Agenda – Part II

6. Electric & Gas Residential Programs Overview
7. Multi-Family Program Overview
8. Low-Income Programs Overview
9. Electric & Gas C&I Programs Overview
10. Wrap Up
Residential Electric and Gas Programs 2010-2012

• Strategies Build on Existing Programs
  — Retrofit, lost opportunity, expansion of program incentives, introducing new technologies, multi-family programs, going deeper…
  — Deliver holistic and integrated programs and pilots

Residential Benefits  Costs and Savings

<table>
<thead>
<tr>
<th></th>
<th>Electric</th>
<th>Gas</th>
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</thead>
<tbody>
<tr>
<td>TRC Benefits</td>
<td>$1,849,855,796</td>
<td>$365,822,602</td>
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<tr>
<td>TRC Costs</td>
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<td>Total Annual Savings</td>
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<td>18,014,509</td>
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<tr>
<td></td>
<td>Annual MWH</td>
<td>Annual Therms</td>
</tr>
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</table>
MassSAVE – Residential Conservation Services

Educate Customers to Help Identify and Implement Energy Efficiency

• Upgrades
  — Joint Offering by All PAs
  — One-Stop Shopping

• Energy Audits
  — Screening Visit (CFLs Installed)
  — Diagnostic Visit (Blower Door, IR Scan)

• Upgrades
  — Broader & Deeper, Gas & Electric Integration
    • Insulation, Air Sealing, Heating & Water Heating

• Financial Incentives - 75% up to $2000
  — Heat loan Program
    • 0% Interest Loan, 7 yr, up to $15,000

• Joint Marketing & Outreach
  — Website, Bill Insert, Media Ads, Community Outreach

• 3 yr Enhancements
  — Increase Participation, Deeper Savings
Residential New Construction

Massachusetts New Homes with ENERGY STAR
  — Joint Gas-Electric Offering

• Encourage Construction of energy efficient homes
  — Code Plus to ENERGY STAR III (60% Improvement)

• Financial incentives - 4 levels
  — Single Family $325 to $8000
  — Multi-family $225 to $4000/unit

• Marketing and Education
  — Targeted at Builders & Homeowners
Residential Gas Program

Weatherization

• Maximize thermal efficiency of existing residential buildings
• Complements one-stop-shopping goal of MassSave
• Improvements include: insulation, air sealing, thermostats
• Financial Incentives 75% up to $2000
• Heat loan Program (0% Interest Loan, 7 yr, up to $15,000)
• Three-year goal: increase participation, achieve deeper savings and greater integration
Residential Gas Program

High Efficiency Heating

• Promote the installation of ENERGY STAR-rated high efficiency natural gas space heating equipment

• Overcome market barriers to energy efficient heating equipment and increase program awareness

• Early replacement program

• Implemented jointly through the GasNetworks Collaborative

• Higher Incentives/Rebates

• Marketing Efforts

• Tax Credits (30% up to $1,500 through 2010)
Residential – ENERGY STAR HVAC

Increase Consumer Awareness and Market Share
   – Efficient Central A/C, Heat Pumps
     • GasNetworks® for High Efficiency Furnaces

• Promote Quality Installation

• Incentives
   – High SEER CAC or Heat Pumps
   – Duct Sealing
   – Right Sizing

• Marketing – HVAC Contractors
   – Circuit Riders, Upstream Promotions

• Planned Enhancements
   – Increase Incentives
   – Expanded Contractor Training
Residential Gas Program

ENERGY STAR-Labeled Programmable Thermostat

- Marketing Efforts
  - Retailers including “big box”
  - Direct mail
  - Wholesalers
  - Bill inserts
- Focus on consumer education
- Cross-program integration
- Evaluation
Residential Gas Program

High Efficiency Water Heating

- Focus on water heating (2nd largest user of natural gas)
- Barriers, implementation and marketing all common to the High Efficiency Heating Program
- Recent advances through ENERGY STAR will help raise awareness
- Tax Credits (30% up to $1,500 through 2010)
Residential – Energy Star Appliances & Products

Raise awareness and encourage purchase of ENERGY STAR qualified products

• Incentives through rebates or discounted pricing
  — 2009 Incentives
    ▪ Refrigerators
    ▪ Room Air Conditioners

• Marketing
  — Point of Purchase Displays
  — Media Ads
  — Statewide Website

• 3 yr Enhancements
  — More Products including New Technologies
  — Expanded Retail and Distribution Channels
  — Secondary refrigerator recycle program
  — Community events
Residential – ENERGY STAR Lighting

Increase Consumer Awareness and Use of Efficient Lighting Products

• Incentives through
  – In-Store Coupons
  – Buy Downs
  – Web Based - Catalog Sales

• Promote Proper Disposal

• Marketing
  – Retail Displays, Print/Radio Ads
  – Integrated MA website

• Three-Year Enhancements
  – Adjust to Market/Program Changes
  – Specialty Bulbs
  – Promote LEDs as technology unfolds
Residential – Deep Retrofit 1-4 Family Pilot

**Targeting Significant Upgrades to Existing Homes**
- Super Insulated Walls (Build Out)
- Air Sealing, Ventilation, Windows, HVAC, Solar Thermal and PV

• **Build Upon Results of 2009 Pilot**
  - Assess Results to Enhance Program

• **Incentives – TBD**

• **Marketing – Target More Participants**
  - Home Owners, Remodelers, etc.
Residential Major Renovation Pilot

Encourage Energy Efficient Additions and Renovations

• **Existing Homes (Single/Multi-Family)**
  – Upgrading or Adding > 500 sq ft

• **Recommended Technologies**
  – HVAC Equipment and Install
  – Increased Insulation and Air Sealing
  – Appliances and Lighting

• **Incentives** – up to $2000

• **Marketing** – Builders, Home Shows, Website
Residential – Pay and Save Pilot

Assess Value of On-Bill Financing to Increase Customer Implementation

• 2009 Pilot - Part of GCA
• 0% Interest On-Bill Financing for Residential Customers for up to $500
• Available to MassSAVE Participants
• Help to pay for customer portion of measure installation
• April 1, 2009 to December 31, 2009
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Multi-Family Program Assessment

• Build on success of existing efforts including ENERGY STAR Homes, RCS/MassSAVE Program and GasNetworks

• Collect customer feedback via April workshop
  — Integration of gas & electric services built into the program design
  — Simplified application process & single source for program offerings
  — Elimination of inconsistencies caused by differences in metering

• Create collaborative working group to develop program designs

Model for next generation of integrated program designs
Multi-Family Program Workshop - 4/15 & 4/16

- Determine the sector challenges
  - High-Rise Buildings
  - Low-Rise Buildings
  - Low-Income and Affordable
  - New Construction

- Determine Needs
  - One point of entry
  - Uniform treatment of multi-family sector
  - Coordination across fuels, service territory

- Next steps
  - Recommendations and Workshop Results
  - Develop Scope of Work in collaboration with all PAs
  - Develop project Plans for October 2009 filings.

Continued collaboration towards program development
Treat the Building - Care for the Customer

• Treat the Building
  – Adopt “whole building approach” to energy savings
  – Achieve deeper savings in participating facilities
  – Improve methodology for cost-effectiveness screening to ensure all energy & non-energy benefits are accounted for

• Care for the Customer
  – Consistent messaging in outreach efforts
  – Integration of gas & electric services built into the program design
  – Simplified application process
  – Elimination of inconsistencies caused by differences in metering that occur between customers in the multi-family market sector
  – Single source for program offerings

Goal is to create a “seamless” customer experience
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Electric Statewide Low-Income Programs

- 2010-2012 Initial Statewide Filing Summary
  - Coordinated effort with LEAN
  - Program design through Best Practices Working Group

2010-2012 Electric Low-Income Benefits, Costs and Savings

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<th>Electric</th>
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<tr>
<td>TRC Benefits</td>
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<td>TRC Costs</td>
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<td>Total Annual Savings</td>
<td>82,586 MWH</td>
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Electric Statewide Low-Income Programs

Overall Strategy

• Reach more people and more places
  — Hospitals, unemployment centers
• Consistent/increased income thresholds
• More customers qualify
• Comprehensive whole-house approach
Low Income Residential New Construction

• New Homes with ENERGY STAR Program
  ▪ Drive the market to one in which new homes are moving towards net-zero energy
  ▪ Increased incentive structure for savings

• Multi-Family Statewide Assessment for Low-Income
  ▪ Fuel-blind, meter-blind and integrate sectors with minimal or no co-payment
Residential Low-Income Electric Single-Family Program

• Collaborative program design
  ▪ LEAN, DHCD, Weatherization and Fuel Assistance Program Network
  ▪ Best Practices Working Group
• Program delivery through Network Agency
• Eligibility: 60% of state median income
• Program measures including products and services directly installed with minimal or no co-payment from participating customers
Primary Objective

- To increase energy efficiency and reduce the energy cost burden for low-income customers through education and the installation of energy efficiency measures.

2010-2012 Gas Low-Income Benefits, Costs and Savings

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<td>Total Annual Savings</td>
<td>1,978,401 Annual Therms</td>
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Residential Low-Income Gas Single-Family Program

Collaborative Effort

- Gas Program Administrators have programs that date back to the 1990s
- Best Practices Working Group (BPWG) - Gas PAs, Electric PAs, LEAN, DHCD and the Network make up this group.
- The BPWG works together to review all aspects of program delivery to provide cost-effective and comprehensive services.
Residential Low-Income Gas Single-Family Program

How will the Program address the Council’s Priorities Resolution?

- Seamless Delivery
- Best Practices
- Training
- Quality Control
- Pilot Programs
- To Find Broader and Deeper Savings
  - Address Health and Safety Issues
  - New Technologies
Residential Low-Income Multi-Family Retrofit

Multi-Family Assessment and Program Services Design

• PAs to work with Council consultants and LEAN to perform an assessment of the multi-family program designs

• Participate in multi-family re-design workshops

• For low-income multi-family projects, the assessment will include development of strategies to serve low-income multi-family buildings in a manner that is fuel-blind, seamless, meter-blind, and integrates low-income, residential and commercial programs as appropriate
Agenda – Part II

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C&I Electric and Gas Programs

- Strategies Build on Existing Programs
  - Retrofit, lost opportunity, small business, prescriptive, custom and multi-family programs
  - Deliver large scale energy efficiency, peak demand and renewable energy solutions

2010-2012 Electric and Gas C&I Benefits, Costs and Savings

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<tr>
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<th>Electric</th>
<th>Gas</th>
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<td>Total Annual Savings</td>
<td>1,243,132 Annual MWH</td>
<td>24,745,765 Annual Therms</td>
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C&I Electric and Gas Program Platform

Four principles for maximizing savings:

— **Integrated portfolio of fuel-neutral gas and electric programs**
  - Customers provided with scalable solutions to maximize savings

— **Seamless delivery from customer’s perspective**
  - Consistent messaging and shared outreach
  - Single statewide communications portal—website
  - Account Managers are key players
  - Uniform standards and eligibility

— **Deeper savings achieved through**
  - Innovation
  - Broader choices
  - Targeted sectors

— **Expanded, high quality, trained workforce**
  - Increased internal staffing
  - Increased support resources
  - Consistent program messaging and services
C&I Electric and Gas Program Review

• **Comprehensive solutions lead to increased savings**
  - Build on customer sector initiatives
    - Municipals
    - Whole system and whole building assessment
    - Advance high-performance lighting practices
    - Hybrid/high-efficiency space conditioning, retro-commissioning

• **Accelerate new technology adoption**
  - Next generation lighting – LEDs
  - CHP, water heating, DOE super boiler
  - Technical committee—arbitrator for emerging technologies and practices

• **Savings potential dependent on expanding infrastructure**
  - Trade allies, contractors and suppliers
  - Colleges, universities and trade schools
    - Prepare next generation workforce
    - Collaborate on curriculum development
    - Co-op partnerships
Community Based Initiative

- **Comprehensive Residential and C&I Energy Efficiency Penetration**
  - Neighborhood, city, or town
  - Higher penetration than under traditional delivery

- **Community Engagement**
  - Grass-roots community outreach
  - Understand and address community’s unique needs and characteristics

- **Community Commitment**
  - From recognized leaders—inside and outside of government
  - *For a community to drive a program, it must own it.*

- **Selection of Communities**
  - Competitive solicitation to select communities with greatest potential

- **Subject to Same Cost-Effectiveness Criteria as Other Initiatives**
C&I Electric and Gas Retrofit Program

- **Target Commercial, Industrial, Municipal and Multi-family Sectors**
  - Replace inefficient equipment/systems/practices with high performance options
    - Reduce owners’ operating costs
  - Engage contractors, equipment vendors, specifiers, distributors and manufacturers
  - Technical assistance is prime platform to identify and quantify savings
  - Financial incentives address capital barriers
  - Quality assurance maintains savings integrity

- **Approaches Support Better Building Practices—Gas and Electric**
  - Prequalified prescriptive measures
    - Gas and electric technologies, mechanical end uses
  - Custom measures
    - Support comprehensive integrated gas and electric solutions
C&I Electric and Gas Retrofit Program

• Strategies and Initiatives to Deeper Savings
  – Whole Building Assessment
    ▪ Benchmarking and action plans
    ▪ Systems, building shell, practices, health and safety
  – Municipal Initiative
    ▪ Financing to address capital-constrained
  – Governors Clean Energy Council
    ▪ Promote technical assistance and carbon mitigation
  – Combined Heat and Power (CHP) and Demand Response (DR) deployment

• Joint Program Enhancement and Three-Year Deployment
  – Innovative, statewide marketing
  – Common website
  – Support channel partners
  – Common customer outreach campaigns
  – Account Manager coordination and collaboration
C&I Electric and Gas Retrofit Program

• Technology Advancements
  – Introduce emerging and promising new products and services
    ▪ Advance lighting and controls
    ▪ Gas cooling, heat recovery, commercial kitchens
    ▪ Efficient HVAC equipment and practices
    ▪ Compressed air systems
    ▪ Industrial process improvements

• Large Scale Deployment
  – Build enhanced business relationships and strategic partnerships
    ▪ Architects
    ▪ Engineers
    ▪ Plumbers, suppliers, and installers
    ▪ New energy services firms
C&I Electric and Gas Lost Opportunity Program

• **Target New and Major Renovation Opportunities**
  — Commercial, industrial, municipal and multi-family sectors

• **Provide Design Services Leading to Better Buildings**
  — Integrated design solutions platform for enhanced savings
  — Incentives address capital barriers
  — Commissioning maintains savings integrity

• **Choices Support Better Building Practices**
  — Prequalified prescriptive measures
    ▪ Provides natural gas, electrical and mechanical energy savings opportunities
  — Integrated custom approach optimizes potential through design and construction process
C&I Electric and Gas Lost Opportunity Program

- **Strategies and initiatives supporting better building performance**
  - **Advance Buildings**
    - Identify high-performance energy systems
    - 20—30% energy savings over Massachusetts Energy Code
    - Accepted by US Green Buildings Council
  - **Office of The Future**
    - Address tenant fit-up market
    - 25% better energy performance
    - Improved lighting quality and comfort system performance
  - **Technical Services**
    - Maximize gas/electric integrated savings potential through common studies
  - **Next Generation Planning**
    - *Getting to Fifty* — 50% more efficient than current codes
    - Data centers
    - High-performance laboratories
    - Transition to LED technology
    - Zero-Net Energy buildings
C&I Electric and Gas Small Business Program

- Target Small Business Customers
- Provide Access to Retrofit Services on a Turnkey Basis
  - Direct install or customer selected contractor option
  - Administrative vendor competitively bid
  - Focus on energy-efficient lighting and controls, refrigeration, water heating and space heating, and other potential custom measures
- Strive Towards Consistent Statewide Program and Services
- Audits - Identify Savings Opportunities
- Financial Incentives Reduce Implementation Costs to Customer
  - Low- or no-interest financing options in some cases
- Next Three Years
  - Increase capacity to deliver deeper savings
  - Increase number of contractors
  - Broaden custom measures
  - Integrate delivery
Thank you all for the opportunity to make this presentation.

Today is a momentous day!