI \$ decrease.

	Electric HVAC	Gas Heating & Hot Water	Lighting & Appliances	Multifamily	Home Energy Services (Wz)	New Construction	Behavior Feedback	Deep Energy Retrofit	Low Income
Columbia	N/A	<b>DPU Triggers:</b> *26.3% savings decrease due to evaluation results; * 21.9% budget increase due to higher demand.	N/A	<b>DPU Triggers:</b> *24.1% PI \$ decrease; *23% savings decrease, and *25% budget decrease due to 2010 program ramp-up.	<b>DPU Triggers:</b> *22.0% savings increase; *47.5% PI \$ increase.	<b>DPU Triggers:</b> *62.8% PI \$ decrease; *59.1% savings decrease, and *58.2% budget decrease due to lack of projects.		<b>DPU Trigger:</b> Terminate Deep Energy Retrofit pilot due to cost-effectiveness concerns.	<b>DPU Trigger:</b> Combine SF & MF retrofit into one program; Retrofit: 22.4% savings decrease (22.4% sector decrease) due to 2010 ramp-up. <b>Notification:</b> Retrofit: 95.7% PI \$ increase in 2012 (95.7% sector increase in 2012).
NEG	N/A	<b>DPU Triggers:</b> *19.6% savings decrease due to evaluation results; *40.8% budget increase due to higher demand; *22.7% PI \$ increase.	N/A	<b>DPU Triggers:</b> *26.7% savings decrease, and *24.3% budget decrease due to 2010 program ramp-up.		<b>DPU Triggers:</b> *53.1% PI \$ decrease; 25.7% savings decrease; *19.3% sector decrease, due to adverse economic conditions.			<b>DPU Trigger:</b> Combine SF & MF retrofit into one program. Retrofit: 25.5% PI \$ decrease (and 25.5% sector decrease).

	Electric HVAC	Gas Heating & Hot Water	Lighting & Appliances	Multifamily	Home Energy Services (Wz)	New Construction	Behavior Feedback	Deep Energy Retrofit	Low Income
Berkshire	N/A	<b>DPU Triggers:</b> *29.7% savings decrease due to evaluation results; * 18.8% budget increase due to higher demand.	N/A	<b>DPU Triggers:</b> *45.0% PI \$ decrease; *49.2% savings decrease (21.2% sector decrease), and *23.6% budget decrease due to 2010 program ramp-up.		<b>DPU Triggers:</b> *43.9% PI \$ decrease; *28.6% savings decrease due to lower than expected 2010 savings.		<b>Notification:</b> 88.9% budget decrease – essentially eliminating a very small budget.	<b>DPU Trigger:</b> Combine SF & MF retrofit into one program. <b>Notification:</b> Retrofit: 149.7% PI \$ decrease in 2012.
FGE-G	N/A	<b>DPU Triggers:</b> 25% *Savings decrease due to evaluation results; *21.2% budget increase due to increased demand.	N/A	<b>DPU Triggers:</b> *675.8% PI \$ increase; *384% savings increase, and *243.3% budget increase due to 2010 & 2012 allocations not originally included in 3-year budget.	<b>Notifications:</b> *133.5% 2012 PI \$ increase; *39.8% 2012 savings decrease, and *30.4% budget decrease in 2012 due to reallocation of funds to MF program.	<b>DPU Trigger:</b> *23.4% savings decrease due to lower than expected 2010 savings.		<b>Notification:</b> 28.3% budget decrease (very small budget).	<b>DPU Triggers:</b> *Combine SF & MF retrofit into one program; * Retrofit: 95.9% savings increase (95.9% sector increase), and *33.9% budget increase (33.2% sector increase); and * 113.4% PI \$ increase.

## **Appendix B2**

### **Commercial & Industrial Summary of PA-Proposed 2012 MTMs -DPU Triggers and Notifications-**



**Commercial & Industrial  
Summary of PA-Proposed 2012 MTMs**

**(Note: All percentages are relative to 3-year targets, unless otherwise specified)**

	<b>C&amp;I New Construction</b>	<b>C&amp;I Large Retrofit</b>	<b>Small C&amp;I Direct Installation (DI)</b>	<b>Notes &amp; Other</b>
<b>Electric PAs</b>				
NSTAR-E				
NGrid-E	<b>Notification</b> Savings <i>increase</i> 2012 73.4%, 3-yr <i>increase</i> 19.3%		<b>Notifications</b> *Savings <i>decrease</i> of 33% for 2012 (3-yr <i>decrease</i> of 13%). *Budgets <i>decrease</i> by 28% in 2012 and <i>decrease</i> 17% for 3-yr. Cites based on recent experience.	
CLC	<b>DPU Trigger</b> <i>Reduction</i> in goals of 25% savings <i>decrease</i> in 2012 (32% <i>decrease</i> over 3-yr). <b>Notification</b> 17% budget <i>decrease</i> in 2012 (12% <i>decrease</i> over 3-yr).	<b>Notification</b> * <i>Increase</i> in goals of 92% for 2012 (3-yr <i>shortfall</i> of 8.3%). *Budgets <i>increase</i> by 78% and 20%, respectively.	<b>DPU Trigger</b> *99% <i>decrease</i> in savings in 2012 (51% <i>decrease</i> over 3-yr). *100% budget <i>decrease</i> in 2012. (51.5% <i>decrease</i> over 3-yr).	<b>Notification</b> Overall, <i>ramping up</i> large retrofit but not enough to offset <i>reductions</i> in new construction and Small C&I DI. CLC cites current economy and experience in 2011 for <i>reductions</i> in NC and DI. Overall, proposing goal <i>reductions</i> of 60% in 2012 and 40% for 3-yr. Budget <i>reductions</i> of 70% in 2012 and 37% for 3-yr.
WMECO				<b>Notification</b> Overall, 2012 annual goals <i>decrease</i> 15% and 3-yr goals <i>decrease</i> 10%. Budget <i>decreases</i> 6% in 2012 for a total <i>reduction</i> of 5% for 3-yrs.
FGE-E		<b>Notification</b> <i>Reduction</i> in goals of 20% for 2012 (3-year <i>reduction</i> of 20%). Due to - "Reduction in savings goals reflect the application of non-energy impacts (NEIs) from recently completed evaluation studies."	<b>Notification</b> <i>Increase</i> in goals of 35% for 2012 (3-yr <i>increase</i> of 20%). Budgets <i>increase</i> by 18% and 9%, respectively.	

	<b>C&amp;I New Construction</b>	<b>C&amp;I Large Retrofit</b>	<b>Small C&amp;I Direct Installation (DI)</b>	<b>Notes &amp; Other</b>
<b>Gas PAs</b>				
NSTAR-G	<b>DPU Triggers</b> *2012 savings increase 109.4% (3-yr savings increase of 44.8%). *2012 budget increase of 75.2% (3-year increase of 38%).	<b>Notification</b> 2012 budget <i>decrease</i> of 19.7% (3-yr budget <i>decrease</i> of 18%).		
NGrid-G		<b>Notifications</b> * <i>Reduction</i> in goals of 13% for 2012 (3-yr <i>decrease</i> of 11%). *Budgets <i>decrease</i> by 20.5% in 2012 and <i>decreases</i> 16.6% for 3-yr.	<b>DPU Triggers</b> *41% savings reduction in 2012 (3-yr reduction of 24%). *36.9% budget decrease in 2012 (28% decrease for 3-yr). *82.1% PI increase for 2012 (30% increase for 3-yr)	
Columbia	<b>DPU Trigger</b> 35% decrease in PI for 2012 (45% decrease for 3-yr).		<b>DPU Trigger</b> 207% increase in PI for 2012 (37% increase for 3-yr).	
NEG	<b>DPU Triggers</b> *51% decrease in savings for 2012 (45% decrease for 3-yr). *15.5% budget reduction in 2012 (25.4% decrease for 3-yr). *22% decrease in PI for 2012 (38% decrease for 3-yr).	<b>DPU Trigger</b> 33% decrease in PI for 2012 (28% decrease for 3-yr).	<b>DPU Triggers</b> *71% savings decrease in 2012 (48% decrease for 3-yr). *5.5% budget decrease in 2012 (26.6% decrease for 3-yr). *41% decrease in PI for 2012 (54% decrease for 3-yr).	
Berkshire		<b>DPU Trigger</b> 26% decrease in PI for 2012 (8% decrease for 3-yr).	<b>DPU Triggers</b> *245% savings increase in 2012 (145% increase for 3-yr). *426% budget increase in 2012 (220% increase for 3-yr). *939% increase in PI for 2012 (103% increase for 3-yr).	

	<b>C&amp;I New Construction</b>	<b>C&amp;I Large Retrofit</b>	<b>Small C&amp;I Direct Installation (DI)</b>	<b>Notes &amp; Other</b>
FGE-G			<b>DPU Trigger</b> 56% increase in PI for 2012 (22% increase for 3-yr).	