January 10, 2012

Christina Halfpenny, Department of Energy Resources Massachusetts Energy Efficiency Advisory Council

100 Cambridge Street
Boston, MA 02114

Dear Ms. Halfpenny,

On behalf of the Massachusetts Energy Consumers Alliance, I am writing to offer the following suggestions to the Energy Efficiency Advisory Council for the 2013-2015 Three-Year Plan (3YP). We have arrived at these suggestions based upon research, analysis, and direct experience working with Renew Boston, Energy Smart Quincy, and a statewide marketing effort funded by the State Energy Program. Our views align closely with those of the Green Justice Coalition, of which we are a member, and many environmental groups who will also be providing testimony. The first few sections relate to issues that cut across market segments. After those, the comments target the residential sector.

CROSS-CUTTING ISSUES

Set Aggressive Energy Savings Targets

Most of all, we ask that the EEAC put in place programs and budgets that can achieve greater energy savings than those achieved in 2010 and 2011. Everyone involved in the delivery of the programs, from administrators to marketers to energy service companies have expanded their capacities to do business and have the ability to expand again. At the same time, consumers are becoming increasingly responsive to marketing messages because the benefits of efficiency are becoming more familiar.

The amount of energy saved from 2013-2015 should be sufficient to keep us on track with the Clean Energy and Climate Plan for 2020 (CECP). Anything less will cost consumers more in the long run and/or require a back loaded investment from 2016 forward. As an organization dedicated to making energy more affordable and environmentally sustainable, we take the long view and see efficiency investments over the next few years as being critical to reducing energy bills in this state over the next thirty-nine years, which is the time range relevant to the Global Warming Solutions Act (GWSA).

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We understand that there are relatively much larger energy savings to be gleaned from the C & I sector and we support an appropriate allocation of resources to that sector. However, we encourage you do so without relegating the residential sector to a less important position. The sectors are not competitors for resources.

It is true that falling natural gas prices have caused energy efficiency to become less cost-effective in the last couple of years using the standard Total Resource Cost test. But we see falling natural gas prices and electricity costs as being a good thing for consumers. Energy bills have fallen many times more than the cost of energy efficiency programs, so we see little validity in the argument that it is wise to cut back on efficiency programs because of falling energy costs. We see the glass as being half full, and this 3YP represents a great opportunity to build in demand-side resources that will help dampen energy cost volatility. This perspective should be reflected in bill impact analyses going forward.

Fully Incorporate the Benefits of Avoided Carbon Emissions into the Benefit-Cost Analysis

Mass Energy supports the Global Warming Solutions Act (GWSA) and the CECP for 2020. From this position, logic dictates that policies, programs, and budgets should be adopted to achieve the metrics in the CECP. Insofar as the EEAC is concerned, we look at those targets and conclude that they are far more likely to be met by the incorporation of avoided carbon emissions into the benefit-cost analysis. Furthermore, we believe that failure to do so would result in higher costs to consumers over time. This issue is directly tied to the question of how high to set the savings target.

We have carefully reviewed the 2011 Avoided Energy Supply Cost (AESC) and agree with its general conclusion that the compliance costs that have been integrated into program planning until now are too low because they only track RGGI and a potential, modest federal carbon initiative. They do not track the real costs associated with removing carbon in sufficient quantities to achieve the GWSA requirement for 2020.

The AESC suggests that the value of avoided carbon emissions is about $80 per ton. Mass Energy's position is that $80 represents a good starting point for the 3YP. If budgets and measures are calibrated to incorporate $80 per ton, there a couple of possible outcomes, with each outcome having its own set of implications. One outcome is that the value simply helps the programs to stay on target with the CECP. This would provide justification for the value, particularly given the relatively low gas prices we expect in 2013-2015. Another outcome could be that we find that energy efficiency programs are able to avoid carbon at less than $80 per ton. This would result in either overshooting the CECP target for a given time period or hitting the target at a lower cost than expected. Both are fine results. We would rather make sure that we surpass our targets in 2013-2015 than face a higher marginal cost of avoided carbon emissions in later years. Being ahead of the curve, it would be easy to dial back and focus future plans on the most cost-effective measures needed to meet CECP targets.

Mass Energy looks forward to participating in the DPU's 11-120 proceeding, but hopes that the EEAC will weigh in strongly as well. You all have the responsibility for planning and you have the information needed to judge the importance of increasing the value of avoided carbon emissions as they relate to energy efficiency programs.

We Need Better Data Collection and Reporting

House Bill 1774 would address a need that many of us have expressed – the need to have more data about who is served and how. But whether the bill passes or not, the next 3YP should require program administrators to collect and report in ways that would provide for meaningful planning, monitoring, and evaluation. This would not mean the revelation of confidential consumer-specific information, so this should raise no concerns about privacy. The cost of improving the information systems and reporting will be modest compared to the benefits. Better data will lead to better, more cost-effective programming. For example, in order to design improvements to better reach HTR/HTS customers, the PAs and Lead Vendors should report on the number and percentage of customers in 2-4 family homes – and the number of buildings – which have Home Energy Assessments, air sealing, insulation, and tune-ups and replacement of heating and hot water systems, and within this the number of landlords versus tenants, together with the resulting savings broken down in the same categories. If we are going to build an energy efficiency infrastructure necessary to meet the goals of the GCA and GWSA, then it makes sense to have reporting systems up to the task. We urge the EEAC to consider how the costs of such an effort will be spread across a very large number of participants over many years.

RESIDENTIAL PROGRAM ISSUES

Pre-Weatherization

Mass Energy is under contract to the City of Boston to administer the Renew Boston program along with Next Step Living, Inc. Based upon our experience and data collected from the program, we are in strong agreement with DOER's proposed approach to including certain pre-weatherization measures in order to pave the way for cost-effective energy conservation measures. We are confident that a well-executed plan will not reduce the benefit-cost ratio of the Mass Save Weatherization program. It will also broaden access to the program and result in a higher conversion rate. Cost-effectiveness and equity are not at odds in this case. In terms of budget and program specifics, data currently exists from Renew Boston, LEAN, CSG, and other pilots to adequately inform what we would call a Pre-Weatherization 1.0 effort during 2012. As DOER recently pointed out, an initial budget of $300,000 would support 1000 homes statewide and provide even more data to inform what we would call Pre-WX 2.0. In anticipation of the lessons to be learned from this initial effort, the 3YP budgets for incentives and related program elements should provide for sufficient funding for pre-WX to capture the resulting energy savings potential.

Marketing & Outreach to Hard to Reach and Hard to Serve Communities

As part of the Green Justice Coalition, Mass Energy considers it to be self-evident that when moderate-income ratepayers, renters in particular, are paying into energy efficiency programs, there should be programmatic elements that reasonably enable these households to participate. Furthermore, we have the opportunity to save a great deal of energy in these communities – more than enough to offset the cost of proactively including them in plans and activities. We have seen how Renew Boston and the pilots have succeeded in greatly broadening participation in Mass Save. These successes have demonstrated that it is feasible to dramatically increase the number of assessments (with their "Instant Savings Measures") and weatherization projects.

Incentives & Rebate Structures

We would like to see more analysis, discussion, and justification on the current Mass Save incentive structure (75% up to $2000) and the rebates established for appliances, including heating and hot water systems. With Renew Boston, we were able to dramatically increase participation and conversion rates by moderate-income households by using ARRA funds for the required 25% co-payment. For the sakes of both promoting equity and increasing conversion rates, we would like to see this concept embedded in some way into the Mass Save program, perhaps initially as part of an overall strategy to support a 2-4 family building program.

At the same time, we would like to see a comprehensive review of all incentives and rebates. We have read with interest some comments in reports to the EEAC that free-ridership and spillovers in some areas need to be better understood. Specifically, we suggest that EEAC hold a public technical session in which Opinion Dynamics (evaluator of the Community Partnerships) and other EEAC evaluation and program consultants discuss with EEAC members at length what is known and what should be concluded from recent experience about future residential incentive structures and levels.

Rental Properties

Renew Boston has seen a dramatic increase in the number of tenants served in Boston by Mass Save due to at least three things:

1) Community-based marketing efforts, involving the good work of committed people and organizations in areas with high percentages of 2-4 family dwellings.
2) The creation of the position of "Landlord/Tenant Coordinator" whose job it is to specifically target and serve rental properties.
3) No-cost weatherization, meaning the relief of landlords and tenants from the requirement to pay 25% of the cost of weatherization. This type of subsidy is necessary to solve the landlord/tenant split incentive problem, and should not affect TRCT benefit/cost ratios. And the additional cost to the program (about $2000 for a triple decker) is worthwhile if it leverages insulation and heating system upgrades where the potential for energy savings is great.

And while Mass Energy is not involved in programs on Cape Cod, we observe that the Compact has also seen a huge increase in the number of rental properties served, an achievement that they largely attribute to the offer of no-cost weatherization to buildings with 1-4 units.

Targeting Consumers with High Energy Usage

We are surprised that there is not more emphasis on marketing to consumers with high energy consumption. A well-executed plan would attract consumers, increase conversion rates, increase energy savings, and increase customer satisfaction which will lead to more word-of-mouth marketing. It would also reduce the percentage of homes that are found to have no opportunity. Taken together, this would significantly increase the program's benefit-cost ratio. Our sense is that it would be particularly helpful in helping reach the savings goals for natural gas and heating oil as outlined in the CECP.

The gas and electric utilities obviously have usage information available. But heating oil dealers could also reach out to their customers, encouraging them to start with a Mass Save audit. As a heating oil buyers group with over 15,000 members in Massachusetts, we would be happy to work with electric utilities and the Mass. Oilheat Council on a program.

A program targeting high users can be done in a way that also supports the cause of improved equity. This can be done simply by starting with consumers in specified census tracts or zip codes and by involving community-based organizations.

Financing and a Loan Loss Reserve

We do not see financing as the be all and end all of energy efficiency, because there are so many other important components to a good program. But it is obviously important and this next 3YP should make some progress on this front. Mass Energy is prepared to work with the EEAC and stakeholders on developing a "big bang" financing effort, but we encourage the adoption of incremental steps in the meantime. Here are some ideas:

- Analyze data on the number and types of HEAT loan applications which have been denied, and the energy saving opportunities which remain un-tapped as a result, and extrapolate this or other data to a scenario in which participation of 2-4 family building assessments reaches the levels achieved to date by Renew Boston.
- Allocate some amount of money, perhaps a half million dollars per year, to a loan loss reserve fund. In the first year, competitively-chosen lenders in the Heat Loan program could access the reserve as appropriate. Lenders eligible to access the reserve would be chosen on their willingness to reduce qualifying credit scores and to provide appropriate summary data on who they serve. Access to the reserve in subsequent years might also be tied to some energy savings metric. As time goes on, the data collected on how the loan loss reserve was accessed will help to determine new approaches to lending for energy efficiency and to justify terms of any deals with the outside financiers of any program involving On Bill Repayment, PACE, or other models.
- Support research, development and perhaps a pilot of alternative financing methods. For example, the Open Market approach to Property Assessed Clean Energy financing.

OIL HEAT

The CECP for 2020 sets higher energy savings goals for oil than for natural gas for electricity. Consequently, the 3YP electricity budget should reflect those goals. While careful attention should be made to ensuring that every home is given whole house treatment beginning with an energy assessment and emphasizing air sealing and insulation, we must be cognizant of the fact that oil-fired heating and hot water systems are generally older and more inefficient than gas-fired systems.

To gain further insight into this issue, we encourage the EEAC to review data that should be forthcoming from the Mass. Oilheat Efficiency Program (MOHEP) which was administered by CSG and the Mass. Oilheat Council through the DOER's State Energy Program (funded by ARRA). To our knowledge, that program was very successful in terms of identifying and replacing very old and inefficient systems[1].

For additional data points, Mass Energy did a random sampling of Renew Boston homes which received assessments in 2011 (sample size = 50 oil and 50 gas) and found that oil-fired systems are definitely older, on average, than gas-fired systems. We attribute this to the fact that gas systems were given much greater attention through DSM programs prior to the GCA, the 2010-2012 3YP, and MOHEP.

	Median Age Heating System	% Systems Over 20 Years Old	Median Age Hot Water System
Oil-fired	14	40	7
Gas-fired	11	20	5

Looking at the data, we want to draw attention to the percent of heating systems over 20 years old. The difference with gas is stark and it's the most pertinent statistic for program planning. It is also important to realize that if the median age of oil-fired hot water systems is 7, then a substantial number would be at or past their expected useful lives. We have a great opportunity to replace that aging fleet with high-efficiency equipment.

Given that the CECP energy savings goal for oil is so high and that there are substantial carbon avoidance benefits to reducing oil consumption, this next 3YP should have a robust plan for targeting oil heated homes. We recommend the following:

- An incentive structure calibrated to capture the added benefits of reducing oil consumption. This would include replicating to some extent the approach taken by MOHEP, which targeted older systems.
- Continue building on the relationship of the Mass. Oilheat Council to the Mass Save program. There are many dealers who are eager to bring energy efficiency services to their members. Those dealers can help market the program and, in some cases, deliver the energy assessment and weatherization services.
- Working with manufacturers to increase the availability of high-performance equipment. Part of this task involves providing supply houses, service managers and technicians with the training and information needed to bring the equipment into the mainstream. If the 3YP shows the

[1] Another plus for MOHEP was that it targeted the enhanced ARRA-funded incentive to homes that are 60-120 percent of median income.

industry that there will be a sustained, orderly program in place, the industry will respond and the market will be transformed.

- Integrating any oil program with components geared to 1-4 family rental units. Landlords are more likely to keep inefficient systems in operation because of the landlord/tenant split incentive discussed above. We believe that old, inefficient oil-fired systems are likely to be disproportionately found in the rental property segment.

CONCLUDING REMARKS

Mass Energy hopes that these comments will be useful to the EEAC. We have many other concerns that fall into the category of programmatic details that we would be happy to address with Residential Management Committee or another group. Meanwhile, please contact either me or our Associate Director, Amy Vavak, if you have any questions or comments.

Sincerely,

Larry Chretien, Executive Director