

APPENDIX E: C&I Roadmap of Further Actions

1. MA C&I Lost Opportunity Workplan

Preamble

The design framework of C&I Lost Opportunity Program is described in detail in the Plan. This includes the principle that the most cost effective savings in new construction is achieved at the time investment design decisions are being made while the opportunity exists to maximize high performance equipment and energy systems. Moreover, the program recognizes that better buildings stem from the early application of design and technical assistance, incentives, and commissioning. This basic framework has been developed and honed over time and has proven to provide the most efficient and flexible vehicle to address customer business requirements and Program Administrator savings and accountability requirements. It is the framework used by virtually all North American energy efficiency programs, regardless of administrative structure or location.

While the framework is sturdy, it will be necessary to make a number of modifications and enhancements to content of the program services within this framework as we move from a budget constrained universe to a full acquisition environment.

The intent of this Appendix is to define the necessary steps and issues that will require resolution, along with appropriate timelines, to move into this new environment. The workplan can be summarized under the following topical areas:

- Integration of formerly individual electric and gas programs into a seamless experience for customers to understand all options available to them for maximizing energy savings in new construction and to have one source that can organize these choices within the building programming that has been identified. This goal has implications for:
 - Marketing and outreach
 - How savings are delivered to customers
- Enhancing go-to-market efforts to adapt and adopt proven practices for:
 - Sales/account management
 - Management of channels/vendors
- Exploring additional mechanisms to assist customers with financing their portion of the project cost and using these strategies to (potentially) leverage greater portions of customer side funding

The Program Administrators goal is to incorporate these enhancements while ensuring other important considerations are not overlooked:

- Importance and central nature of individual Program Administrator goals
- Need to encourage Program Administrator creativity and innovation in niche or geographic markets, while continuing to develop common platform approaches and systems that generate efficiencies and organize the sales and development process to the benefit of customers
- Market differences (demographics, energy rates, etc) and the implications for relative emphasis by individual Program Administrators

Integration – Marketing & Outreach

The Program Administrators will develop a single statewide communication and marketing campaign to ensure consistent messaging. (Individual Program Administrators may supplement with localized or niche marketing.) Other areas that will have a consistent delivery will include:

- Convergence on a single program name or sector approach and marketing and communication materials (companies can co-brand with their individual logos.)
- Product and services teams representing all PA's will translate the offering for customers in the lost opportunity, major renovation, and equipment replacement markets and will determine common prescriptive and custom/comprehensive new construction measures, gas and electric with common incentives and as much as possible organize the program content materials in a way to aid customers in their choices for new building practices. This may be a common format that simplifies program's offerings, eligibility and policies. Streamlining the program design and administration to the benefit of customers will enhance participation and develop a single point of contact that provides a comprehensive whole building approach to energy savings and promotes an integrated architectural and engineering practice.
- Specific Issues to be Addressed:
 - Legal language on applications including terms and conditions
- Above integration should be substantially complete by 1/1/2010

Integration – Delivering Savings to Customers

The Program Administrators will provide seamless delivery of all energy efficiency services to customers. This will ensure ease of access for customers as well as promote comprehensive services. Key features of this objective include:

- Seamless delivery to customers of all applicable services, by a dedicated team of Program Administrator staff with a lead customer contact coordinating all services and experts on a given customer project.
- All common program measures, eligibility criteria, terms and conditions, incentive levels and customer application content similar (exception for any PA

co-branding, which is subservient to overall Energy Efficiency services statewide branding and program name).

- Custom/Comprehensive incentive structure and/or approach for any cost-effective comprehensive measures identified in the design stages, regardless of fuel or Demand Response (“DR”) or Combined Heat & Power (“CHP”) will be determined with customer based on common guiding principals.
- Through a continuous improvement process, individual Program Administrators may “pilot” specific approaches, however in general will follow a consistent approach through consensus of the product and services planning teams
- Coordinated treatment of chain customers and those with facilities in multiple territories that is invisible to the customer (*e.g.*, customer can deal with single project lead who coordinates resource/Program Administrator issues behind the scenes internally).
- Technical Assessment (“TA”) services address all appropriate gas, electric, DR and/or CHP opportunities through one single approach. There will be a single pool of prequalified TA vendors, available to all Program Administrators, but customers can propose their own TA provider or design team if they wish (subject to technical qualification, approval of rates and meeting common standards identified by Program Administrators).
- Single standard customer co-pay offer for TA services, regardless of what EE, DR, DG or gas or electric opportunities are addressed.
- Any coordination or allocation of efforts between a gas and electric Program Administrator must be identified between PAs prior to customer interaction and invisible to the customer. (*i.e.*, a customer works with project lead coordinator, who pulls in the necessary resources from the other fuel company and coordinates internally all program management. Customers will not have to arbitrate any transactions between Program Administrators separately to address their efficiency technical and achievable opportunities in their new facilities.)
- The goal will be to provide the level of overall management and technical support the client needs to smooth the process from project identification to installation completion and final verification and inspection. This “hand-holding” service will do what is necessary to help customers overcome individual barriers to ensure measure installations are performed, administrative and paperwork burdens minimized and program policies are not an impediment. Project management coordination services provided by Program Administrator staff will:
 - Provide customers with vendor/contractor referrals
 - Project manage the use of technical firms to identify solutions to better building practices
 - Advise and assist customers with bid specs, vendor selection, and oversight/quality control.

- Specific Issues to be Addressed:
 - Who has lead responsibility as Program Administrator?
 - How will the transaction be handled seamlessly for the customer
 - What about the customer's preference?
 - How will the cost and savings from TA studies be split?
- Substantial implementation by 1/1/2010

Enhance Go-to-Market Approaches

In addition to marketing outreach, Program Administrators will continue engaging customers through account managers and channel partners (trade allies). Specifically:

- Dedicated service providers and account executives assigned to large customers identified by PAs) to play lead role in on-going business development with customers by:
 - Providing personal contact with appropriate customer staff
 - Building personal relationship focused on long term partnership to provide value re energy services.
 - Understanding customer's business needs and unique barriers and devising strategies to overcome them.
 - Understanding customer's investment and business plans, including timing of product changes, renovations, expansions, etc. Use this knowledge and partner with customer to develop long term master plans for Energy Efficiency upgrades at the time of natural investments in equipment and systems. Continue to track and follow customer over time to ensure that equipment replacement and renovation opportunities are captured when they become available, with long term goal of deep savings over time.
 - Consider performance based incentives to motivate service providers and account executives and encourage innovation. This can be through specific contract metrics if contracted to third parties, or bonus structure within Program Administrator staff.

Program Track Enhancements

As stated above, the Lost Opportunity Program construct is a mature delivery model that is continually improved through enhancements to specialized tracks within the model-prescriptive, custom and comprehensive. The following are strategies and approaches in this market that support the adoption of better performing buildings and institute a delivery model that is grounded in the principle of full design integration that takes into

account the synergies that come from examining a building as a system rather than discrete equipment meeting the lighting and HVAC requirements of building designs.

- Present new construction projects to customers as a package of integrated services and single incentive offering. This should include presenting incentive, and possible financing, information in terms business customers use and understand, including cash flow analysis. Engage customer in understanding financial and other barriers and customize offers to overcome them, while minimizing ratepayers costs.
 - Determine appropriate incentives for packages of measures and system types
 - Issues
 - Historically customers still want choice of al-a-carte
 - Incorporate strategy by 1/1/2010
- Targeted initiatives to maximize penetration in Lost Opportunity markets require additional building out of workplan to address financial constraints and deployment barriers by Program Administrators to adequately develop these sources of increased savings in the new construction markets
 - Office of The Future - addresses energy efficiency opportunities in tenant occupied commercial buildings through a comprehensive package of measures that address lighting, and plug and HVAC loads. The combination of these improvements leads to 25% reduction in building energy use.
 - Advance Buildings – Core Performance - provides design teams with a set of criteria that address better building practices in building envelope, mechanical and lighting systems, energy management system, indoor air quality improvements, and heating and hot water system efficiencies
 - Comprehensive Design Approach - technical services provided to customer design teams to apply an integrated building design approach. This building design assistance maximizes both the technical and achievable potential in new construction and introduces best design and construction practices.
 - Advance Codes and Standards – provides leadership and support to the building codes and standards community with the intent to advance building efficiency and design practices to a higher level

2. MA Large Retrofit Program Workplan

Preamble

The design framework of the Large C&I Retrofit Program is described in detail in the Plan. This basic framework has been developed and honed over time and has proven to provide the most efficient and flexible vehicle to address customer business requirements and Program Administrator savings and accountability requirements. It is the framework used by virtually all North American energy efficiency programs, regardless of administrative structure or location.

While the framework is sturdy, it will be necessary to make a number of modifications and enhancements to content of the program services within this framework as the Program Administrators move from a budget constrained universe to a full acquisition environment.

The intent of this Appendix is to define the necessary steps and issues that will require resolution, along with appropriate timelines, to move into this new environment. The workplan can be summarized under the following topical areas –

- Integration of formerly individual electric and gas programs into a seamless experience for customers, with implications for:
 - Marketing and outreach
 - How we deliver savings to customers
- Enhancing go-to-market efforts to adapt and adopt proven practices for:
 - Sales/account management
 - Management of channels/vendors
- Continuing to enhance program tracks through their lifecycle - early pilot, development, maturity and sunset
- Exploring additional mechanisms to assist customers with financing their portion of the project cost and using these strategies to (potentially) leverage greater portions of customer side funding

The Program Administrators' goal is to incorporate these enhancements while ensuring the Program Administrators don't lose sight of other important considerations:

- Importance and central nature of individual Program Administrator goals
- Need to encourage Program Administrator creativity and innovation in niche or geographic markets, while continuing to develop common platform approaches
- Market differences (demographics, energy rates, etc) and the implications for relative emphasis by individual Program Administrators

Integration – Marketing & Outreach

The Program Administrators will develop a single statewide campaign to ensure consistent messaging. (Individual PAs may supplement with localized or niche marketing.) Other areas that will have a consistent delivery will include:

- Convergence on a single program name and marketing materials (Program Administrators can co-brand with their individual logos.)
- Worksheet teams representing all Program Administrators will determine common Rx measures, gas and electric with common incentives. Single format for program materials with same “look and feel”, organized the same way, single program name, and one customer application for any combination of measures from any fuel. (Again, Program Administrators can co-brand forms individually)
- Specific Issues to be Addressed:
 - Legal language on applications
- Above integration should be substantially complete by 1/1/2010

Integration – Delivering Savings to Customers

The intent here is to provide seamless delivery of all energy efficiency services to customers. This will ensure ease of access for customers as well as promote comprehensive services. Key features of this objective include:

- Seamless delivery to customers of all applicable services, by a dedicated team of Program Administrator staff with a lead customer contact coordinating all services and experts on a given customer project.
- All common Rx measures, eligibility criteria, incentive levels and forms the same (exception for any Program Administrator co-branding, which is subservient to overall Energy Efficiency services statewide branding and program name).
- Custom incentive structure and/or approach for any cost-effective custom measures, regardless of fuel or Demand Response (“DR”) or Combined Heat & Power (“CHP”) will be negotiated with customer based on common guiding principals.
- Through a continuous improvement process, individual Program Administrators may “pilot” specific approaches, however in general will follow a consistent approach through consensus of the worksheet teams
- Coordinated treatment of chain customers and those with facilities in multiple territories that is invisible to the customer (*e.g.*, customer can deal with single project lead who coordinates resource/Program Administrator issues behind the scenes internally).
- Technical assessment (“TA”) services address all appropriate gas, electric, DR and/or CHP opportunities through one-stop-shopping approach. There will be a

single pool of prequalified TA vendors, available to all Program Administrators, but customers can propose their own TA provider if they wish (subject to technical qualification and approval of rates).

- Single standard customer co-pay offer for TA services, regardless of what EE, DR, DG or gas or electric opportunities are addressed.
- Any coordination or allocation of efforts between a gas and electric Program Administrator must be “behind the scenes” and invisible to the customer (*i.e.*, a customer deal with project lead coordinator, who pulls in necessary resources from the other fuel company and coordinates internally, but customer does not have to go to two Program Administrators separately to address all opportunities.)
- The goal will be to provide the level of overall management and technical support the client needs to smooth the process from project identification to installation completion and final verification and inspection. This “hand-holding” service will do all that is necessary to help customer overcome individual barriers to ensure measure installations are done, administrative and paperwork burdens minimized, etc. Project management coordination services provided by Program Administrator staff to:
 - Provide customers with vendor/contractor referrals
 - Advise and assist customers with bid specs, vendor selection, and oversight/quality control.
- Specific Issues to be Addressed:
 - How is “lead” PA determined?
 - How will “lead” manage other entity?
 - What about the customer’s preference?
 - How will TA studies be split?
- Substantial implementation by 1/1/2010

Enhance Go-to-Market Approaches

In addition to marketing outreach, Program Administrators will continue engaging customers through account managers and channel partners (trade allies). Specifically:

- Dedicated Solution Provider/Account Manager individuals assigned to large customers (need definition, at a minimum top 200) to play lead role in on-going business development with customers by:
 - On-going personal contact with appropriate customer staff
 - Building personal relationship focused on long term partnership to provide value re energy services.

- Understanding customer business needs and unique barriers and devising strategies to overcome them.
 - Understanding customer investment and business plans, including timing of product changes, renovations, expansions, etc. Use this knowledge and partner with customer to develop long term master plans for Energy Efficiency upgrades at the time of natural investments in equipment and systems. Continue to track and follow customer over time to ensure opportunities are captured when they become available, with long term goal of deep savings over time.
 - Consider performance based incentives to motivate Solution Provider/Account Managers and encourage innovation. This can be through specific contract metrics if contracted to third parties, or bonus structure within Program Administrator staff.
- Program Administrators will identify ways to modify Project Expediter approach to leverage their efforts to go deeper.
 - Currently Project Expeditors are vendors that focus on single product lines or end uses. Their interest is naturally on making a sale in their specialty, installing it, and moving on. While they provide some good Rx savings, ability for Program Administrators to capture more comprehensive savings in these facilities is limited, and perhaps even reduced under this approach.
 - Program Administrators will explore ways to redesign the contractual relationship with Program Administrators to encourage more comprehensive approach, either by Program Administrator directly, through referrals, through bringing utility staff or TA vendors in, etc.
 - Program Administrator marketing efforts are valuable, but need to be leveraged to capture more opportunities. Solution provider, performance-based model is one option.
 - Redesign approach, train Project Expediter's on it, and institute by 1/1/2011

Program Track Enhancements

As stated above the C&I Retrofit Program construct is a mature delivery model that is continually improved through enhancements to specialized tracks within the model. The following are tracks/strategies which are either in pilot stage or are in development:

- Whole Building Assessment, which addresses “deep” comprehensive retrofit opportunities, needs to be ramped up significantly. Specific quantitative goals for any “deep retrofit” program track or approach will be defined

- While largest projects may take time to be comprehensive, and should build on the long-term solution provider/account manager relationship to develop master energy plans, others will be ripe for deep retrofits at one time.
 - Incentives and services should be structured to encourage and reward comprehensive, multi-end use and multi-fuel projects. (*e.g.*, get more money as share of costs for going deeper). Target should be at least 20-25% whole building savings.
 - Address interactions, and take into account capital cost savings from downsizing and thinking about building as a whole system. Count all resource and non-resource benefits in cost-effectiveness screening and financial presentations to customers.
 - Issues
 - Full building energy audits are costly and historically been unproductive tools to achieve savings without full engagement and buy-in from the customer
 - Value of audit degrades over time if not implemented
 - Determine a goal for number of Whole Building Assessments for 2010
 - Present projects to customers as a package of measures/services and single financial offering. This should include presenting financial information in terms business customers use and understand, including cash flow analysis. Engage customer in understanding financial and other barriers and customize offers to overcome them, while minimizing ratepayer costs.
 - Consider negotiated incentives for packages of measures
 - Issues
 - Historically customers still want choice of al-a-carte
 - Incorporate strategy by 1/1/2010
 - Targeted initiatives to subsectors of specific markets
 - Data centers, hospitality, restaurants, etc.
 - Determine strategy and incorporate into plans
- Retro-commissioning
 - Investigate strategies to make this track cost effective
 - Develop mechanism to accurately count savings
 - Use as leveraging point to both provide RCx services but to also identify and address capital intensive measures.

- Use as mechanism to build long term relationship with customers to ensure that they invest over time in capital measures as appropriate.
- Specific Issues to be Addressed:
 - Studies are very expensive
 - Short measure lives
 - Has not been cost effective
- Continue to pilot, work with associations and other utilities to make this program cost effective
- Focus industrial services on process opportunities
 - Lead project coordinator/solutions provider should bring in experts in the specific industrial process from TA firms. Build credibility with industrial customers and identify opportunities that can provide substantial energy and non-energy benefits to customers.
 - Quantify and communicate all energy and non-energy benefits to customers, and use in cash flow analyses.
 - Target CHP opportunities.
 - Specific Issues to be Addressed:
 - Industrial sector has short payback requirements
 - CHP track issues and strategies defined as a separate document
 - Incorporate CHP by 1/1/2010

Retrofit Performance Lighting

Test cost-effectiveness of Performance Lighting through pilot installations in a variety of space applications in a variety building types and sizes.

Combined Heat and Power Measure Track

The Retrofit Program is expected to be the primary delivery mechanism for CHP, with some systems implemented through the Lost Opportunity Program.

The Program Administrators believe that that customers are best served by offering CHP jointly through the gas and electric programs, rather than through the electric Program Administrators exclusively. With the joint program offer, the gas Program Administrators can offer incentives within territories not served by Program Administrators (such as municipal electric territories). In addition, incentive contributions by gas Program Administrators are expected to have a less negative impact

on gas ratepayers compared to the impact associated with a CHP incentive paid by electric rate-payers.

CHP presents unique challenges in that cost-effective operation--both from the perspective of the customer and the Program Administrator--requires substantial thermal load throughout the year which can be difficult to quantify with a high degree of certainty. In addition, because the capital cost is significant, a relatively small deviation from projections can render a project not cost-effective, and the customer will choose not to operate the system.

The key components of the proposed measure track include:

- Establishing a fixed incentive per kW of installed qualified capacity to provide transparency and simplicity to customers and their vendors. The Program Administrators propose that the incentive be set at \$750/kW.
- Because incentives could be extraordinarily large, in the order of millions of dollars, strategies will be employed to manage the CHP portfolio. Such strategies include:
 - Project caps of \$200,000. The project cap prevents a large individual project from creating a budget disruption, while permitting the smaller projects to proceed with the straightforward \$/kW incentive calculation.
 - Project caps of 33% of installed cost. The installed cost cap ensures that measures, such as a back-pressure turbine, are not over-paid.
 - Projects that bear the potential to exceed the caps will have an incentive negotiated within the framework of the Program Administrators program, in order to ensure that the CHP \$/kWh levels are appropriate.
 - Large projects have a long sales cycle and can be identified as a line item in future year budgets and therefore are subject to approval and planning.
- The proposed system will have a minimum efficiency of 60% for the year 2010 (which may increase in subsequent years), and passes the benefit/cost screening, to ensure that the project is both cost-effective and creates a net environmental benefit. The electric Program Administrator's screening will be the primary means by which a system proposal is evaluated.
- Studies **demonstrating** cost-effectiveness and thermal performance will be required, given recent evaluation results from New York indicating the frequent underperformance of units. Studies will be co-funded by the customer and the participating Program Administrator with a focus on thermal and financial performance. The study will also require a walk-through type identification of other energy efficiency opportunities.
- Customers will be required to implement other available cost-effective energy efficiency measures.

- Systems will require parallel metering of the electric output, the gas input, and the useful thermal output so that actual system performance can be tracked. This metering will support the AEPS calculations.

Go-to-Market Approaches

- The Program Administrators will capitalize upon CHP's unique customer appeal in order to increase the penetration of CHP and engage customers in implementing other cost-effective energy efficiency measures.
- **The Program Administrators will exploit the current customer relationships of Gas Sales to identify customers who have already investigated CHP.**
- **The Program Administrators will mine in-house customer data to identify customers with significant summer gas consumption, which is a marker of CHP potential; SIC code will also be analyzed to identify customer types that have traditionally been good CHP candidates.**
- The Program Administrators will develop customer education material including descriptive material, self-screening tools, and workshops.

Based on a preliminary analysis of the market conditions and CHP lead time, the electric and gas Program Administrators expect to implement 7 to 15 MW of CHP over the three year period, accounting for about 2-5% of reported electric savings. CHP measures are anticipated to account for approximately 2-5% of the Large Retrofit Program incentives budgets. Since CHP operation results in higher gas usage at the facility, it is also expected that negative non-electric resource benefits will reduce the electric benefit by about 20-50%.

Financial Services

The Retrofit Program is a mature program delivery model that is continually improved through track enhancements. The following are tracks which are either in pilot stage or are in development:

- Make on-the-bill (or sundry) financing available to participants in this program. Design financing to provide immediate positive cash flow with floating term, and use as a way to lower cash incentives to meet customers' needs and reduce ratepayer costs.
- Integrate availability of financing into cash flow analyses presented to customers.
- Investigate mechanisms to capitalize on-the-bill (or sundry) financing separate from expensing in the year loaned out thru SBC/EERF.
- Evaluate benefits of on-the-bill versus sundry bill financing
- Specific Issues to be Addressed"
 - Costs/billing systems

- Process for non-utility PA's
- Financing for capital costs versus efficiency
- Allocation of partial payments
- Collections
- Identify features
 - Minimum/maximum
 - Length of term
 - Fees/other charges
 - Secured/unsecured
 - Identify Sectors and sector characteristics
 - Other...
- Identify Funding
 - Alternative structures (capitalization) are outside of this work group
 - Facilitation with third-party banks
 - Performance Contracting
 - Other (stimulus, state tax exempt bonds, etc.)
 - Verify that value to incorporation of on-the-bill financing (vs. sundry billing) can justify expense
 - Cash flow strategy may not work for all sectors
- Investigate other financing options by 1/2011
- Evaluate on-the-bill versus sundry by 1/1/2011

3. *MA C&I Small Business Service Work Plan*

Preamble

The design framework of C&I Small Business Service is described in detail in the Plan. This includes the principle that small business customers are best served by a direct install, turnkey program. This basic framework has been developed and honed over time and has proven to provide the most effective vehicle to address small business customers' requirements and Program Administrator savings and accountability requirements.

Integration of Electric and Gas Retrofit Measures

The Program Administrators believe that customers will benefit from the integration of electric and gas retrofit measures through provision of more comprehensive services while the Program Administrators are able to better leverage the gas and electric energy efficiency programs toward achievement of greater savings over time.

Currently the gas and electric energy efficiency programs are delivered through separate program designs and delivery channels. Over time, the intent is to combine the programs so that a single vendor can provide both gas and electric measures through a direct install turnkey delivery structure.

A number of program issues need to be resolved prior to implementing an integrated electric and gas C&I Small Business Service Program. These include:

- Identification of eligible gas measures and incentive levels: Certain measures are more readily incorporated in to a direct install program because the installation can be completed by the electrician that is currently onsite to install electrical equipment. Examples include:
 - Direct Install Measures
 - Setback Thermostat
 - Hot Water Reset Controls
 - Hood Controls
 - Pre-rinse Spray Valve

Other measures require either a different contractor not currently onsite during the installation of electrical equipment. Examples include:

- Sub-contracted or “Hand Off” to Other Vendor Measures
 - EMS
 - Water Heaters
 - Insulation – pipe, wall, roof
 - Duct Sealing
- Combination gas and electric custom screening tool: custom measures with gas and electric savings will require screening through a gas and electric custom screening tool.
- Negotiations and incentives for direct install contractors, including identifying training needs. Currently the direct install contractors focus on electric energy efficiency measures and will need to be trained to identify and install gas energy efficiency measures. In addition, direct install contractors and the Program Administrators will need to negotiate pricing for the labor and materials to install the gas energy efficiency measures.
- Coordination Between Program Administrators (Gas only PA, Electric only PA, Gas/Electric PA). This includes defining the roles and responsibilities regarding customer intake, service provision (from both a customer perspective and behind-the-scenes PA controls and systems needs) and allocation of project savings

- Identification of eligible customers including establishing eligibility criteria for gas customers and defining a process for a customer eligible for one fuel and ineligible for the other.
- Financing for Gas Measures – on or off bill
- Review the current audit scope to ensure efficient integration and deeper savings opportunities.

The Program Administrators intend to integrate the gas and electric programs no later than January 1, 2011. This would include addressing the above issues as well as piloting solutions in specific regions to test potential approaches and ensure success. The Program Administrators will work together to develop the pilot programs for inclusion in the PA-specific plans due in October 2009.