

# Memo

To: **Energy Efficiency Advisory Council**  
From: **Eric Belliveau and the Consultant Team**  
Date: **January 15, 2020**  
Subject: **DRAFT - EEAC Consultant Team Proposed September-December 2020 Work Plan and**

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## SUMMARY

### Strategy for this Work Plan

As in the past, our work is divided into several advisory groups, representing the major areas of effort across the entire range of Consultant responsibilities and portfolio of Program Administrator (PA) programs. Within each advisory group, several work areas further clarify the tasks and topics that we plan to address over the coming year. The advisory group leaders worked with representatives from DOER and others to define and present the information included in this work plan. At the point we developed this plan, the EEAC had not yet finalized its priorities for 2020. The consultant team will be updating this plan quarterly during 2020 and to the extent revisions are necessary to accommodate EEAC priorities not covered in the plan, we will do so along the way. In each section below, the Consultants worked to make sure known EEAC priorities are embedded in our plan. For this work plan, we have included a separate deliverables section as well as a timeline of when these deliverables are expected to be completed. As in the past, we provide details on deliverables but note that we retain flexibility to respond to the Council and as other topics/issues arise. The Consultant Team's contract begins January 2020 and the budget described in this work plan reflects a 12-month period through December 2020. Most of the work plan tasks and deliverables will be concentrated over of this same time period.

At a high level, the Consultant Team expects much of its focus to continue to be on supporting and guiding implementation of the numerous new elements included in the PAs' Plan, many of which ramp up in 2020. These elements include active demand reduction (ADR), energy optimization/fuel switching, an MMBtu savings metric, the residential program redesign, passive house, and strategic energy management, workforce development, among others. Also, the Team will begin preparing for the 2022-2024 planning process. Although this process will not kick-off in earnest until later this fall, engaging with the PAs on strategic planning, coordinating on potential study scopes of work, and Council briefing documents will be important tasks in the process of creating a successful 2022-2024 Three-Year Plan.

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## PLANNING & ANALYSIS

### Context

Our work in the area of planning and analysis will focus on several important Council support activities. These include:

- Supporting the Council in its efforts to ensure effective program and portfolio performance and to achieve the 2019-2021 Three-Year Plan goals. This includes providing guidance related to new elements in the Plan.

- Aiding the Council as it begins the process of outlining key elements of the 2022-2024 Three-Year Plan.
- Ensuring that the Council is effective in the performing its responsibilities, and that Council processes are informative, effective, and efficient
- Providing technical analysis to support the development and implementation of a strategic vision for the future, in order to identify opportunities and implement crucial adjustments to the energy efficiency picture in Massachusetts

To work towards and facilitate these outcomes, we will work in the four major planning and analysis areas described below. To the extent a task comes up that is not explicitly or fully listed in this plan, the Consultant Team will establish a scope and budget for its execution.

## Work Areas

### PARTICIPATE IN EEAC MEETINGS, BRIEF AND SUPPORT THE COUNCIL

- Prepare for and attend all EEAC meetings and Executive Committee meetings as directed.
- Provide independent technical support in advance of and during Council and Executive Committee meetings for all areas of energy efficiency and demand reduction planning, policy development, technical and economic analysis (cost-effectiveness), program design and implementation, and tracking and monitoring of progress towards achieving the 2020 goals. **This includes a variety of deliverables including emails, spreadsheets, memos and presentations.**
- Propose, support, prepare, and **provide (when assigned) briefing documents**, informal pre-meeting informational sessions or webinars on priority topics identified by the Council in its meeting/topics schedule.
- Provide individual briefings to Councilors on a rotating basis with a goal of talking to each Councilor at their desired frequency.
- Assist with providing orientation for new(er) Councilors. This includes in-person meetings, review and edit of the councilor handbook and any other historical information the new councilor may need.
- **Complete a document** defining the Consultant Team's roles and responsibilities for supporting the EEAC.

### TECHNICAL ANALYSIS

- Complete a memo on lessons learned from the 2019-2021 planning process. Lessons learned were presented to the Council at the December 2019 meeting.
- Support planning and analysis for implementation of 2019-2021 Plan; review and analyze results
  - Review and analyze available information to guide implementation, evaluation, and reporting of new elements in the Plan such as ADR, energy optimization/fuel switching, KPIs, the residential program redesign, and strategic energy management, among others.
    - Review Cape Light Compact's plan and cost-effectiveness screening for Cape & Vineyard Electrification Offering (CVEO).
    - Reviewing and commenting on results of the PA MMBtu study.
  - Review, analyze, and assess the PAs' reports and reporting, including the monthly dashboards and quarterly reports. Review trends and multi-year comparisons, review reporting on new elements of the Plan, and provide Consultant findings and recommendations to the Council. **This task includes presentations to the Council throughout the year.**
  - Use the PA reporting to assess and report to the Council on the status of program

achievement towards the 2019 and 2019-2021 Three-Year Plan goals and related topics. Identify and assess any data or programmatic trends which portend successes or challenges in program delivery and savings. **This may take the form of presentations and/or memos.**

- Identify reporting improvement opportunities
  - Work with the PAs and the Council to design and implement further improvements to the PA reports, quarterly and otherwise, in response to Councilor feedback, including forward-looking projections and enhanced trend comparisons in the reports. This includes continuing to refine and clarify quarterly Key Performance Indicator (KPI) data.
  - Review Mass Save Data and recent revisions and provide feedback to the PAs. Provide input on future revisions and additions. Task includes ongoing discussions and **written suggestions on potential changes.**
  
- Support cost-effectiveness screening, benefits analysis, and EM&V activities
  - Provide technical input to and review of draft work products for the additions or supplements to the Regional Avoided Energy Supply Component (AESC) avoided costs study and participate in the study group meetings with the PAs (and potentially with representatives from the participating states) in the period between official AESC studies, e.g., GWSA carbon valuation, winter benefits and resiliency, etc. Task includes review of past studies, participation in study group, and written and analysis output as needed.
  - Provide technical input to and review of draft work products for the study to quantify benefits associated with winter peak capacity reduction including winter resiliency. The Team will help ensure that the study results will be aligned with and compatible with the 2018 AESC.
  - Analyze cost-effectiveness screening, assessment of benefits and costs, and application of EM&V results and field experience; propose appropriate improvements for cost-effectiveness analysis and common screening tools. **Task includes a memo reviewing current tools and suggestions for synthesis among MA PA tools.**
  - Review, comment on, and contribute to the electronic Technical Reference Manual (eTRM). This is still an evolving process and the Consultant Team will assess what is needed as more information becomes available. Early review indicates a significant level of work is needed to properly understand the data input changes to the BCR models and their relationship to the eTRM.
  
- Coordinate strategic planning
  - Coordinate strategic planning efforts with the PAs through the more regular meeting of the Planning and Analysis Group (PAG). This group provides a forum to discuss long term strategic planning issues that may not be part of the current plan. Examples of this in 2022-2024 are C&I lighting, demand programs, and residential retrofit. This is separate from the implementation teams' approach to the issues.
  
- Support initiation of 2021-2022 planning process
  - Plan for and begin developing briefing documents on key topics for discussion and issues that may impact planning
    - Collaborate with PAs to define their role in developing briefing documents
  - Assist with planning for and scheduling stakeholder workshops.
  - Review potential study scopes of work, timelines, methodologies, and draft results.
  
- Contribute to other state and regional planning and analysis efforts
  - 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. Task includes participation in the working group and close coordination with DOER and **reporting to the Council on outcomes and for interim decisions that determine key project direction.**

- Provide technical assistance for reporting and tracking the Three-Year Goals and energy efficiency impacts for the Clean Energy and Climate Plan (CECP), including impacts of efficiency programs and other efficiency strategies on the 2020 CECP goals. **Task includes memos and/or presentations to the Council as needed.**

#### **SUPPORT THE COUNCIL ON REGULATORY ISSUES AND DPU PROCEEDINGS**

- Track, monitor, review, summarize, and present to the Council information on all relevant DPU proceedings affecting energy efficiency and demand reduction programs, as assigned.
- Support additional proceedings that the Council wishes the Consultants to cover including grid modernization and performance-based ratemaking as they relate to the continued delivery of the Three-Year Plan.

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## **ACTIVE DEMAND**

### **Context**

The PAs' 2019-2021 Plan included statewide active demand reduction offerings for the first time. In 2019, much of the active demand focus has been on transitioning from active demand demonstrations to implementing statewide offerings at scale. During the third quarter of 2019 the PAs implemented the approved active demand offerings, which include residential direct load control, C&I interruptible load curtailment. The PAs have also been implementing a Daily Dispatch storage offer, per the 2019-2021 DPU Order. In 2020, the Active Demand Group will focus on monitoring and tracking daily dispatch demonstration results and supporting the PAs in getting to offering approved by the DPU. We will also work on supporting program offerings getting in the field this summer and will monitor what has already been done. Last, we will also work with the PAs on strategic planning for active demand offerings in the 2022-2024 Plan.

### **Work Areas**

#### **PLANNING, TECHNICAL, ANALYTICAL, AND STRATEGIC SUPPORT FOR IMPLEMENTATION OF THE 2019-2021 PLAN**

- Review and analyze available information to guide implementation, evaluation, and reporting of ADR elements of the Plan including daily dispatch.
  - ADR supporting tasks will include:
    - Reengage the Demand Reduction Working Group with the PAs for a two-part discussion on the 2019 ADR results (programs and demonstrations) and the planned efforts for the summer of 2020, including for storage offerings.
    - Support the PAs with identifying lessons learned from the daily dispatch demonstrations and with getting approval from the DPU to implement storage initiatives.
    - Monitor and review the winter 2019-2020 demand management efforts.
    - Coordinate with the Residential and Commercial and Industrial (C&I) teams to ensure fully integrated program delivery of ADR and EE in the programs.
    - Track and participate in winter benefits study including reviewing results.

#### **IDENTIFY AND REVIEW NEW OPPORTUNITIES AND EM&V IMPACTS**

- Complete the review of the EM&V results of 2019 efforts, review plan and evaluations for 2020 offerings.
- Coordinate with the PAs on gas demand reductions opportunities and potential benefits, which

may include impacts on electric prices.

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## RESIDENTIAL AND INCOME ELIGIBLE

### Context

Residential programs were a significant focus during the 2019-2021 planning period and will continue to be so for the Consultant Team in 2020. The PAs' ability to claim comparatively inexpensive savings from lighting in their residential—and to a lesser extent—income eligible programs will be significantly reduced in the 2019-2021. However, the Plan includes increased emphasis on residential active demand management, strategic electrification—particularly heat pumps—increasing conversions through facilitated services, energy optimization education for customers, Passive House, and serving all customers. In all, the Plan includes a large set of PA commitments to enhance the residential and income eligible programs. Much of the Residential and Income Eligible Consultants' work in 2020 will be focused on collaborating with the PAs on how these enhancements will be implemented, and tracking, assessing, and reporting to the EEAC on progress in doing so. At the same time, we will be continuing to identify and bring forward opportunities to the PAs and to the EEAC for realizing an integrated, state-of-art residential program in Massachusetts that fully capitalizes on the most advanced technologies and practices that the market has to offer. The white paper our team published at the end of 2019—["Mass Save® 2019 Residential Program Review: Opportunities and Recommendations for 2020 and Beyond"](#)—will serve as the framework for our work this year.

### Work Areas

#### PLANNING, TECHNICAL, ANALYTICAL, AND STRATEGIC SUPPORT FOR IMPLEMENTATION OF THE 2019-2021 PLAN

- Track, provide input on, and report on PA progress towards meeting 2019-2021 Plan commitments related to four major areas: energy optimization, active demand management, evolution of customer approaches and improved customer experience, and underserved customers, including:
  - Providing customer education on heating system options across all residential program offers
  - Meeting heat pump unit goals from the 2019-2021 Term Sheet
  - Expanding residential and implementing income eligible active demand management offers to increase demand savings and shift peak loads
  - Increasing conversions through the Residential Coordinated Delivery initiative
  - Increasing participation and savings by renters, moderate income customers, and limited English proficiency customers
- Support PA efforts to achieve Residential Sector Plan commitments and Council priorities by identifying best and effective practices and other information in the four areas noted above including:
  - Use of data to improve customer engagement
  - Quality installation of heat pumps and other HVAC equipment to achieve full realization of savings
  - Integration of active demand management and renewables into traditional energy efficiency program offers
- Identify state of the art strategic innovations for residential and income eligible program designs, practices, measures, and data management in the four areas noted above
- Continue work with PAs and LEAN to address findings, outputs, and recommendations of Multifamily Census and Low Income Process Evaluation with a focus on program marketing strategies, electronic data collection, and equity

- Review and analyze residential and income eligible information and data in the PAs' monthly data dashboards, quarterly reports, **and periodic reporting on relevant indicators and other term sheet commitments**. Use data to identify trends, successes and challenges, and PA differences and to commence 2022-2024 planning work
- Work with relevant Council members, LEAN, and other stakeholder groups to inform approaches to achieving PA commitments and Council priorities, including energy optimization and underserved customers (e.g., Municipal and Community Partnership Strategy)
- Support DOER and the Council's priorities and efforts, in particular regarding residential active demand management and storage, fuel switching and strategic electrification, Residential Conservation Services, and scorecards
- Begin work for the 2022-2024 plan, supporting the EEAC's planning process as appropriate

#### **PARTICIPATE IN RESIDENTIAL MANAGEMENT COMMITTEE AND COUNCIL MEETINGS**

- Participate in RMC meetings twice per month, with a focus on discussing progress and providing support to PA efforts to achieve their commitments. A schedule of focused topics for discussion will be developed with the RMC in January.
- Participate in Council meetings with a residential and income eligible focus, **including preparing meeting materials as appropriate, reviewing PA draft presentations, and briefing Councilors**. Anticipated topics for 2020 include general updates on the income eligible and residential programs, results of the non-participation study, and progress in better serving the multifamily market segment.

#### **COORDINATE WITH EM&V EFFORTS**

- Provide direction and guidance in study planning to ensure necessary data are collected, and useful data are reported
- Review final studies and reports, with a focus on ensuring PA implementation of study recommendations
  - Support EM&V Group in developing a presentation on non-participation study results; assess recommendations and work with PAs on implementation changes to address them

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## **COMMERCIAL AND INDUSTRIAL**

### **Context**

The Commercial and Industrial sector has experienced several evolutionary changes as markets have transformed, technology has advanced, and evaluation practices have been updated. The lighting market is rapidly changing over to LED products, and away from fluorescent and high intensity discharge options, as LEDs become less expensive and more readily available in all forms. The challenge for the Massachusetts programs is to drive the market towards the most efficient options available, while including controls, in order to maximize savings in the 2019-2021 Plan period. The Program Administrators will need to focus on engaging with customers to complete custom CHP, HVAC and manufacturing projects in order to sustain significant savings. This engagement will require ongoing and stronger partnerships with market actors such as the architects, engineers, contractors, and distributors in Massachusetts and neighboring states. In particular, there is the opportunity for increased focus on the use of controls on new equipment, retro-commissioning and updating the controls for existing equipment and claiming savings from operational and behavioral savings. Some of the operational and behavioral savings can be driven using strategic energy management, and some could be driven by demand reduction efforts. There are also several new focus areas in the 2019-2021 Three Year Plan. Energy Optimization is not well defined with respect to the C&I market, so putting it into practice will require close monitoring to prevent unintended consequences. In addition, demand response and active demand reduction should be well integrated with the efficiency programs to leverage mutually supporting results in order to achieve goals.

## Work Areas

The C&I Consultant Team anticipates a continuation of work in a few key areas of activity:

### TECHNICAL SUPPORT FOR PROGRAM STRATEGIES AND SEGMENTATION

- Analyze historic and current program performance to identify trends, opportunities, and deficiencies, including:
  - Small Business/Turnkey Initiative participation, savings, and comprehensiveness
  - New construction program improvements, including performance-based design, zero net energy, and Passive House
  - Strategic energy management (SEM) pilot recruiting, implementation, and program results (including traditional project savings resulting from SEM participation)
  - Lighting and lighting controls, including lighting transition planning and street lighting
  - Custom HVAC projects including average project savings size and retro-commissioning savings, and energy management system savings.
  - Newly launched Equipment System Performance Optimization (ESPO) program for prescriptive controls savings
  - Manufacturing custom process customer participation and savings
  - Technical assistance and training for contractors and distributors, especially with respect to lighting and HVAC controls
  - Combined Heat and Power savings and project size, including support for alternative fuel systems
  - Demand and storage program performance
  - Energy Optimization and fuel switching, including air and ground-source heat pumps and variable refrigerant flow (VRF) systems
  - Workforce development issues relevant to C&I building operations and maintenance

### IDENTIFY AND REVIEW NEW TECHNOLOGIES

- Identify new or underperforming technologies/measures
- Advise on new technologies and the potential for savings and integration into the programs by working with the Massachusetts Technology Assessment Committee
- Track trends in measure adoption to identify opportunities for changes and improvements to the programs to encourage either a systems or multi-measure approach.
- Advise on implementation strategies to help adoption of underperforming technologies.
- Collaborate with PAs to identify eligible Energy Management System opportunities

### PARTICIPATE IN CIMC, COUNCIL AND OTHER RELEVANT CALLS AND MEETINGS

- Facilitate the Open Agenda period of biweekly CIMC meetings
- Assist ongoing C&I stakeholder engagement discussions
- **Prepare and deliver presentations for the CIMC**
- **Report on the impact of CIMC discussions to the Council**
- Participate in C&I focused EEAC meetings, **including preparing meeting materials as appropriate, reviewing PA draft presentations, and briefing Councilors.** Much of the content for the meeting will be drawn from the lighting whitepaper.

## COORDINATE WITH EM&V EFFORTS

- Provide direction and guidance in the planning of EM&V studies to ensure necessary data is collected, useful data is reported, and the Council can be confident in reported savings values
- **Provide comments on draft reports to improve the quality of the work product**
- Review studies and reports, and follow up with the PAs to determine if recommendations from evaluations are being incorporated into the programs
- Participate in the implementation of the Baseline Framework including the establishment of the mutually agreed upon baselines, and dual baselines process and protocols
- Participate in ongoing discussions between PA implementers and EM&V team on efficiency opportunities and regulatory requirements for cannabis growing facilities
- **Produce memos or presentations as requested by the Council**

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## EVALUATION, MEASUREMENT, AND VERIFICATION

### Context

Our work in the area of Evaluation, Measurement, and Verification (EM&V) continues to be shaped by the requirements of the 2009 Council resolution that established the Commonwealth's current EM&V framework, which assigns substantial responsibilities to the Council Consultants. Working on the Council's behalf, we are 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 we 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 Council Consultant as the Council's agent.

The high-level EM&V research agenda for the current program cycle was established through the 2019-2021 Strategic Evaluation Plan (SEP), which was developed in late 2018. However, the SEP laid out specific studies to be performed only through 2019, so planning of additional new studies will be an ongoing activity in 2020.

Specific EM&V research objectives in 2020 include:

- Overseeing completion of the studies laid out in the SEP.
- Completing and reporting on tailored evaluations begun in 2019 that address participation levels and unaddressed barriers for potentially underserved groups, including renters, moderate income, non-English speaking households, and small business customers.
- Continuing to refine approaches to evaluate active demand response initiatives.
- Building a mature framework for savings claims from market effects and the promulgation of new codes and standards provisions.
- Evaluating newer initiatives, including Energy Optimization and Strategic Energy Management (SEM).
- Working with the PAs on EM&V aspects of the required potential savings studies as part of the planning process for the 2022-2024 Plan.
- Developing additional studies as needed to support the evolution of programs, policies, and markets.

Our ability to cover the entire portfolio of EM&V studies depends on available funding. If available funds are not sufficient to cover all studies, we will work with DOER and the Council to determine the specific studies to be covered.

## Work Areas

### OVERSEE EM&V PLANNING

- Plan new EM&V studies as needed to support impact reporting, program planning and implementation, and policymaking. Planning for individual EM&V projects focuses on refining research objectives, determining data collection and analysis activities, setting budgets, assigning contractor staff, and laying out project schedules. In order to ensure consensus and maximize opportunities for stakeholder input, the planning process for individual studies includes three separate planning stages from the time a study is conceived to the time it is implemented.

### OVERSEE EM&V STUDY IMPLEMENTATION

- Oversee the implementation of individual EM&V studies once they have completed the detailed 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. Each study can have as many as eight stages from draft scope to survey instruments to draft and final reports.

### OVERSEE EM&V REPORTING

- Oversee 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 work area also encompasses overseeing the incorporation of impact evaluation results into the eTRM.

### COUNCIL AND STAKEHOLDER ENGAGEMENT

- Work 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. We plan to give one overall presentation on EM&V issues to the Council during this contract period.

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## TECHNICAL SERVICES

### Context

The Technical Services team is responsible for a variety of administrative tasks that support the Council's information sharing through the website including production of the Annual Report to the Legislature. These tasks are described in more detail below.

### Work Areas

#### PRODUCE MINUTES FROM ALL EEAC MEETINGS

- **Ensure meeting minutes are collected from all EEAC and EEAC Executive Committee 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. We note that for budgeting purposes, the minute taking will be included in the "Council Meetings" budget category.

#### WEBSITE UPDATES, REVISIONS, AND MAINTENANCE

- **Regular and timely updates of the website content.**
- **Make changes or expansions in structure or organization of the website that were identified by the Council.**

#### CONSULTANT TEAM QUARTERLY REPORTS AND WORK PLANS

- Provided timely and meaningful report of Consultant Team activities. **The Consultant Team will produce activity reports on a quarterly basis.**
- In 2020, the Consultant Team will also be developing quarterly work plans. These plans will act as an update to this annual work plan as well as provide more granularity around anticipated

tasks and deliverables as the year progresses.

### THREE YEAR PLANNING

As previously stated, initial steps in the 2022-2024 planning process will begin in 2020. Since all advisory groups will be involved in these efforts, we've provided the table below to summarize the planning process activities and deliverables we expect to occur in 2020.

Activity/Milestone	Description	Deliverables	Timeframe
<b>Planning Workshop Briefing Documents (not including current budget spending)</b>	Research and analysis of several topics relevant to 2019-2021 planning	Memos on each individual topic, as well as summary documents covering key topics for discussion and issues that may impact planning	Jul-February 2020-2021
<b>Stakeholder Workshops</b>	Workshops on planning topics will be held	Assist the facilitator by adding to the workshop summary content two weeks after the last workshop	Jul-February 2020-2021
<b>Review of PA Potential Studies</b>	Consultant Team review and assessment of results of PA potential studies	Memo on analysis of potential studies results and methodologies and recommendations for use in plan development	Oct-Jan 2020-2021

### KNOWN DELIVERABLES

As previously noted, it has been helpful in previous years to we retain flexibility to respond to the Council and as other topics/issues arise. However, there are also many known deliverables we intend to complete in 2020. The sections below provide details on those known work products. We expect that schedules may change over time and will provided an updated list of known deliverables in each of the Consultant Team's quarterly work plans.

Month	Category	Topic	Description	Advisory Group(s)
<b>January</b>	Memo	2020 Work Plan	Describes Consultant Team tasks, deliverables, and budget for 2020	All
	Presentation	2020 Work Plan	Summarizes Consultant Team tasks and deliverables for 2020	All
	Memo	Residential Program Design	Started in December 2019, this memo provides the Consultant Team's recommendations regarding remaining residential program opportunities and suggested metrics measuring success	Residential

<b>February</b>	Tracking Spreadsheet	EM&V Status Update	A spreadsheet summarizing the status of current and planning EM&V studies	EM&V
	Memo	Energy Management Systems (EMS)	Memo clarifying appropriate baseline considerations for Energy Management Systems	C&I EM&V
	Memo	Consultant Team Quarterly Report	Report on Consultant Team activities for Q4 of 2019.	All
<b>March</b>	Presentation	PA Q3 Report	Observations on KPIs, PA differences, areas PAs not on track to meet goals or council priorities	P&A Residential C&I
	Presentation	Non-participant studies	Results of the non-participant studies conducted in response to language in the 2019-2021 term sheets	EM&V
<b>April</b>	Presentation	Residential Program Design	Summarizes recommendations and suggested metrics for residential program opportunity memo completed in January	Residential
	Memo	Consultant Team Quarterly Report	Report on Consultant Team activities for Q1 of 2020.	All
<b>May</b>	Tracking Spreadsheet	EM&V Status Update	A spreadsheet summarizing the status of current and planning EM&V studies	EM&V
<b>June</b>	Presentation	Q1 Report	Observations on KPIs, PA differences, areas PAs not on track to meet goals or council priorities	P&A Residential C&I
<b>July</b>				
<b>August</b>	Tracking Spreadsheet	EM&V Status Update	A spreadsheet summarizing the status of current and planning EM&V studies	EM&V
	Memo	Consultant Team Quarterly Report	Report on Consultant Team activities for Q2 of 2020.	All

<b>September</b>				
<b>October</b>				
<b>November</b>	Tracking Spreadsheet	EM&V Status Update	A spreadsheet summarizing the status of current and planning EM&V studies	EM&V
	Memo	Consultant Team Quarterly Report	Report on Consultant Team activities for Q1 of 2020.	All
<b>December</b>				

## PROPOSED BUDGET

	Staff	Role	Strategic Planning	Planning & Implementation	Oversight of EM&V	Coordinate Technical Services	Total Hours	
Optimal Energy, Inc.	Eric Belliveau	Principal in Charge	450	250	50	100	850	
	Gretchen Calcagni	Project Manager and Technical Services Lead	350	450	50	200	1,050	
	Phil Mosenthal	SME: Codes and Standards, Policy	40	40			80	
	Matt Socks	SME: AESC Study, Potential Studies, TRM	350	75			425	
	Mark Kravatz	SME: Low Income/Healthy Housing	80	80			160	
	Elizabeth Chant	SME: Low Income/Equity	80	80			160	
	George Lawrence	C&I Core Member	75	75			150	
	Adam Jacobs	C&I Lead	500	300			800	
	Senior Analyst	Senior Analytic Support	50	100		50	200	
	Analyst	Analyst Support	50	100		50	200	
	April Clodgo	Contract Administrator & Technical Services Core Member				100	100	
Individuals	Jeff Schlegel	SME: Active Demand, Avoided Cost study, ISO issues, Policy	150	100			250	
	Caroline Hazard	Residential and Low Income Core Member	100	100			200	
	Ralph Prael	EM&V Lead			975		975	
	Bob Wirtshafter	EM&V Core Member			200		200	
	Michael Rufo	SME: GHG strategies, Distributed Energy Resources, CA best practices	45	45	30		120	
	Other Consultants (TBD)	SME TBD if necessary (average projected rates)	20	20			40	
AEC	Lori Lewis	EM&V Core Member			180		180	
Cahool	Carol Lasky	SME: Website and Graphic Design				70	70	
	Design Support	SME: Website and Graphic Design				75	75	
CEI	Margaret Lynch	Residential and Low Income Lead	400	250			650	
CX	Jennifer Chiodo	C&I Core Member and EM&V Core Member	200	160	190		550	
EFG	Glenn Reed	Residential and Low Income Core Member	125	150			275	
	Anna Sommer	SME: Planning and Analysis	50	50			100	
	Dan Mellinger	SME: Lighting	50	25			75	
SP	Sean Becker	SME: Energy Storage and ADR	100	80			180	
LABOR TOTALS			Hours	3,265	2,530	1,675	645	8,115
			Amount	\$620,765	\$476,040	\$328,400	\$96,375	
Travel			\$15,000	\$15,000	\$5,000	\$1,000		
DIRECT COSTS TOTAL			\$15,000	\$15,000	\$5,000	\$1,000		
TOTALS			\$635,765	\$491,040	\$333,400	\$97,375	\$1,557,580	