

**Comments and Recommendations of the Consultants to the Voting Members
of the Massachusetts Energy Efficiency Advisory Council (EEAC)
on the July 16th Statewide Electric and Gas Energy Efficiency Plans
July 27, 2009**

I. Introduction

In keeping with the Council's schedule, the Program Administrators prepared and submitted revised statewide electric and gas energy efficiency plans to the Council on July 16. The Council's Consultants have examined the plans and offer the following comments, observations, and recommendations, intended to inform the Council's consideration of a resolution commenting on the Plans, as required by the Green Communities Act.

Our commentary does not address every issue within the PAs' plans which may warrant some text. Given the time since receipt of the plans and several of the higher level realities of the content of the plans, it was more important, in our view, to provide the Council with the key issues that have been highlighted in GCA and in the Council's Priorities Resolution, adopted on March 24, 2009. For the residential programs' review we have prepared more detailed comments or questions on specific statements within one or the other of the plans, which we plan to share and discuss with the PAs once the Council has addressed the resolution on the Plans. We can, of course, provide these materials to the Council should it be interested in seeing them. As described below, fully developed C&I programs still remain to be developed, as the PAs have focused more on the thematic direction of the programs, as described in the roadmaps in the appendix. The details have yet to be developed for our review, which provides us the opportunity to participate directly in those discussions to ensure that they reflect the Council's priorities and interests.

II. Preliminary Savings Goals for 2010-2012, Initial Analysis

The PA-proposed savings, benefits, and costs are a current snapshot, based on the best available data at this time. Key drivers to program savings and costs will be changing over the next months in ways neither we nor the PAs can estimate accurately. In addition, the avoided costs from the 2009 study (the report is being finalized now) need to be used in the analysis for the 2010-2012 plans, and the bill impact analysis needs to be completed. As a result, the proposed savings and costs set forth in the July 16 plans should be considered to be preliminary. ***We thus recommend that the Council defer its final consideration of the specifics of the proposed program savings, benefits, and costs until these key drivers and analyses have become more finalized.***¹ Any judgments about the PAs' proposed savings levels and goals should be considered preliminary at this time. We provide our initial analysis of the PA-proposed preliminary savings levels below.

On July 14, 2009, the Council passed a resolution supporting the Consultants' report on the Assessment of All Available Cost Effective Electric and Gas Savings as appropriate for inclusion in the EE Plans. The preparation and inclusion of such a document in the EE Plans was mandated in the Green Communities Act. The Assessment estimated that at least 2.5% of forecasted

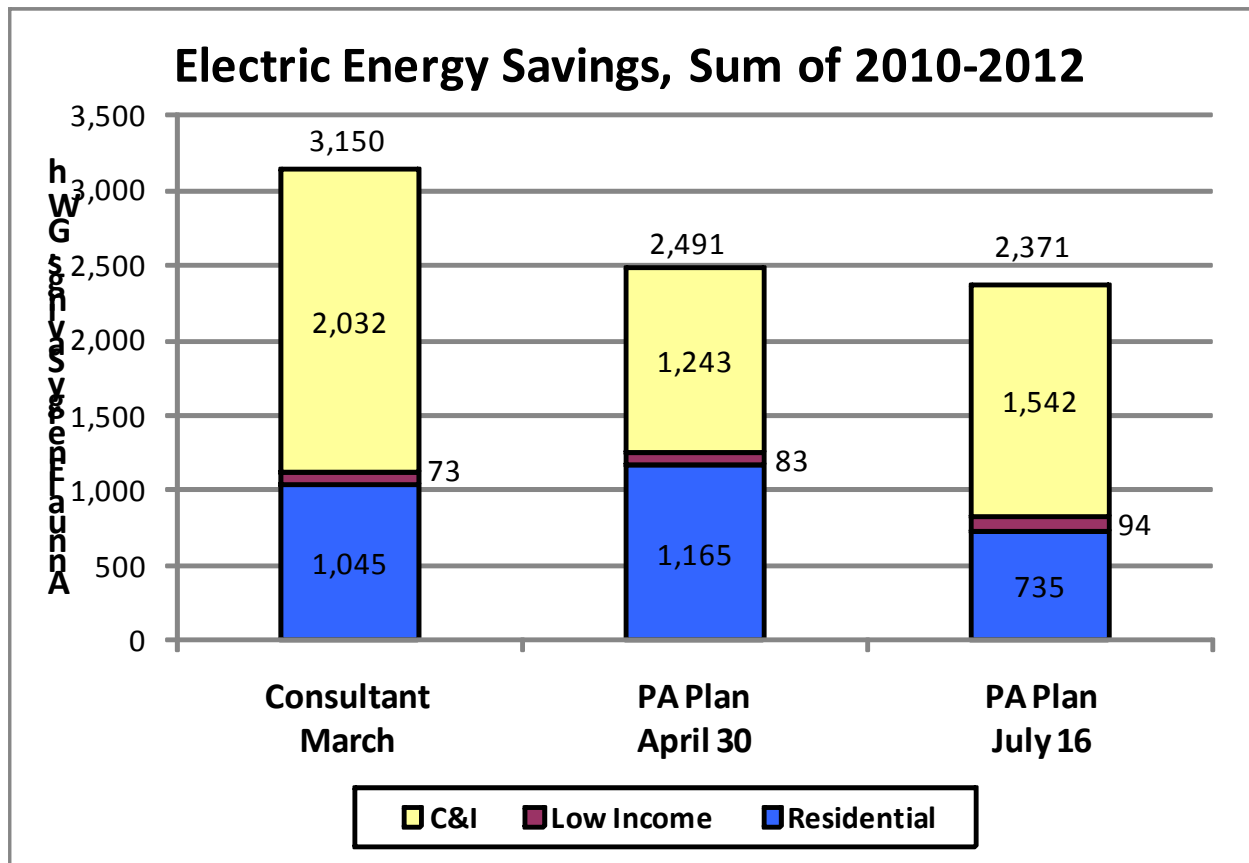
¹ The additional data should be available and the cost-effectiveness and bill impact analyses should be completed by late August or early September.

electrical energy load could be acquired from electric energy efficiency programs; 0.3%-0.5% of such load could be acquired from CHP (for a total electric available resource of 2.8% to over 3%). In addition, savings acquired from natural gas efficiency programs were estimated at 2% and over of forecasted natural gas energy use.

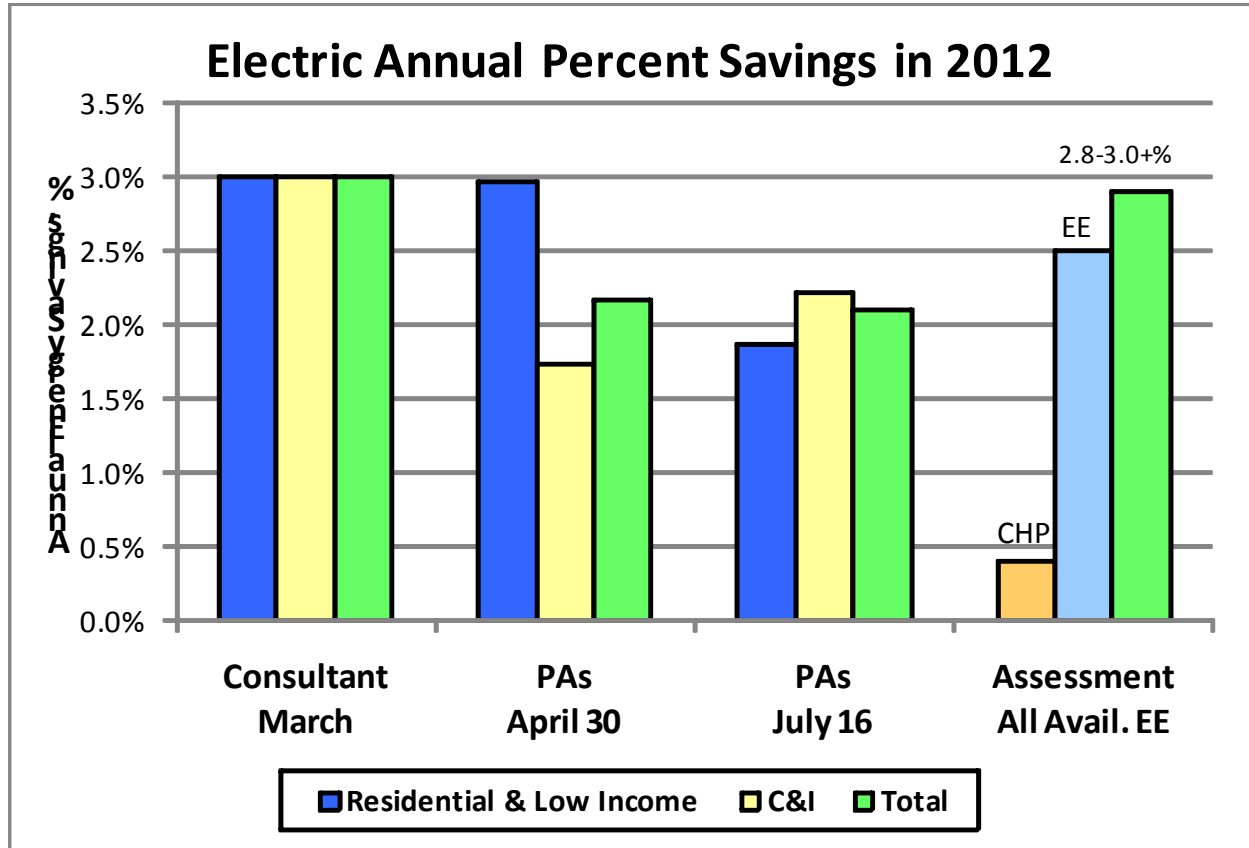
The plans to be filed with the DPU should provide a ramp-up to higher levels of savings consistent with the Assessment, based on the key program strategies, including seamless delivery of services and gas and electric integration, deeper and broader acquisition of energy savings, and expanded application of on-bill financing and further exploration and successful inclusion of outside funding. The higher levels of savings would then continue to be acquired on a sustainable basis across a time periods beyond the 2010-2012 three year plans, meeting the all available cost effective energy efficiency dictate of the Green Communities Act.

The plans before the Council now represent the PAs most recent presentation of their collective strategy for attaining higher savings levels. The charts on the following pages show the savings associated with the current electric and gas plans in relation to the savings presented in the April 30 draft plan, to the savings levels the Consultants presented to the Council in March, and to the more recent Assessment (second chart).

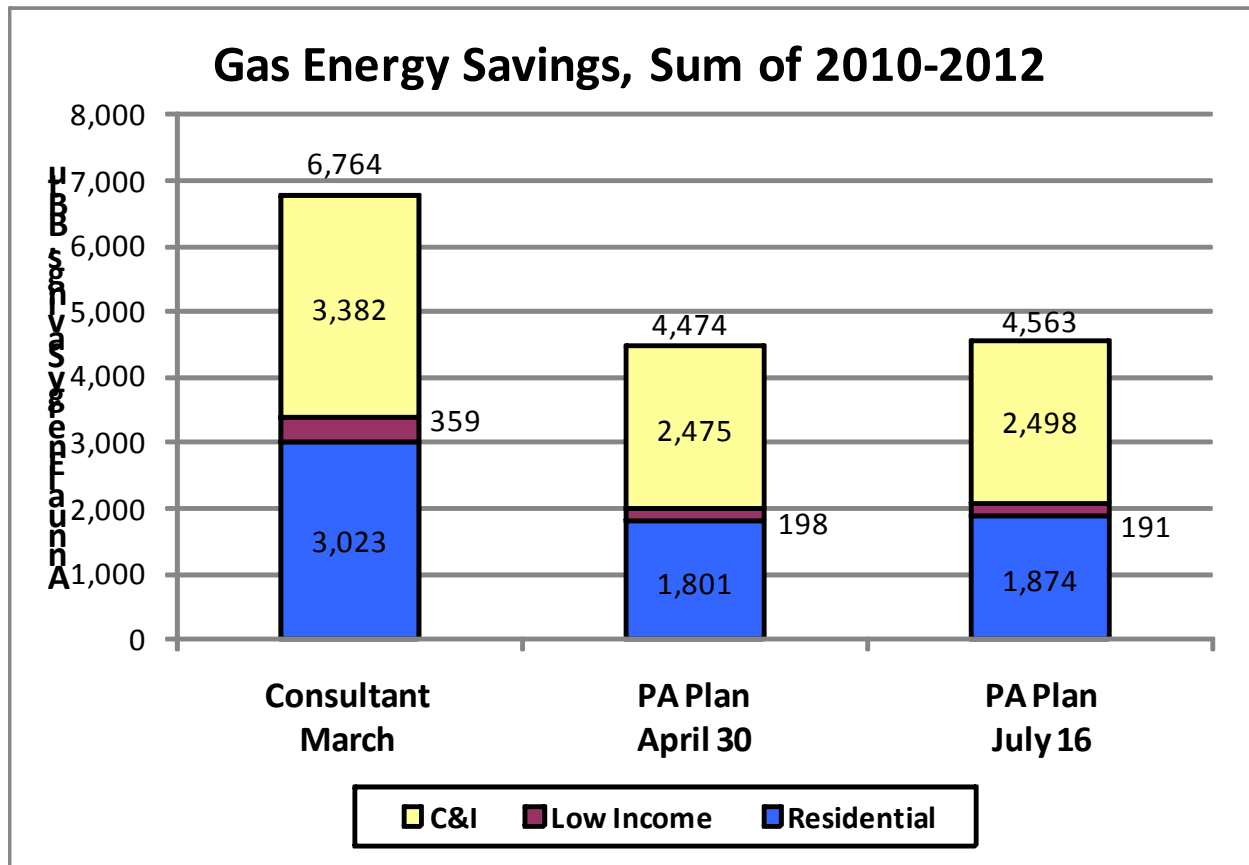
The chart below shows that the current electric plan anticipates acquiring overall savings in the three year timeframe that are slightly lower than the savings level presented in the April plan. Residential savings drop considerably (due to changes in impact factors and assumptions for Residential Lighting), while low income savings rise and C&I savings rise significantly. Both of the PA plans are below the savings levels estimated and presented by the Consultants in March, reflecting our interpretation of the GCA requirements.



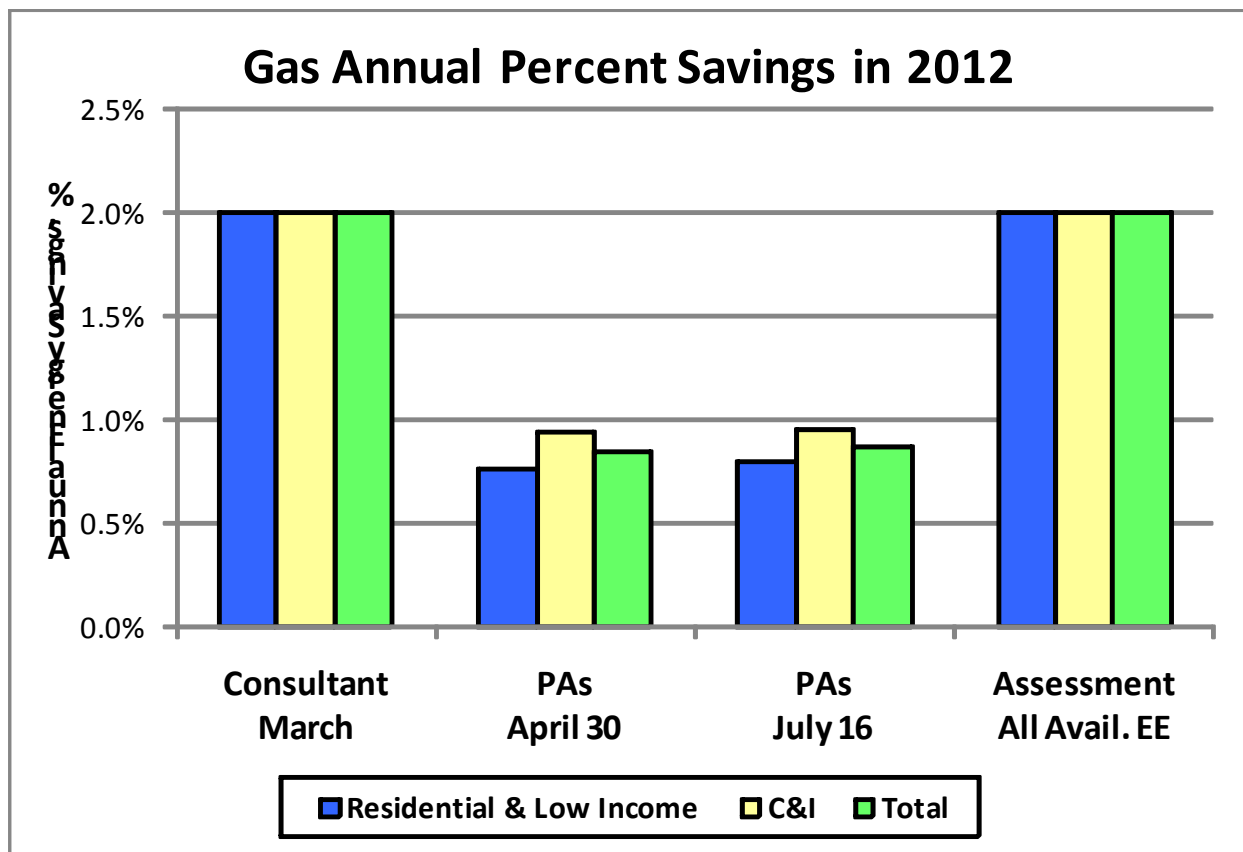
The following chart shows savings in 2012 as a percent of forecasted load (the metric used in the Assessment). One can see here that the proposed total electric savings in the current plan, including CHP (which we understand is embedded in the PAs' proposed C&I savings), is slightly above 2% of forecasted load, well below the level indicated in the Assessment as meeting all available cost effective energy efficiency.



The “Gas Energy Savings” chart below shows that the current gas plan anticipates acquiring overall savings in the three year timeframe that are slightly higher than the savings level presented in the April plan. Residential and C&I savings are slightly higher in the current plan, while low income savings are nominally lower. Both of the PA plans are below the savings levels estimated and presented by the Consultants in March, reflecting our interpretation of the GCA requirements.



As with the comparable electric chart above, the following chart shows savings in 2012 as a percent of forecasted load (the metric used in the Assessment). One can see here that the proposed total gas savings in the current plan is somewhat below 1% of forecasted load, well below the level indicated in the Assessment as meeting all available cost effective energy efficiency.



III. Limitations of current cost and savings data (b/c, net benefits); all affect bill impact analyses

There are a number of factors which drive the PAs' July savings levels. An understanding of those factors, which also affect the gas savings, will in our view (and we believe in the PAs' view as well) lead to the clear conclusion that these data, as presented here and more particularly in the data tables throughout the plans, are not close enough to being final to inform the Council as it deliberates the savings goals for each year of the plans.

Specifically, the plans indicate that bill impacts – that is, costs - were a consideration in the determination of the level of savings presented in these plans. We would suggest that bill impacts should not be a factor in the development of annual goals until one has the ability to determine those bill impacts in a credible way. Through the DPU 08-50-A Working Group that method has only in the past week been close to being finalized, and only sample bill impacts for one electric and one gas PA, have been explored. Ten of the twelve PAs, then, have not developed any bill

impact analyses from which to make decisions about their impact on customer bills, and thus on the appropriate level of savings in the plans.

More important, however, is the limited level of robustness of the program benefits, costs, and savings data for all or some of the programs. Following is a brief presentation of the key factors:

- The calculations of program benefits (which affect benefit-cost ratios, gross and net benefits, and bill impacts, among other key factors) are based on the 2007 avoided costs. The updated 2009 regional avoided cost study is just in the process of being finalized, and the PAs intend to update all of their measure and program analyses based on these new data. All data tables showing benefits associated with the efficiency measures will be affected.
- An adjustment to common CLF savings will be made by all the electric PAs based on the results of an in-progress impact evaluation study.
- The design of the Multi Family program, through its Working Group, is partially complete, but further development is necessary and on-going. The consequence is that the electric and gas program savings and costs associated with this program have not been finalized.
- Both the electric and gas residential and C&I savings and budgets may need to be adjusted to accommodate the Multi Family design
- The electric and gas C&I program budgets may also be modified as implementation of seamless delivery to customers with integration of gas and electric services is further clarified.

These key drivers to program savings and costs will be changing over the next months in ways neither we nor the PAs can estimate. As a result, the savings and costs should be considered preliminary estimates at this time. In addition, any examination of customer bill or rate impacts of the current portfolio of programs can only be seen as a presentation of the methodology for calculating the results, and an interim presentation of the impact of program costs on customer bills. ***We thus recommend that the Council defer its final consideration of the specifics of the proposed program savings, benefits, and costs until these have become more finalized.*** Any judgments about the PAs' proposed savings levels and goals in relation to the assessment of all available energy efficiency and in relation to consideration of potential bill impacts should be considered preliminary at this time.

The energy savings values and associated costs presented in the electric and gas statewide plans are the sum of the savings and costs developed independently by the individual PAs. The consultants have not had time to conduct any systematic examination or comparison of the individual PA data that were used to derive the statewide plans. However, the residential team has observed that there are inconsistencies among the PAs in ramp-up values across programs, which strongly suggests that multiple individual PA savings estimates were rolled up into a statewide estimate rather than having been developed in a coordinated statewide planning effort among the PAs. As an example, in residential new construction one PA increased savings by 38% from 2009 to 2010 and another decreased savings by 61% for the same time period. Clearly there have been time pressures on the PAs to prepare the plans for July 16, but the approach taken suggests that the statewide savings levels may not be at the same level as they might have

been had there been more coordinated planning. *We propose that the consultants examine the savings by program across the individual electric and gas PAs and report back to the Council on our findings, particularly in terms of the extent to which the statewide savings levels might be enhanced through more examination and discussion with individual PAs about savings levels.*

IV. Program Strategies Achieving the savings indicated by the Assessment cannot be accomplished by a continuation of the program strategies of the past several years. Additional strategies need to be incorporated into program and portfolio designs that enable greater efficiencies by the PAs and program participants, and simplify the interactions so that customers can more readily participate in programs. Because these strategic themes are critical to the successful acquisition of all available cost-effective efficiency, they are singled out as elements of the plans that merit particular Councilor attention.

- **Seamless Delivery and Gas/Electric Integration** While they focus on different aspects of providing customers with efficient offering and delivery of efficiency measures and services, these two strategic themes are often included in the same presentation by the PAs. Seamless delivery seeks to enable a customer to have a single encounter with efficiency programs in order to obtain efficiency measures and services rather than having to go through several programs or layers of program administration in order to participate. Gas and electric integration focuses on bringing the measures and services offered separately by the gas and electric PAs, through their separate efficiency programs, into a single program framework, so that all gas and electric savings opportunities can be assessed and offered to a customer at the same time.

Both the electric and gas PAs include a section addressing these topics as core strategies in their 2010-2012 plans (pp. 37-52). These themes are again discussed in the program section overviews (pp. 118-119/95-96), within several program descriptions, and in the electric C&I program roadmaps in Appendix E. These are all very appropriate aspects of the overall strategies for the PAs to have focused on. The references to these strategies speak mostly of the need to move forward either to continue to incorporate these themes into existing programs (e.g., residential retrofit) or that the work to translate these concepts into reality needs to, and will, take place, if it hasn't already begun (e.g., Multi Family, C&I programs). The devil is in the details, of course, and we believe it will be important to remain informed of the status of these efforts. Electric and gas integration can mean different things to different people – from coordination at one stage of program outreach to complete integration of organizational and program elements to the point where a single entity is handling all elements of gas and electric efficiency. The PAs do not specify where they would prefer integration to end within that range. We also cannot be very specific at this stage, but we believe that the greater the level of integration the more efficient and seamlessly the program savings can be delivered to customers.

- **Deeper first, then broader** In order to attain the savings levels proposed in the current PA plans, as well as those contemplated in the Assessment, it will be necessary for average customer savings to increase beyond what an expansion to more customers of the current program offerings can deliver. The PAs will need to develop ways to “go deep” into facilities early in the three year period so that the lessons from those experiences can

be applied to a larger (broader) participant population in the succeeding periods. There are, of course, varying levels of deeper savings, each with its cost and savings and potential associated issues. There are fewer references to deeper savings in the plans that one would expect, given the implications of not focusing on this topic. ***We recommend that the next iteration the plans address this topic more , especially in the program descriptions.*** There is some activity, most particularly within the residential retrofit working group and the Consultant team, to explore issues related to acquiring deeper savings in the near term, but these are not documented in the plans. We expect to engage early in discussions with the PAs at the plan update level and at the working groups to bring this topic to a higher level of focus in program planning in all the sectors.

- **On-bill-financing and outside funding** While these two concepts are also combined topically, they are different. Both provide means to address issues related to acquiring high levels of energy savings over the 2010-2012 period. On-bill financing (OBF) has been used by the electric PAs in the small C&I program for a number of years, enabling participants to avoid a single up-front cost for their customer share of the measures by repaying their cost over a period of time on their energy bill or sundry (separate) bill. PAs are beginning to include OBF in other programs to encourage and facilitate customer participation. The Plans do include a section that addresses both of these topics. The PAs have indicated they will continue, and to enhance, their efforts with OBF (pp. 61-63/53-54). ***We encourage these efforts and recommend that OBF be examined in detail for all programs in which customers are expected to contribute their own monies to the acquisition of the efficiency measures or services.*** We recognize that there are a range of issues related to the use of OBF that need to be addressed for certain customer classes. ***We recommend that the plans include a discussion of OBF in each program area, indicating a commitment to addressing the barriers to its use by no later than mid-2010.***

Outside funding can serve several purposes, and can be combined with OBF as a way to facilitate the repayment of the loan.. It can be used as loans to customers in situations where the efficiency project is costly and the customer does not have the funds or is unable to obtain funds; this may be a way to enable a large number of deeper savings projects. It can be used as a source of funds for the PAs as they expand their programs, either offsetting the need for additional ratepayer (EERF, CC) monies or to supplement the budgeted funds. Outside funding can also help mitigate the impact of the plan costs on ratepayers' bills, as these costs are not a component of the electric or gas bills. While the PAs recognize that outside funding can be of value in their efforts to expand their programs, they have taken a cautious approach in the plans by assuming no such funding over the three-year program period, indicating a dedication "to exploring potential outside funding and capital sources..." (p. 65/56). The consultants acknowledge that this topic is new as a broad strategy for efficiency, but also recognize that this is an area that needs dedicated focus in the near term. ***We recommend that the Council encourage the PAs to increase their involvement in exploring this subject, in collaboration with other entities who may also be engaged in this effort.***

V. Residential Programs

The current program descriptions are substantially improved from the April 30th filing, and it is clear that the PAs attempted to address most of our many comments directly.

There are numerous signs of specific progress in the residential program descriptions since the April 30th filing, including:

- Gas weatherization has been fully integrated into the MassSAVE program;
- The MassSAVE program has updated design features that will help it to go deeper and broader, and
- The Multifamily program design (retrofit and new construction) has undergone significant development and appears to be on a positive path, but the work on this design continues through the Working Group.

That said, there are areas where we were expecting to see more progress, such as the integration of the electric and gas HVAC programs and a greater emphasis on quality installation of measures. There are also numerous 'Roadmap' items in the various programs that still need to be addressed, most of which have been touched on in the 'Three-Year Deployment/Road Map' section of each program description. Work is continuing in the residential working groups to address and resolve these roadmap items over the next 2-3 months. We have prepared specific comments on particular aspects of the residential program proposals, which we plan to discuss directly with the PAs as they work on the roadmap components and continue to refine the program descriptions. Highlights include:

- **Community-based efforts.** The electric and gas plans include a section focused on this topic, and proposes a competitive solicitation to select the communities with which the PAs might become engaged in this strategy. The text also indicates a need to limit the number of such initiatives at any given time. While we are familiar with community-based program efforts and the resources needed to make this approach a successful one, we would like to explore the PAs' proposals regarding community-based efforts to enable a clearer understanding of whether the proposals are reasonable.
- **Residential new construction & major renovation pilot** Many of the previous suggestions from the April 30 filing have been incorporated into the plan for this program. There remains, however, no commitment to a long-term goal or timeframe for the RNC market, and little detail about achieving "deeper and broader" savings in these markets.
- **HVAC** While the plans recognize the need to coordinate services with MassSAVE "as part of a comprehensive whole house approach" (from gas program narratives; the electric HVAC discussion of whole house opportunity is less clear), there is neither a clear indication that whole house treatment, including HVAC, is the preferred path for customer involvement in the PAs' programs for existing homes nor a plan to get customers to pursue this path rather than an equipment-only track.
- **Deep Retrofit 1-4 Family Pilot** The Council priorities resolution, item 29, calls for the PAs to develop a deep energy retrofit pilot program that is consistent with the Governor's Zero Energy Task Force, and includes a wide range of projects such as single family homes and affordable housing. The "small number of existing homes" referenced in the pilot description is not consistent with the 250 homes recommended for 2010 by the Governor's task force. Some quantification of the thinking on number of homes to be included in the pilot is warranted in the description. At minimum, a 100-home statewide pilot should be considered for 2010.

- **Multifamily Retrofit Program** The working group has clearly been responsive to planning for a program design that addresses the specific priorities of the Council (e.g. single point of contact, whole building approach, integrated gas-electric offering), as evidenced particularly by the detailed 'Special Notes' section. The discussion about how to integrate the LEAN/CDC's and the PA's multifamily working group efforts is just beginning. An intelligently designed and integrated program coordination will be key to the success of both the low-income and market rate multifamily programs.
- **Training and Education** These efforts are directed toward trade allies. There is some recognition of cross promotion of gas and electric technologies, but there should be a more explicit path toward coordination and/or integration between the gas and electric PAs. of evaluation of training and certification efforts.
- General comment regarding gas and electric sections that address rebated efficiency measures: We believe the narratives should note possible opportunities for accessing ARRA state appliance rebate funds. Some of these efforts could be implemented through MassSAVE, e.g. early retirement of heating, DHW and/or cooling systems.

VI. Commercial & Industrial Programs

Introduction

The following comments on the C&I program sections of the plans are based both on a direct review of the electric and gas plans and on information obtained in discussions the consultants have had with representatives of the PAs in the past several days, intended to clarify our understanding of the gas PAs' intentions with the content of the gas programs in the plan. As we reviewed the C&I portion of the plan we did not find the explicit statements, or links between that section and earlier parts of the plan, which we believed are necessary to reflect the gas PAs' commitment to key program strategies, including gas/electric integration. It is our understanding that the PAs will be providing the Council with additional materials affirming the recent discussions and confirming their support for such strategies at or before Tuesday's Council meeting.

In general, the C&I section of the Electric and Gas Plans demonstrates significant improvements in both approach and content from the prior April versions. The tone is less conditional and more positive than in the April 30 documents. The Plans refer to the Council's March 24 Priorities Resolution in various locations, using portions of that text to frame the PAs' response to the particular topic.

In the Electric Plan, the C&I program descriptions in the body of the plan (pp. 218-240) present the current programs. The changes contemplated for 2010-2012 are reflected in Appendix E, and essentially constitute workplans with timelines to identify and address issues and achieve resolution in areas of high Council concern. We believe these are at an appropriate level of detail for the three year plan.

Specifically, the three workplans, or "C&I Roadmap of Further Actions" are: (1) the C&I Lost Opportunity Workplan, (2) the Large Retrofit Program Workplan, and (3) the C&I Small Business Service Work Plan. Taken together, this appendix, as well as other Plan language, leaves the clear implication that both the gas and electric PAs have agreed to integrate all the gas and electric C&I programs into three categories: gas and electric C&I lost opportunity, gas and

electric large C&I retrofit, and gas and electric small C&I retrofit, and that the proposed issues and deadlines apply to both the gas and electric PAs. While the gas program constructs appear to have served the gas PAs well in the past, looking forward we believe that the integrated programs, with associated program outreach and delivery of services, will be best positioned to achieve the anticipated higher levels of savings by addressing delineated segments of the C& I population..

The current program architecture for the electric programs addresses the C&I market in this way. We therefore expect that the various components of the gas programs will be folded into this structure as electric and gas integration proceeds. Although we now have a better understanding of the gas PAs' commitment to integrating its C&I plans with those of the electric PAs, the gas plans do not include a roadmap showing the steps to that end. We suggest that a mapping of the components of the gas programs be presented in a table, showing how they will be folded into the three customer segmented programs noted above.

For the most part, the issues identified and the timelines for resolution found in each of these "roadmaps" are appropriate. Key observations are below. As with the residential review, the consultants have more specific comments which will be used in discussions with the PAs, as the plans are further refined.

C&I Large Retrofit Workplan:

- (P. 324) Proposed project incentive caps of \$200,000 for CHP programs are likely too low. A more appropriate "soft cap" might be \$750,000, waivable at PA discretion.
- (P. 325) There is a discussion of "evaluat(ing) the benefits of on-the-bill versus sundry bill financing." That appears to conflict with more solid commitments to pursue on-bill financing found elsewhere in the plan.
- P. 326) There is a timeline of 1/1/2011 to complete the above study. We believe that on-bill financing should be in place by mid 2010 at the latest.

C&I Small Business Service Workplan:

- (P. 327) "The Program Administrators intend to integrate the gas and electric programs no later than January 1, 2011." We cannot recommend this schedule. January 1, 2010 is more appropriate.

In the main body of the Plans, we note the following:

- (P. 39²)...."the statutory language makes clear also that the gas and electric Program Administrators are ultimately responsible for the implementation of gas and electric programs, respectively, under the Act. The Act does not require (or contemplate) that a single entity will be responsible for implementation of all programs."

We differ with the PAs' reading of the GCA. "Administration" (in the words of the Act) is not synonymous "implementation". While the PAs hold ultimate accountability for budget, savings, and program quality, we do not believe that this requirement is intended to preclude delivery – implementation – of program services by a single entity or contractor that is responsible, by contract, to a joint administrative body of PAs in cases

² The page numbers refer to the Electric and then the Gas Plan. If a single page number is identified, it refers to both Plans.

where this makes sense financially or in terms of better delivery of services to customers. We note by way of example that many of the PAs already administer individual contracts with largely “turn-key” service providers in their small business programs. We see no bar in the statute to an expansion of this concept to statewide contracts under the administration of a single entity that is a joint body of the PAs.

- (P. 43)We do not disagree with the PAs definitions of “integration” and “coordination”, but do question their first application of these definitions: We would expect the PAs to integrate “...their marketing efforts to prevent customer confusion” (not coordinate, as written) while providing for “coordination” of individual PA efforts that address “regional variations.”
- (P. 46) “As a complement to the individual program design working groups, there are also sector–wide teams that are assessing the consistency of Program Administrator efforts across the various program offerings. Additionally, *the* Program Administrators continue to combine programs, *where possible*, (emphasis added) to simplify participation and encourage deeper savings.” We expect that the burden will be on the PAs to demonstrate when it is *impossible* to combine programs. In the broader context, we believe that such a burden of proof/demonstration should apply to any PA proposal to undertake unique activities that are driven by claims of individual circumstances.
- (Pp. 50-51) “The Program Administrators strive to provide a consistent set of statewide programs and strategies that can be delivered to customers in an integrated 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. To that end, the Program Administrators will continue to explore all *reasonable* avenues to achieve this goal, including issuing joint contracts and, where necessary, providing services under contract to other Program Administrators in *unique circumstances*.” (Emphasis added.) This is a good, solid commitment, except for the italicized caveats. We have no objection to these, provided the PAs accept that they will carry the burden to demonstrate both. Further, the PAs should agree that the process of “striving” to offer consistent and integrated programs should fall short of this objective only in very limited circumstances.
- (Table, pp. 51-52) We do not believe that investigating and evaluating financing options should be limited to the Large C&I Retrofit Program, nor should it take until January 1, 2011. We would suggest it be completed in the first quarter of 2010.
- (Pp. 61-65/53-56) The “Other Funding Sources/Expanded On-Bill Financing” section: We accept the PAs’ premise that identifying sources of outside funding is uncertain, both as to timing and outcome. In addition to helping mitigate the need for EERF funding from ratepayers, such funding can support deeper savings projects directly, and when combined with on-bill financing of projects, make participation in the programs a less difficult financial decision for customers. We believe there should be a common understanding and agreement that there will be some expansion of existing financing sources (e.g., SBC) to other program areas not now served (e.g., larger C&I customers) as well as adaptations of existing repayment formulas (e.g. structuring repayment terms to produce positive cash flow) regardless of whether financing can be capitalized with outside funds or not. The PAs should commit to work with DOER and others to identify and attract sources of outside capital, and to develop effective financing mechanisms. The GCA requires the DPU to consider “the availability of other private or public funds,

utility administered or otherwise, that may be available for energy efficiency or demand resources.” GCA, Section 19(a) (3) (ii) and an ongoing partnership between the state government and the utilities will support this objective.

- (Pp. 123-124/100-101) “Workforce Development” and again at P. 291, under “Economic Development and Job Growth/Retention”: These sections should probably be updated with the results and conclusions of the recently completed studies that are specific to Massachusetts. These findings were much more positive about the local availability of the necessary workforce resources.

VII Combined Heat and Power (CHP)

The electric and gas plans indicate that combined heat and power (CHP) will be included and promoted as an eligible efficiency measure in the PA programs. The electric plan indicates that this will primarily happen through the large retrofit program, with some possible applications in the lost opportunity program for new construction facilities. This is appropriate, and we concur these are the appropriate programs to promote CHP.

The electric plan also indicates initial plans for financial incentives of \$750/kW of installed capacity and a minimum required 60% overall efficiency consistent with the alternative portfolio standards (and, of course, that all projects must pass the TRC test). Again, we agree these are appropriate levels for an initial effort, recognizing that these can be adjusted after PAs gain experience with CHP projects, if appropriate. However, we disagree with the PAs' proposed single CHP project incentive cap of \$200,000. This would translate to only a 267 kW CHP unit, which is relatively small. While this size is appropriate for facilities such as nursing homes, hospitals, and other institutional buildings, there are very likely large industrial CHP opportunities that could be also be highly cost-effective. Also, it appears the PAs are not intending to apply incentive caps to other efficiency projects (or at least this has not been highlighted in the plans). This asymmetric treatment of CHP as a resource is not consistent with our view of the GCA and EEAC priorities. The proposed cap would result in limiting the programs effectiveness at promoting larger CHP systems, clearly in contradiction to the efforts to capture all achievable efficiency. We suggest any cap be in the range of \$750,000. This would be similar to past project caps for efficiency measures that NSTAR and National Grid have used in their C&I retrofit programs.

Finally, there is very little information in the plans about CHP. We believe it is important that the specific savings and spending associated with CHP be broken out as a separate item in goals and budget tables. This is because it is a new area of focus, it is the only way to understand whether and how aggressive PAs plan to promote CHP, and it would allow for better understanding of the overall portfolio impacts. The latter is important because CHP has the effect of increasing gas usage on the PA systems. Therefore, without separate impacts, it is impossible to know how much the gas PA portfolio level goals are associated with efficiency savings, and how much might be offset by CHP impacts. Because of CHP's effect of saving electricity but increasing on-site gas usage, we also believe CHP activity should be separately tracked and reported by the PAs going forward, so that gas increased usage from CHP can be considered separately from gas PA progress on efficiency savings targets.

VIII. Proposed Consultant Role in Moving Toward Conclusion of Statewide Plans and Development of Individual Plans

As the consultant team reviewed the July 16 plans it developed, especially on the residential side, where more of the programs have been more fully developed, a series of narrow questions and issues that we suggest need to be addressed in some fashion before the consultants will be in a position to recommend complete sign-off on the program designs. The roadmaps included in the plans clearly indicate future work on the details of those program areas. Virtually all of this work needs to be completed by mid-late September so the Council can make determinations about final program designs and savings goals that the individual PAs will incorporate into their individual plans. **We propose that, beginning immediately, the consultants work at this detailed level directly with the PAs as all of these specifics are considered and addressed, including our current questions and concerns.** We would report back to the Council on a regular basis so that during each of the Council meetings held between now and the time of the determination of the savings goals, the Council will have on-going updates on the movement toward consensus and closure, enabling it to provide guidance for those topics that remain unresolved.

IX. Evaluation, Measurement, and Verification (EM&V)

Summary of Consultants' Recommendations. The Consultants believe the EM&V administrative framework proposed in the EM&V section of both the electric and gas plans is significantly flawed, and would not achieve the key policy objectives of increased credibility, objectivity, consistency, and timeliness. ***We therefore do not recommend Council approval of the EM&V portions of the plans. Instead, we recommend that the Council consider a revised proposal from DOER and the Consultants in August, building on the earlier proposal described in our memo of April 17, and focused on the key policy objectives summarized above.***

Analysis. The Evaluation and Monitoring section is the same in the electric and gas PA plans. On some key issues, the proposal in these plans deviates from the recommendations contained in the EEAC Consultants' April 17 memo³ in critical ways that the text tends to downplay. On some other issues, the proposal appears to embrace the recommendations. On still other issues, the proposal accepts the recommendations in principle, but attaches provisos that are sufficiently open-ended that it is unclear to what extent the recommendations would end up being followed. We elaborate on each of these points below.

- The Consultants recommended that there be increased control of EM&V by DOER and the EEAC to ensure credibility, objectivity, consistency, and timeliness. The PAs' proposal in the plans will not achieve this objective. In fact, depending on how it is implemented, it could *reduce* the level of influence and involvement that DOER and the EEAC would have, below what currently exists. More specifically:
 - The proposal would assign DOER the responsibility of strategic planning and prioritization of studies, but simply identifying which studies should be conducted when does not ensure that any of the studies will be performed objectively and on schedule.

³ "Proposed Administrative and Management Construct for Program Evaluation, Measurement, and Verification," April 17, 2009. Presented and discussed at the April 21 Council meeting.

- The proposal would allow for representatives of the EEAC Consultants to serve as advisors during the study implementation process, but the specific nature of this advisory role is not presented, and it is clear that the Program Administrators would retain decision-making authority. Given that the EEAC Consultants currently have significant input into the study implementation process, depending on how the PAs' proposal was implemented, it could decrease that level of input.
- The proposal calls for DOER, the Council, and the Program Administrators to develop a process by which all three parties would validate study results once completed. However, the nature of this process, and how the process would increase public accountability for, and transparency of, EM&V results is not made clear. Looking at study results without knowing whether the appropriate decisions were made regarding the many elements of a study that ultimately lead to the final results is a prescription for continued and irresolvable uncertainty.
- The PAs propose that, on a three-year cycle, a third party that is independent of the Program Administrators, DOER, and the council be hired to conduct an audit of the EM&V process. The proposal suggests that this would provide an additional measure of objectivity and credibility. The Consultants question the degree of public oversight of the EM&V process that would be added by simply commissioning an audit every three years. Further, given that the Program Administrators are proposing to largely retain control over the EM&V contracting and management process, we also question whether it would be possible to find an entity to perform the audit that was both qualified and lacking any potential for conflict of interest.
- The plan appears to effectively endorse the following Consultant recommendations: (1) developing a system of semi-permanent state-wide research areas, each with a Program Administrator project manager; (2) doing a greater percentage of studies on a statewide basis; and (3) giving DOER and the Council the power to review and approve the Research Area Managers proposed for each research area, as well to remove assigned Research Area Managers if they do not perform effectively. We believe the last issue is a particularly important concession.
- The plan endorses the following Consultant recommendations in principle and to some degree, but attaches sufficiently strong provisos that it is unclear to what extent the recommendations would be carried out: (1) moving toward nearly universal state-wide rather than PA-specific EM&V studies; (2) fully integrating electric and gas EM&V efforts; (3) moving to a system of long-term contracts with EM&V firms to ensure continuity. While we recognize some need for flexibility we do not believe that the conditional nature of the PAs' proposal should be as unlimited as the text suggests.
- At the end of the plan, the PAs present a short list of studies to be performed in 2010 and 2011, emphasizing that the list is not exclusive, and that much more EM&V activity will be needed once a framework for the administration of EM&V studies is agreed upon. We concur that the list represents only a very limited portion of the studies that will be needed, but support all of the specific studies listed, and agree that more detailed planning should await the resolution of the EM&V administrative framework.

X. Performance Incentives

Summary of Consultants' Recommendations: The Consultants' believe the PA performance incentive (PI) proposal and framework is significantly flawed and would not provide the

appropriate incentives for comprehensive and aggressive achievement of all cost-effective demand-side resources while balancing other considerations. In addition, it does not adequately meet the goals of the GCA, the DPU 08-50 Order, and the EEAC Priorities Resolution. ***We recommend that the Council neither consider nor approve the PAs' proposal on performance incentives. Instead, we recommend that the Council defer any review of the PAs' proposal and suggest a process for the Council, its Consultants, and the PAs to engage in discussions and negotiations over an acceptable PI framework and specific metrics and incentive levels after July 28th but to be resolved prior to filing of PA individual plans October 31.***

- ***Time Period:*** The PAs indicate (p. 271 of electric plan) that all PI goals targets should be developed annually. ***We recommend that the Council allow itself the flexibility to consider PIs based on a combination of one year and 3-year goals and targets.*** We believe that a mix of annual and three year performance targets will create the appropriate incentives for the PAs to work toward successful implementation of their efficiency plans.
- ***Incentive Level.*** In prior discussions, the Council deferred discussion of the incentive *level* and focused primarily on the incentive *mechanism*. Our recommendation thus is not to consider the PAs' proposed incentive level at this point but to consider the incentive level as a distinct issue in parallel to consideration of the mechanism.
- ***Deemed versus Actual Net Savings:*** The PAs are proposing a change from past and current practice, to eliminate adjusting planned savings for evaluation results obtained prior to the filing of the claimed savings with the DPU. While we believe this is inappropriate, as the PAs should be rewarded only for current savings associated with public monies, we believe it should be part of the overall discussion on performance incentives that we are proposing begin in the period shortly following the upcoming Council meeting.
- ***PI Metrics Structure:*** The PA's have proposed a construct which emphasizes savings (kWh, kW, Gas MMBTu) and assigns 70% of total incentives to this metric; 10% to net benefits; 10% to administrative efficiency; and 10% to CO₂ reductions. We find some of the metrics themselves problematic and, as a corollary, the proportion of the incentives assigned to each significantly less than optimal.
 - There is high correlation between electric and gas savings and CO₂ reductions. Consequently, increases in energy efficiency from the programs directly leads to reductions in CO₂ emissions. The CO₂ portion does not create any incentive for the PAs to do anything different from what they would do to acquire the energy savings.
 - We believe the administrative cost metric is inappropriate. The PAs define the goal for this metric as not exceeding their budgeted administrative costs. Essentially, the PAs are suggesting shareholders be rewarded for simply managing to their own proposed budgets.
- ***PI Goals Boundaries/Thresholds:*** The PAs propose, in a shift from past practice, that they be able to earn incentive if they deliver more than 60% of the planned levels of performance, and that there be no upper limit on the goals, and thus on the incentive. Our experience is that the specification of upper and lower boundaries is in part a function of the degree to which the planned goals are considered attainable and the availability of monies the PAs may earn through performance incentives. We thus recommend that decisions about this factor be one of the elements of the negotiations that will begin later this summer.

The consultants made a presentation to the Council on May 26, suggesting a general framework within which performance incentive mechanism should be designed. Our focus has been on the incentive mechanism, not the level (rate) of the incentive. Elements included:

- Build upon the current electric PI mechanism with its three components: savings (benefits), value (net benefits), and performance metrics. Within this construct we recommend more of a balance between savings and net benefits than the PAs' propose, though we acknowledge that some greater emphasis on the savings mechanism may be appropriate (but not to the degree of 70% savings and 10% net benefits).
- Retain the performance metric component. We believe this is a very important component, and can be used as a PI approach to achieve deeper savings.
- In early years, place more emphasis on achieving deeper savings (higher % savings, savings per participant, savings from multiple fuels through integrated delivery) -- which can be done through targeted performance metrics as well as by assigning a higher proportion of the incentive monies to performance metrics.
- Overall, place somewhat more emphasis on savings and the savings component, particularly in the second and third years, and particularly on encouraging the achievement of savings higher than the targets (through a marginal incentive for exceeding goals, i.e., higher incentives for exceeding goals).
- Set a higher threshold to help increase actual performance (higher threshold on the lower end of range, and marginal/increased incentive for exceeding goals on upper end of range).
- Schedule across the three years: more emphasis on deeper savings in the early period (more emphasis on performance metrics), and more emphasis on savings in the latter period (once the deeper savings program designs are developed and in place). This is consistent with the multi-year strategy of deeper savings first, then go broader to reach more customers (though with the deeper savings program designs).
