

# Memo

**To: Energy Efficiency Advisory Council**  
**From: Eric Belliveau and the Consultant Team**  
**Date: February 5, 2015**  
**Subject: EEAC Consultant Team Proposed 2015 Work Plan and Budget Request**

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## SUMMARY

### Context

The Consultant Team prepared this Work Plan under a range of assumptions, contexts, and projections regarding Council and PA activities in 2015.

- The Energy Efficiency Advisory Council (Council) has not yet finalized their priorities for 2015
- As the PAs work towards meeting the goals of 2013-2015 Plan, substantial effort will likely be needed on several issues, including the statewide efficiency database, a new multifamily initiative, improving customer access to programs, and pursuing deeper savings
- Additional effort will be required on the new Three-Year Plan 2016-2018
- Recommendations being generated as a result of the EEAC process assessment conducted by Raab Associates and CBI may affect how the Council, the PAs, and the Consultants work together to advance energy efficiency in Massachusetts

### Strategy for this Work Plan

The factors listed above contribute to some uncertainty in the role and objectives for the Consultant Team in 2015. As a result, this Work Plan presents a range of tasks in which we have varying levels of confidence regarding priority, scope, and appropriate allocation of resources; the corresponding high-level budget for the year is also subject to some uncertainty. We fully expect that the content and focus of our work may change in the second half of the year, depending on various processes, including workshops, DPU direction, and Council priorities. Therefore, we anticipate revisiting this Work Plan in mid-year in order to better focus the Consultant Team's efforts on changes to the Council's needs and objectives. In particular, more data and insights about priorities and next steps, including those resulting from the workshops and the April draft of the third Three-Year Plan, will help direct our efforts in the latter portion of the year.

As in the past, our work is divided into several functional groups, representing the major areas of effort across the entire range of Consultant responsibilities and portfolio of PA programs. Within each, several work areas further clarify the tasks and topics that we plan to address over the coming year.

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## EVALUATION, MEASUREMENT, AND VERIFICATION

### Context

EM&V is a critical engine both for the EEAC Consultant Team and for the Commonwealth as a whole, providing objective and fact-driven results that help to ensure the reliability of savings claims, improve existing programs and support the development of new ones, and lay a solid foundation for developing the next Three-Year Plan.

The 2009 Council resolution that established the Commonwealth's current EM&V framework assigns substantial responsibilities to the Council's Consultant. Working on the Council's behalf, the Consultant is charged with overseeing every phase of the EM&V process, including evaluation planning, contractor procurement, study implementation, reporting and outreach, and application of study results. While the Consultant must work closely and collaboratively with the PAs, the resolution specifies that if consensus cannot be reached between the PAs and the Council Consultant, decision-making authority (subject to a system of appeals) rests with the Consultant as the Council's agent.

Since the establishment of the current EM&V framework in 2009, the Commonwealth's EM&V program has grown by leaps and bounds. The overall scope of the EM&V program has increased roughly four-fold since 2009. Significant efforts were made in 2013-2014 to systematize the EM&V planning, reporting, and outreach process in order to strengthen the feedback loop and enhance the ultimate usefulness of study results.

## **Objective**

The preceding context helps to explain why all of our Team's tasks are driven by a single overarching objective: to enhance and ensure the objectivity, accuracy, timeliness, and usefulness of PA-administered EM&V activities on behalf of the Council, as specified in the 2009 EEAC EM&V Resolution.

Our specific priorities in pursuing this objective in 2015 include the following.

- Continuing to strengthen the feedback loop between EM&V and the policy, planning, and program administration functions, by further improving the EM&V planning process, communication with stakeholders, and the dissemination of study results
- Developing a 2016-2018 EM&V Plan to be included with the 2016-2018 Three-Year Plans.
- Providing a solid foundation of factual results to support the development of the next Three-Year Plan
- Ensuring that savings claims remain reliable in the face of ever-increasing pressures on the PAs to meet savings goals
- Continuing to build on several recently-established key research initiatives, including top-down econometric research into overall net program impacts; data-mining efforts to provide useful insights into program outcomes, customer bases, and supply-side populations; and market effects studies to assess the overall effects of programs on the structure and functioning of target markets.

## **Overall Structure**

### **Timeline**

Most EM&V functions are ongoing throughout the year. Under the overall 2013-2014 EM&V Plan submitted to the Council in October 2013, studies were deliberately staggered to start and end at a wide range of times ranging from late 2013 through mid-2015. Many of the studies in the 2013-2014 EM&V Plan have now been completed or are nearing completion, but in the last quarter of 2014 a number of new studies were added to advance existing research agendas, address stakeholder information needs, or follow-up on recently completed studies. As a result, the overall EM&V study portfolio remains in a roughly steady state. This means that the Consultants' involvement in most core EM&V functions is expected to continue through 2015. In addition, developing a 2016-2018 Evaluation Plan, based on the completed 2016-2018 Three-Year Plan, will be an important work area for the last quarter of the year.

### **Deliverables**

Because the 2009 EM&V Resolution specifies that EM&V in Massachusetts is a fully collaborative effort between the PAs and the Council's agents, many work products are developed jointly by the PAs and the Consultants. Work products can therefore be divided into two primary categories: those for which the Consultants have sole responsibility, and those that are the joint responsibility of the PAs and the Consultants. Joint work products generally include final reports, webinars, strategic evaluation plans, project-specific evaluation plans, and detailed

quarterly status reports showing progress on all in-progress studies. Consultant-only deliverables generally include presentations to the Council, monthly activity reports, and briefings for individual Councilors (whether by phone, in person, or by e-mail).

### **Work Area: Planning**

This task includes overseeing the development of both overall strategic EM&V plans and detailed plans for individual EM&V projects.

- Strategic EM&V plans encompass the development of long-term research priorities, overall research strategies, and allocation of resources.
- Planning for individual EM&V projects focuses on establishing research objectives, determining data collection and analysis activities, setting budgets, assigning contractor staff, and laying out project schedules. Individual EM&V projects typically go through three planning stages, each progressively more specific and detailed, before they reach the study implementation phase.

#### **Deliverables**

Consultant-only deliverables include Council presentations, monthly activity reports, and briefings. Joint Consultant/PA work products include project-specific evaluation plans, overall strategic evaluation plans, and monthly status reports.

### **Work Area: Study Implementation**

This task involves overseeing the implementation of individual EM&V studies once they have completed the planning stage. EM&V study implementation can include a wide range of data collection and analysis activities, the specific nature of which varies by type of study. At any one time there are typically 40 to 60 EM&V studies in progress, divided between the three primary research areas of Residential, Non-Residential and Cross-Cutting. Each study can have as many as eight stages from draft scope to survey instruments to draft and final reports.

#### **Deliverables**

Consultant-only deliverables include Council presentations, monthly activity reports and briefings. Joint Consultant/PA work products include interim reports, webinars, and monthly status reports.

### **Work Area: Reporting**

This task involves overseeing the development and dissemination of interim and final reports on EM&V studies. Final EM&V reports in Massachusetts generally need to go through multiple drafts, as various stakeholders provide comments that must be processed collaboratively. This task also encompasses overseeing the incorporation of impact evaluation results into the TRM.

#### **Deliverables**

Consultant-only deliverables include Council presentations, monthly activity reports and briefings. Joint Consultant/PA work products include final reports, webinars, and monthly status reports.

### **Work Area: Policy Issues**

This task involves advising the Council, individual Councilors and state agencies on EM&V aspects of policy issues. Some examples of EM&V policy issues we anticipate needing to work on in 2015 include the following.

- Provide EM&V support for developing the next Three-Year Plan
- Review and comment on the Penetration, Potential and Program Opportunity studies being developed by the smaller PAs pursuant to direction from the DPU.
- Provide EM&V input to the series of Council workshops on specific topics scheduled for the first quarter of 2015.

- Support EM&V aspects of the overall planning and reporting framework
- Monitor and address issues related to EM&V protocols and the role of the Northeast EM&V Forum

### **Deliverables**

Monthly activity reports, Council presentations and briefings.

### **Work Area: Council and Stakeholder Engagement**

This task includes working with the Council, individual Councilors, and stakeholders, both to incorporate their input into EM&V plans and reports and to brief them on study results through presentations and other forms of outreach.

### **Deliverables**

Council and stakeholder engagement may take the form of in-person presentations, webinars, or one-on-one briefings by phone or e-mail, as needed.

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## **PLANNING & ANALYSIS**

### **Context**

Our work in the area of planning and analysis is primarily focused on several important outcomes.

- Supporting the development and review of the 2016-2018 Three-Year Plans, which will be a major Council activity during 2015
- Providing technical support for the development of a strategic vision for the future, in order to identify and implement crucial adjustments to the energy efficiency picture in Massachusetts
- Planning ahead to ensure effective program and portfolio performance and the achievement of high goals in the 2016-2018 Three-Year Plans
- Supporting the Council in its efforts to scope and build the statewide efficiency database

To work towards and facilitate these outcomes, we will work in the four major planning and analysis areas described below.

### **Work Area: Participate in EEAC Meetings; Brief and Support the Council**

#### **Objective**

Provide the Council with up-to-date information, analysis, and recommendations that help Councilors understand issues and facilitate decision making.

#### **Rationale**

The monthly Council meeting is the one place where all Councilors meet and consider new ideas, review Plan progress, and plan for the future. It is an effective and efficient way of communicating and generating a feedback loop that conveys the Consultants' activities and provides Councilors the opportunity to provide direction, responses to questions, and comment on findings. Communicating during the monthly Council meeting is also a practical reality considering the size of the Council and the requirements of open meeting law.

#### **Supporting Tasks**

- Prepare for and attend Council meetings (including Executive Committee meetings) to report to the Council on key activities and progress towards achievement of the Council's priorities and to receive direction and feedback on Consultant Team tasks and work products
- Provide independent technical support in advance of and during Council and Executive

Committee meetings on all areas of energy efficiency planning, progress towards achieving the goals, policy development, program design and implementation, and reporting and tracking of results, including progress towards the 2015 and 2013-2015 Three-Year Plan goals.

- Provide individual briefings to Councilors on a rotating basis with a goal of talking to each Councilor at least four times per year.
- Provide regular monthly reports to the Council on all activities in which the Consultants engage
- Assist with providing orientation for new Councilors.

### **Deliverables**

This task's deliverables include monthly reports, memos with supporting analysis, individual briefings, and Council meeting attendance and presentations.

## **Work Area: Develop Input and Recommendations for the 2016-2018 Three-Year Plan**

### **Objective**

Provide the Council with the requisite information and analysis to fulfil its statutory assignment of reviewing and approving the proposed 2016-2018 Three-Year Plans.

### **Rationale**

During 2015 the PAs must develop the third statewide electric and gas Three-Year Plans, covering 2016 through 2018. The Council will be participating in developing and reviewing the Plans. The PAs must submit draft Plans for Council review in April and final Plans to both the EEAC and the DPU in October for formal review and approval. On behalf of the Council, we expect to review and analyze up to three iterations of the Plan prepared by the PAs during 2015.

We also understand that the Council desires a collaborative process for developing the Three-Year Plans, including goal-setting and the relationship between the Plans and longer-term goals including the Commonwealth's energy and environmental policies. Therefore, we will work with the Council, individual voting Councilors, workshop participants, and the PAs to get input and feedback and to seek outcomes that are developed collaboratively and have broad support of voting Councilors. Much of the initial feedback will come from either the stakeholder workshops on program topics tentatively scheduled for January through March, or from the review and discussion of "cross-cutting" topics during full Council meetings. In the case of the cross-cutting topics, we will provide documentation or briefing materials that set the context and provide recommendations on potential Council actions. We will take our direction from the Executive Committee and the Council at large in terms of how best to address any deliverables for the planning process.

### **Supporting Tasks**

- Assist the Council in communicating and analyzing its priorities for the next Three-Year Plan, including in the EEAC Priorities document, and in memos and analysis presented to the Council
- Per the requirements in the GCA, assist in conducting an assessment of energy efficiency potential to support the 2016-2018 Plans, including reviewing and updating available potential studies, reviewing and assessing analyses conducted by or on behalf of the PAs, and reviewing other analyses and studies.
- Conduct analyses and present options for 2016-2018 goals, cost-effective savings, benefits, costs, bill impacts, and performance incentives to the Council for its review and consideration, using key indicators
- Engage with the PAs, based on Council direction, regarding proposed 2016-2018 goals, savings, benefits, costs, bill impacts, and performance incentives, to assist the Council in negotiating goals and budgets that meet the Council's priorities and target the achievement of all cost-effective energy efficiency potential
- Identify the best use of and leverage ratepayer funding to deliver high value for ratepayers

- Assist the Council in reviewing draft Plans and key revisions to draft Plans prepared by the PAs
- Support the Council positions on the 2016-2018 Plans, as needed, in regulatory proceedings before the DPU
- Provide orientation sessions with Councilors through webinar and direct discussion to provide background and context for EEAC responsibilities in overseeing the creation of the Three-Year Plan.

### **Deliverables**

Deliverables include analyses, memos, and presentations to the Council on a variety of topics, including the goal setting process, support for term sheet values and categories-assessment of potential memo, recommendations on mechanisms to leverage ratepayer funding, and other topics. We will conduct a Councilor orientation webinar in early February.

### **Work Area: Provide Technical Analysis**

#### **Objective**

Provide the Council with technical support on analysis and studies that directly affect the development and success of the Three-Year Plans, including verifying accomplishments and identifying trends; establishing forecasts, avoided costs, cost-effectiveness, and economics; maintaining an up-to-date Technical Reference Manual; and reviewing and analyzing all PA-submitted reports and data. With respect to this last item, for 2015 the Consultants are incorporating the Work Area that was previously called “Review PA Reports and Data” into this Technical Analysis work area. These two Work Areas were seen as closely linked and often hard to separate.

#### **Rationale**

Several areas of technical effort contribute to the planning, analysis, design, and implementation of efficiency programs in Massachusetts. In addition, there are many external factors and contexts that are relevant, such as the broader energy policy landscape in the Commonwealth and within the ISO-NE region. As a result, the Council requires concise, meaningful, targeted technical information on a variety of topics to support their deliberations and decision-making.

#### **Supporting Tasks**

- Provide technical input to and review of draft work products for the 2015 Regional Avoided Energy Supply Component (AESC) avoided costs study, and participate in the study group meetings with representatives from the six states
- Consider issues in applying the 2015 AESC results for 2016-2018 program years, including analysis of the implications of the new avoided costs on benefits and net benefits for 2016-2018
- Analyze cost-effectiveness screening, assessment of benefits and costs, and application of EM&V results and field experience; propose appropriate improvements for common screening tools
- Contribute to and review ISO-NE efficiency forecasting efforts, ensure the consistent and appropriate treatment of efficiency in the forecast, and review and provide comments on the work of the ISO-NE Energy Efficiency Forecast Working Group
- Provide technical assistance for reporting and tracking of the Three-Year Goals and efficiency impacts for the Clean Energy and Climate Plan (CECP), including impacts of efficiency programs and other efficiency strategies on the 2020 CECP goals.
- Analyze utility bill impacts and the relationship between program costs and efficiency savings experienced by customers through utility bills
- Review, comment on, and contribute to the Technical Reference Manual (TRM)
- Review, analyze, and assess the PAs’ reports and reporting, including the monthly dashboards, quarterly reports, and annual (Plan-Year) reports; review trends and multi-year comparisons; and

- provide Consultant findings and recommendations to the Council
- Use the PA reporting to assess and report to the Council on the status of program achievement towards the 2015 and 2013-2015 Three-Year Plan goals and related topics; identify any data or programmatic trends which portend successes or challenges in program delivery and savings achievement in the early years of the 2016-2018 Three-Year Plan
- Work with the PAs to design and implement further improvements to the PA reports in response to Councilor feedback, including forward-looking projections and enhanced trend comparisons in the reports

### **Deliverables**

Will include analyses, memos, and presentations to the Council, as well as whitepapers or other reports. The consultants will work with the Council to outline work areas and determine the schedule and level of detail of work products not driven by statutory deadlines.

## **Work Area: Support the Council on Regulatory Issues and DPU Proceedings**

### **Objective**

Provide Councilors with information on the wide range of DPU proceedings and regulatory issues relevant to ratepayer-funded energy efficiency programs in the Commonwealth.

### **Rationale**

DPU proceedings progress on a related but somewhat independent schedule from the Council's internal workings and interactions with the PAs, yet can have significant repercussions on how the goals of the enabling legislation and the Three-Year Plans are pursued and on the reporting of Plan goals and achievement of those goals.

### **Supporting Tasks**

Track, monitor, review, summarize, and present to the Council information on all relevant DPU proceedings affecting energy efficiency, as assigned, including but not limited to the following:

- DPU 11-120 Phase II, regarding any revisions to the data requirements and formats for the Plan-Year Reports (possibly arising out of DPU review of the Reports) and/or for the 2013-2015 Performance Term Report.
- DPU 11-120 Phase I, continuing the exploration of how best to determine savings to account for multi-year time horizons and market effects, including the application of EM&V market effects studies and following up on the earlier DPU Order.
- DPU 08-50, related to any revisions to or evolution of the bill impact model, for assessment of bill impacts during 2015 or in preparation for the bill impact analysis for the 2016-2018 Plan.
- DPU 14-05, for the application of the avoided cost values from the 2013 AESC study to the 2013-2015 Plan, potentially including how the application of the 2013 AESC values affect the reporting of benefits in the 2013-2015 Performance Term Report.
- DPU 86, related to the application of values resulting from the ongoing DPU proceeding to establish values for environmental compliance costs.
- DPU 14-141, related to the implementation of the DPU Order on the Energy Efficiency Database.
- DPU 14-87, 12-51 through 12-61, and 13-111 through 13-122, related to implications of DPU Orders on the PAs' 2011 and 2012 Annual Reports and 2013 Plan-Year Reports regarding resolution of past outstanding issues (e.g., NEIs and performance incentives) and also future calculations of savings and other items with future implications.
- DPU 15-XX, regarding proceedings to review the PAs' 2014 Plan-Year Reports

### **Deliverables**

Will vary depending on the level of involvement and Council needs, but may include analysis, memos, and

presentations to the Council, as well as whitepapers or other reports.

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## RESIDENTIAL AND LOW INCOME

### Context

The PAs are counting on—and are expected to achieve—strong results from Residential and Low Income sectors to make up much of the projected shortfall in achieving the 2013-2015 Commercial and Industrial sector goals. In 2015 the Consultants will continue to monitor the PAs' work in producing these strong results while identifying opportunities for continuous improvements and working with the PAs to increase breadth and depth of service to residential and low income customers. This work will include active coordination with the Consultant Team's EM&V members and working to address key EM&V findings through necessary revisions to the PAs' programs. The Consultants will also focus strongly on planning for 2016-2018 program delivery, including supporting the Council in identifying residential and low income priorities for the next Three-Year Plan, assessing proper goals for the residential and low income sectors, identifying enhancements to a robust set of existing program offerings, and assessing additional program approaches to include in the next plan.

The Consultants also expect that the work to support 2016-2018 Plan development could be quite substantial. The Council's plan development work could also result in direction to pursue specific work efforts. As a result, we have identified an initial list of 2015 work area priorities, described below, that we expect to revisit with the Council in late spring.

### Work Area: Multi-family Retrofit

#### Objective

Support creation of a fully integrated and distinct multi-family effort, which the Council's Executive Committee has identified as a 2015 priority.

#### Rationale

While the PAs have made significant progress in recent years in improving integration of residential and C&I energy efficiency services to owners and residents of multifamily buildings, there is still room to improve customer experience and increase savings. The Consultants delivered a presentation on these issues to the Council in August 2014 and submitted a written report in January 2015.

#### Supporting tasks

- Respond to Council inquiries regarding the Consultants' multifamily report
- Support DOER's revision of the Residential Conservation Services statute regulations and guidelines and any resulting changes to the PAs' programs regarding delivered fuels alternatives or other matters
- Work with PAs to implement recommended 2015 program improvements from the Consultants' report
- Participate in and support the stakeholder process recommended in the Consultants' report with the goal of including a revised, fully integrated initiative design in the 2016-2018 Plan

#### Deliverables

- Memo or presentation reporting progress to Council

### Work Area: Home Energy Services

#### Objective

Build on the PAs' success and continue to pursue improvements to the Home Energy Services Initiative by providing quality, comprehensive services to a broad range of customers while increasing the depth of savings.

#### Rationale

The Home Energy Services Initiative (HES), through which customers receive a home energy assessment with recommendations to improve the energy efficiency of their home, is a complex effort presenting a variety of opportunities.

#### **Supporting tasks**

- Work with PAs to assess additional opportunities to serve moderate income (i.e., above low-income threshold) customers, including through expansion of the successful Efficient Neighborhoods+ initiative
- Continue work with PAs on designing a performance-based approach to achieving deeper savings
- Support DOER's revision of the Residential Conservation Services statute regulations and guidelines and any resulting changes to the PAs' programs regarding delivered fuels alternatives or other matters
- Assess opportunities to more fully integrate heating system improvements into the HES initiative
- Determine additional opportunities for increasing major measure close rates
- Continue to assess continuous improvement opportunities for contractor performance and QA/QC

#### **Deliverables**

- Memo or presentation reporting progress to Council

### **Work Area: Residential Products**

#### **Objective**

Support continued achievement of strong savings from residential products.

#### **Rationale**

In 2013, the Program Administrators' (PAs') Residential Products Programs contributed 57 percent of the PAs' annual electric savings (71% lifetime) and 24 percent of the PAs' annual gas savings (35 percent lifetime). The Consultants delivered a presentation on these issues to the Council in August 2014 and submitted a written report in January 2015.

#### **Supporting Tasks**

- Respond to Council inquiries regarding the residential products report
- Work with PAs to implement recommended 2015 program improvements from the Consultants' report
- Work with PAs to incorporate the Consultants' products report recommendations into the 2016-2018 Plan

#### **Deliverables**

- Memo or presentation reporting progress to Council

### **Work Area: Low Income**

#### **Objective**

Identify effective practices from within and outside of Massachusetts and support exchange of that information to benefit all Massachusetts residential and low income programs.

#### **Rationale**

The Low Income Sector is generally considered successful, but has not been a strong focus of the Council in recent years. This work is intended to provide additional insights.

#### **Supporting Tasks**

- Identify low income effective practices
- Assess LIMF opportunities in parallel with other multifamily efforts, in part to respond to strong demand for LIMF funding and services

**Deliverables**

- Memo or presentation reporting progress to Council

**Work Area: Innovation**

**Objective**

Identify new program approaches in 2015 that are applicable for inclusion in the 2016-2018 Plan

**Rationale**

Maintaining Massachusetts’ leadership role in energy efficiency innovations requires ongoing adoption of new approaches. These new approaches are also necessary to contribute to achievement of strong goals.

**Examples of Supporting Tasks**

- Work with PAs to assess home scoring/labeling, drawing on lessons from the HomeMPG pilot and others from across the country
- Work with PAs to develop a “zero net energy” offering as part of the residential new construction initiative
- Work with PAs to incorporate the Consultants’ products report recommendations on WiFi thermostats and home energy management into the 2016-2018 Plan including to support demand response
- Assess new approaches to behavior, including linkages to possible broader customer engagement strategies and platforms

**Deliverables**

- Memo(s) or presentation(s) reporting progress to Council

**Work Area: Develop Input and Recommendations for the 2016-2018 Three-Year Plan**

**Objective**

Provide the Council with the supporting information, briefing materials, and analysis necessary to support the 2016-2018 Three Year Plan. This work includes understanding current program approaches, achievable savings goals, costs to achieve, and program enhancements required to meet goals.

**Rationale**

The Council will need a solid understanding of Plan components and their derivation in order to make the key decisions necessary to bring the planning process to a successful conclusion. The Consultants will work with the Council, individual Councilors, and the PAs to take input and feedback and to seek Three-Year Plan outcomes that are developed jointly and have broad support.

**Supporting Tasks**

As part of this work the Consultants will undertake or contribute to the following tasks:

- Contribute goal-setting and budget information to the Consultants’ Assessment of Potential analysis and report
- Develop recommendations for program organization, approaches, and enhancements
- Review and analyze the PAs’ draft and final proposed plans
- Prepare briefing materials for and participate in stakeholder workshops

- Provide follow up materials, analysis, and recommendations for prioritized workshop topics.

### Deliverables

While not clear at this time, most deliverables for the 2016-2018 Three-Year Plan will be generated jointly by the entire Consultant Team, and may include analysis, memos, presentations, and white paper research.

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## COMMERCIAL AND INDUSTRIAL

### Context

Representing nearly 70% of the portfolio electric goals and 50% of portfolio gas goals, Commercial and Industrial (C&I) programs play a critical role in achieving the Commonwealth's overall energy efficiency goals. In 2014, the second year of the 2013-2015 Energy Efficiency Plan, preliminary results and projections indicate that the PAs collectively achieved 80% of the C&I goals, which will lead to shortfalls in overall portfolio achievement. The Consultants' primary focus in 2015 will be to work with the PAs in providing information and advice to facilitate the achievement of 2013-2015 goals through continuous improvements and innovations. We believe it is important for the PAs to entertain energy saving program ideas at all times and not to wait for the start of the 2016-2018 Plan period to begin their implementation. That said, we intend to provide the Council with the essential information needed to gauge whether the PAs' 2015 performance in C&I can improve on 2013-2014. The Consultants will also contribute to developing appropriate C&I targets for the next Three-Year Plan. A key role the Consultants play is to maintain awareness of the current program offerings in MA and work with PAs to identify and advance practices toward the goal of achieving all cost-effective energy efficiency. Below we have provided our primary objectives to achieve this outcome supported by specific Consultant tasks.

### Work Area: Strategies for Increasing Energy Productivity

#### Objective

Increasing outputs while minimizing energy use makes optimum use of energy. In this context, outputs are defined as the goods and services that result from the use of energy in buildings. In a factory, the output is typically the quantity or volume of units or materials produced, so the relevant metric is energy per unit. In office buildings, the output unit is the productivity of the workers (energy/worker hours); in a hospital, output would be patients served (energy/patient). This approach aligns well with businesses, who often equate reduced energy use with reduced production or productivity, which is detrimental to their business. Claiming savings on the basis of reduced energy use per unit of output means that increased production typically results in increased savings, which is a win for both business and the efficiency programs.

#### Rationale

The goal of efficiency is to provide the same or improved function while using less energy. Traditionally, this has meant retrofitting equipment or upgrading at time of replacement or new construction. Cutting edge efficiency programs are looking at ways to move beyond product-based projects and are employing a variety of new approaches and technologies to optimize energy use as measured by business output or productivity per unit of energy consumed. The following approaches and technologies are proven to be effective in helping to optimize energy use and increase productivity; they are often interrelated.

- **Controls** for building and process systems can save significant energy
- Using **sub-metering** to identify and measure energy consumption at the circuit level is a key to understanding energy savings opportunities in many businesses, as well as opportunities for demand response
- **Retro-commissioning** (RCx) typically identifies many low-cost or no-cost opportunities for savings, but these also have shorter effective lifetimes
- **Behavioral strategies** are also typically low- or no-cost ways to reduced consumption, but may also have lower measure lives.
- **Continuous Energy Improvement** (CEI), also called Strategic Energy Management (SEM), takes a holistic approach to energy savings, incorporating both longer-term investments in capital

projects as well as shorter-term improvements through RCx, operational, and behavioral changes that are enabled by sub-meters and controls.

### Supporting Tasks

The technologies and approaches listed above can be woven into a cohesive philosophy to optimize energy use. In order to provide guidance that could result in one or more new programs or initiatives, or enhancements to existing programs, thus driving increased savings, the Consultants propose the following tasks:

- Develop a complete understanding of any existing PA efforts that may be using these approaches.
- Research and analyze other implementations of energy optimization programs and strategies—both pilot programs and established efforts—including design features, analysis tools, savings calculation methodologies, measure life, and projected cost of savings
- Develop estimates of the potential of the CEI/SEM or sub-initiative approach and scale appropriate for Massachusetts and/or individual PAs.
- Research market actors to identify those that are qualified and prepared to implement energy optimization initiatives or programs in Massachusetts.
- Support the development of requirements or specifications for analysis tools, services, or methodologies.
- Work with the Council and PAs on all of the above efforts to facilitate collaboration on these approaches.

### Deliverables

- Develop at least one memo and/or presentation and related stakeholder briefing documents outlining background of current status, research findings, and program recommendations that include all approaches and technologies above.

## Work Area: Innovation

### Objective

Efficiency programs have made use of other innovative approaches that have proved effective in enabling savings, reducing demand, and supporting market transformation.

### Rationale

The PAs and the Council should consider all effective methods that contribute to achieving the goals of the 2013-2015 Three Year Plan. Several strategies are could be beneficial for Massachusetts..

- **Geotargeting** is the effort to concentrate energy efficiency efforts with a focus on demand savings in specific geographic areas, thus achieving peak demand reductions for specific substations or distribution lines as a means to reliably reduce electric load constraints on the transmission and distribution systems. The alternative, to upgrade the capacity of the distribution system, is typically much more expensive than demand reduction through energy efficiency.
- The **upstream** program approach used successfully in C&I lighting is also a potential strategy for additional markets and technologies, including gas space heating equipment and commercial kitchen equipment. The PAs are already moving to offer upstream incentives for water heating equipment and expect to triple the amount of savings currently captured. Other technologies could see similar potential increases if program spending is moved upstream.
- **Training and education** is an important step in market transformation; training for market actors such as architects, engineers, contractors, and program delivery implementers is necessary to promote the latest energy efficiency information, methods, and practices. In addition, training helps to engage the market actors with the PAs and programs.

### **Supporting Tasks**

For each of these approaches, the Consultants will undertake one or more of the following tasks, as appropriate and as determined through subsequent discussions with the Council and the PAs.

- Document all existing PA efforts using these approaches; identify related market conditions, such as where might there be distribution constraints the potential magnitude of this constraint.
- Work the PAs to identify and summarize the wide of trainings currently being offered, how frequently they are held, and where in Massachusetts are they offered. The goal is to identify gaps in content, timing or geographic location.
- Research and analyze what other states or program administrators have done with respect to geotargeting, upstream approaches, and training and education. This would include identifying other proposed approaches, pilot programs, or established efforts, including design features, savings calculation methodologies, and the cost of savings.

### **Deliverables**

- Memos and/or presentations outlining research findings, initiatives enhancements, or other recommendations and their applicability and scale in Massachusetts.

## **Work Area: Incorporate Feedback from EM&V into the Programs**

### **Objective**

Use the information in the EM&V reports to create a feedback loop to improve the programs.

### **Rationale**

Incorporating the lessons learned from the EM&V reports into the programs should improve the customer experience, increase the realization rate, and justify program costs.

### **Supporting Tasks**

Consultants will review the EM&V reports relevant to the C&I programs and provide feedback and suggestions to the PAs.

### **Deliverables**

- Two memos and/or presentations outlining research findings and recommendations to the Council.

## **Work Area: Comprehensive Segment Strategies**

### **Objective**

Develop or continue to develop formal, comprehensive segment strategies for key market segments such as Healthcare, Small Commercial, and Hospitality, and participate in on-going efforts to support development of strategies for additional segments, such as Commercial Real Estate and Manufacturing.

### **Rationale**

Meeting current and future C&I savings goals will require a statewide approach to segmentation analysis and continued development of customized segment strategies. We would like to work with the PAs to develop target segments for further study. When the segments are defined we will:

### **Supporting Tasks**

- Building on our segmentation effort in 2014, further define and formalize the components of a “Comprehensive Segment Strategy” including but not limited to: segment characterization, barrier analysis, outreach strategies, marketing strategies, incentive strategies, measure strategies, staffing, and segment targets/goals..
- Investigate effective and relevant practices in other regions.

- Support connections between new strategies and approaches as discussed above and market segments, such as the use of RCx in healthcare facilities
- Support the PAs as they work to advance the MOU/SEMP model for the small PAs' largest customers
- Continue to work with the PAs on establishing cross-PA approaches to targeted market sectors

#### **Deliverables**

- Memo and/or presentation outlining research findings and recommendations,.

### **Work Area: Develop Input and Recommendations for the 2016-2018 Three-Year Plan**

#### **Objective**

Provide the Council with the supporting information, briefing materials, and analysis necessary to support the 2016-2018 Three Year Plan. This work includes understanding current program approaches, achievable savings goals, costs to achieve, and program enhancements required to meet goals.

#### **Rationale**

The Council will need a solid understanding of Plan components and their derivation in order to make the key decisions necessary to bring the planning process to a successful conclusion. The Consultants will work with the Council, individual Councilors, and the PAs to take input and feedback and to seek Three-Year Plan outcomes that are developed jointly and have broad support.

#### **Supporting Tasks**

As part of this work the Consultants will undertake or contribute to the following tasks:

- Contribute goal-setting and budget information to the Consultants' Assessment of Potential analysis and report
- Develop recommendations for program organization, approaches, and enhancements
- Review and analyze the PAs' draft and final proposed plans
- Prepare briefing materials for and participate in stakeholder workshops
- Provide follow up materials, analysis, and recommendations for prioritized workshop topics.

#### **Deliverables**

While not clear at this time, most deliverables for the 2016-2018 Three-Year Plan will be generated jointly by the entire Consultant Team, and may include analysis, memos, presentations, and white paper research.

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## **TECHNICAL SERVICES**

### **Work Area: Produce Minutes from all EEAC Meetings**

We will ensure that minutes are collected from all meetings subject to the open meeting law and that these minutes are circulated for comment, corrected, and issued in final form for posting to the EEAC website.

### **Work Area: Website Updates, Revisions, and Maintenance**

With the launch of the EEAC's new website, much of the work in this area will be focused on regular and timely updates of the website, with respect to both content and any changes or expansion in structure or organization identified by the Council.

### **Work Area: Consultant Team Monthly Report**

We will continue to provide DOER and Councilors with a timely and meaningful monthly report.

## **Work Area: Produce the Annual Report to the DPU and Legislature**

In coordination and cooperation with DOER, we will develop the Year 2014 Annual Report. A complete draft report will be submitted to DOER no later than 30 days after the PAs submit their final 2014 Annual Reports, subject to receiving requested input on 2014 project highlights from the PAs. We will coordinate the contributions of the PAs, DOER, and other stakeholders to ensure that the Annual Report reflects the collaborative nature of energy efficiency accomplishments in Massachusetts.

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## **PROPOSED BUDGET**

The table below presents our high-level proposed budget by work area within each of the major Consultant Team functional groups. This budget was developed based on our current understanding of likely Council priorities and projected activities, issues, and work products for 2015. We are prepared to refine this budget proposal in response to more specific guidance from the Council

## EEAC Consultant Team Draft Year 2015 Budget SUMMARY BY WORK AREA

	By Task	Amt.	Hours
Planning & Analysis	Brief and Support the Council, attend meetings	\$128,200	672
	Support the Council on Regulatory Issues & DPU Proceedings	\$75,900	445
	Provide Technical Analysis	\$107,300	630
	Support Three-Year Plan	\$235,056	1,296
	Sub-Total	\$546,456	3,043
Residential	Multi-family Retrofit	\$59,265	364
	Home Energy Services	\$60,535	371
	Residential Products	\$65,260	383
	Innovation	\$29,435	176
	Develop Input and Recommendations for the 2016-2018 Plan	\$39,185	241
	Sub-Total	\$253,680	1,535
C&I	Approaches for Increasing Energy Productivity	\$83,175	480
	Additional Cross-cutting Approaches	\$80,150	465
	Comprehensive Segment Strategies	\$95,650	552
	Develop Input and Recommendations for the 2016-2018 Plan	\$91,370	510
	Sub-Total	\$350,345	2,007
EM&V	EM&V Planning	\$73,010	401
	EM&V Study Implementation	\$70,885	396
	EM&V Reporting	\$65,290	364
	Council and Stakeholder Engagement	\$38,270	218
	EM&V Policy Issues	\$32,249	188
	Sub-Total	\$279,704	1,567
Technical Services	EEAC Meeting Minutes	\$7,665	84
	Website Updates, Revisions & Maintenance	\$46,920	331
	Monthly Consultant Team Report	\$7,440	48
	Year 2014 Annual Report	\$24,475	185
	Sub-Total	\$86,500	648
<b>TOTAL</b>		<b>\$1,516,685</b>	<b>8,800</b>

# EEAC Consultant Team Proposed Year 2015 Budget Detail by Staff and Task

	Staff	Role	Planning & Analysis					Residential						
			Brief and Support the Council, attend meetings	Support the Council on Regulatory Issues & DPU Proceedings	Provide Technical Analysis	Support Three-Year Plan	Multifamily Retrofit	Home Energy Services	Residential Products	Innovation	Develop Input and Recommendations for the 2016-2018 Plan			
Optimal Energy, Inc.	Eric Belliveau	Project Manager	300	123	100	440								
	Eric Belliveau	Travel Time	72	12		36								
	Philip Mesenthal	C&I Core Member				60								
	George Lawrence	C&I Group Coordinator												
	George Lawrence	Travel Time												
	David Bardaglio	Technical Services Group Leader												
	Mike Guerard	Residential Subject Matter Expert												
	April Clodgo	Technical Services Core Member												
	Craig Johnson	Technical Services Core Member												
	Craig Johnson	Travel Time												
	Jeffrey Lofter	Technical Services/C&I Subject Matter Expert	40		120	160	6	6	6	6	6	6	6	6
	Gretchen Calcagni	Planning and Implementation Core Member	40	40	40	60	15	15	20	15	15	15	15	15
	Clifford McDonald/ Matt Socks	Planning and Implementation/C&I Core Members		40	40	40	10	10	12	10	10	10	10	10
	Paul Horowitz	Planning and Implementation Subject Matter Expert		40	40	40								
	Ralph Prahli	EM&V Group Coordinator												
	Ralph Prahli	Travel Time												
	Jeff Schlegel	Planning and Implementation Group Coordinator	180	150	250	420								
	Robert Wirschafter	EM&V Core Member												
	Ellen Zuckerman	Planning and Implementation Core Member	40	40	40	40								
	Lori Lewis	EM&V Core Member												
Carol Lasky	Technical Services Subject Matter Expert													
Anyia Vedimid	Technical Services Subject Matter Expert													
Margaret Lynch	Residential Group Coordinator													
Margaret Lynch	Travel Time													
Jennifer Chiodo	C&I Core Member/EM&V Subject Matter Expert													
Jennifer Chiodo	Travel Time													
Glenn Reed	Residential Core Member													
Glenn Reed	Travel Time													
Jack Davis	C&I Subject Matter Expert													
Courtney Moriarta	Residential Core Member													
Courtney Moriarta	Travel Time													
	<b>LABOR TOTALS</b>		672	445	630	1,296	364	371	383	176	241	241	241	
			\$115,200	\$73,900	\$107,300	\$230,100	\$58,765	\$60,035	\$64,855	\$29,235	\$39,135	\$39,135	\$39,135	
			\$13,000	\$2,000		\$4,956	\$500	\$500	\$405	\$200	\$50	\$50	\$50	
			<b>\$128,200</b>	<b>\$75,900</b>	<b>\$107,300</b>	<b>\$235,056</b>	<b>\$59,265</b>	<b>\$60,535</b>	<b>\$65,260</b>	<b>\$29,435</b>	<b>\$39,185</b>	<b>\$39,185</b>	<b>\$39,185</b>	

Staff		Role	C&I					EM&V				
			Approaches for Increasing Energy Productivity	Additional Cross-cutting Approaches	Comprehensive Segment Strategies	Develop Input and Recommendations for the 2016-2018 Plan	EM&V Planning	EM&V Study Implementation	EM&V Reporting	Council and Stakeholder Engagement	EM&V Policy Issues	
Eric Belliveau		Project Manager			40	40						
Eric Belliveau		Travel Time			7							
Philip Mcsenhal		C&I Core Member		20		75						
George Lawrence		C&I Group Coordinator	225	185	200	200						
George Lawrence		Travel Time	30	30	30	30						
David Bardaglio		Technical Services Group Leader										
Mike Guerard		Residential Subject Matter Expert										
April Clodgo		Technical Services Core Member										
Craig Johnson		Technical Services Core Member										
Craig Johnson		Travel Time										
Craig Johnson		Technical Services/C&I Subject										
Jeffrey Lotter		Matter Expert	10	10	10	10						
Gretchen Calcagni		Planning and Implementation Core Member	70	65	65							
Clifford McDonald/ Matt Socks		Planning and Implementation/C&I Core Members	50	50	50	75						
Paul Horowitz		Planning and Implementation Subject Matter Expert										
Ralph Prah		EM&V Group Coordinator					210	225	210	184	184	
Ralph Prah		Travel Time					6	6	4	4	4	
Ralph Prah		Planning and Implementation Group Coordinator										
Jeff Schlegel		EM&V Core Member					65	50	50	10		
Robert Wirschafter		Planning and Implementation Core Member										
Ellen Zuckerman												
Lori Lewis		EM&V Core Member					60	55	50	10		
Carol Lasky		Technical Services Subject Matter Expert										
Anya Vedmid		Technical Services Subject Matter Expert										
Margaret Lynch		Residential Group Coordinator										
Margaret Lynch		Travel Time										
Jennifer Chiodo		C&I Core Member/EM&V Subject Matter Expert	50	60	70	60	60	60	50	10		
Jennifer Chiodo		Travel Time	20	20	20	20						
Glenn Reed		Residential Core Member										
Glenn Reed		Travel Time										
Jack Davis		C&I Subject Matter Expert	25	25	60							
Courtney Moriarta		Residential Core Member										
Courtney Moriarta		Travel Time										
<b>LABOR TOTALS</b>			480	465	552	510	401	396	364	218	188	
			\$80,175	\$77,950	\$93,450	\$89,925	\$71,010	\$69,885	\$64,290	\$37,270	\$31,620	
			\$3,000	\$2,200	\$2,200	\$1,445	\$2,000	\$1,000	\$1,000	\$1,000	\$629	
			<b>\$83,175</b>	<b>\$80,150</b>	<b>\$95,650</b>	<b>\$91,370</b>	<b>\$73,010</b>	<b>\$70,885</b>	<b>\$65,290</b>	<b>\$38,270</b>	<b>\$32,249</b>	

		Technical Services					Total Hours	TOTAL AMOUNT
Staff	Role	EEAC Meeting Minutes	Website Updates, Revisions & Maintenance	Monthly Consultant Team Report	Year 2014 Annual Report			
	Eric Belliveau	Project Manager			8	1,051	\$210,200	
	Eric Belliveau	Travel Time				127	\$12,700	
	Philip Mosenhal	C&I Core Member				155	\$31,000	
	George Lawrence	C&I Group Coordinator				810	\$149,850	
	George Lawrence	Travel Time				120	\$11,100	
	David Bardaglio	Technical Services Group Leader	180			180	\$33,300	
	Mike Guerard	Residential Subject Matter Expert				45	\$8,325	
	April Clodgo	Technical Services Core Member	72			72	\$6,120	
	Craig Johnson	Technical Services Core Member				60	\$5,700	
	Craig Johnson	Travel Time				24	\$1,140	
	Jeffrey Loiter	Technical Services/C&I Subject Matter Expert		12	30	432	\$79,920	
	Gretchen Calcagni	Planning and Implementation Core Member		36	68	564	\$81,780	
	Clifford McDonald/ Matt Socks	Planning and Implementation/C&I Core Members				397	\$63,520	
	Paul Horowitz	Planning and Implementation Subject Matter Expert				120	\$18,600	
	Ralph Prael	EM&V Group Coordinator				1,013	\$172,210	
	Ralph Prael	Travel Time				24	\$2,040	
	Jeff Schlegel	Planning and Implementation Group Coordinator				1,000	\$170,000	
	Robert Wirschafter	EM&V Core Member				175	\$31,500	
	Ellen Zuckerman	Planning and Implementation Core Member				160	\$16,800	
	Lori Lewis	EM&V Core Member				175	\$34,125	
	Carol Lasky	Technical Services Subject Matter Expert	50		50	100	\$10,000	
	Anya Vedmid	Technical Services Subject Matter Expert	29		29	58	\$4,965	
	Margaret Lynch	Residential Group Coordinator				485	\$77,600	
	Margaret Lynch	Travel Time				45	\$3,600	
	Jennifer Chiodo	C&I Core Member/EM&V Subject Matter Expert				420	\$79,800	
	Jennifer Chiodo	Travel Time				80	\$7,600	
	Glenn Reed	Residential Core Member				450	\$81,000	
	Glenn Reed	Travel Time				20	\$1,800	
	Jack Davis	C&I Subject Matter Expert				110	\$19,250	
	Courtney Moriarta	Residential Core Member				310	\$52,700	
	Courtney Moriarta	Travel Time				18	\$1,530	
	LABOR TOTALS		84	331	48	185	\$1,479,775	
			\$6,840	\$46,920	\$7,440	\$24,475	\$36,910	
			\$925					
		\$7,665	\$46,920	\$7,440	\$24,475		\$1,516,685	

Optimal Energy, Inc.

INDIVIDUALS

AEC

CAHOOTS

Core

CX

EFG

JDM

SRA