Third Quarter 2017 YTD Performance

Presentation by the PAs to the EEAC

December 20, 2017
## 2017 Comparison to 2015 and 2016
Q3 YTD

### Electric

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lifetime MWh</td>
<td>6,782,490</td>
<td>7,684,754</td>
<td>7,592,039</td>
</tr>
<tr>
<td></td>
<td>51%</td>
<td>60%</td>
<td>57%</td>
</tr>
<tr>
<td>Annual MWh</td>
<td>739,952</td>
<td>917,794</td>
<td>974,039</td>
</tr>
<tr>
<td></td>
<td>60%</td>
<td>67%</td>
<td>71%</td>
</tr>
<tr>
<td>Spending</td>
<td>$273,279,967</td>
<td>$343,462,032</td>
<td>$338,843,827</td>
</tr>
<tr>
<td></td>
<td>55%</td>
<td>57%</td>
<td>55%</td>
</tr>
<tr>
<td>Benefits</td>
<td>Did not Report</td>
<td>1,257,106,458</td>
<td>$1,233,528,795</td>
</tr>
<tr>
<td></td>
<td></td>
<td>62%</td>
<td>60%</td>
</tr>
</tbody>
</table>

### Gas

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lifetime therms</td>
<td>195,404,989</td>
<td>234,678,759</td>
<td>202,343,668</td>
</tr>
<tr>
<td></td>
<td>62%</td>
<td>62%</td>
<td>53%</td>
</tr>
<tr>
<td>Annual therms</td>
<td>15,979,206</td>
<td>16,794,560</td>
<td>15,266,603</td>
</tr>
<tr>
<td></td>
<td>65%</td>
<td>60%</td>
<td>54%</td>
</tr>
<tr>
<td>Spending</td>
<td>$96,167,112</td>
<td>$127,816,391</td>
<td>$129,501,263</td>
</tr>
<tr>
<td></td>
<td>55%</td>
<td>59%</td>
<td>58%</td>
</tr>
<tr>
<td>Benefits</td>
<td>Did not Report</td>
<td>$347,578,802</td>
<td>$335,646,967</td>
</tr>
<tr>
<td></td>
<td></td>
<td>64%</td>
<td>62%</td>
</tr>
</tbody>
</table>
Q3 Electric Performance
Statewide Achievements as Percent of 2017
Planned Goal (9/12 Months, 75% of Plan Year)

Participants
- Residential: 84%
- Low-Income: 75%
- Commercial & Industrial: 58%
- Total: 124%

Program Costs
- Residential: 58%
- Low-Income: 57%
- Commercial & Industrial: 50%
- Total: 65%

Benefits
- Residential: 65%
- Low-Income: 77%
- Commercial & Industrial: 54%
- Total: 60%
Statewide Achievements as Percent of 2017 Planned Goal (9/12 Months, 75% of Plan Year)

- Capacity Savings: 108% Residential, 83% Low-Income, 50% Commercial & Industrial, 75% Total
- Annual Energy Savings: 100% Residential, 72% Low-Income, 48% Commercial & Industrial, 71% Total
- Lifetime Energy Savings: 68% Residential, 68% Low-Income, 50% Commercial & Industrial, 57% Total
Electric Cumulative Lifetime Savings

Cumulative Statewide Achievements as Percent of 2016-2018 Planned Goal
(21/36 Months) 58% of Term

Lifetime Savings

Results by Sector

C&I, 65%
LI, 3%
Res, 32%
Electric Cumulative Total Benefits

Cumulative Statewide Achievements as Percent of 2016-2018 Planned Goal (21/36 Months) 58% of Term

Total Benefits

Results by Sector

C&I, 57%

LI, 6%

Res, 36%
Electric Forecasts
Electric 2017 Year End Savings Forecasts

Lifetime Savings

- Residential: 68%
- Low-Income: 68%
- C&I: 50%
- Total: 57%

YTD Projection Range

Goal
Electric 2017 Year End Spending Forecasts

Spending

- Residential: Planned 98%, Projection 89%
- Low-Income: Planned 96%, Projection 51%
- C&I: Planned 96%, Projection 55%
- Total: Planned 96%, Projection 55%

YTD
Q3 Gas Performance
Statewide Achievements as Percent of 2017 Planned Goal (9/12 Months, 75% of Plan Year)

- Participants: 101%
- Program Costs: 69%
- Benefits: 58%

Participants:
- Residential: 101%
- Low-Income: 66%
- Commercial & Industrial: 39%
- Total: 100%

Program Costs:
- Residential: 58%
- Low-Income: 60%
- Commercial & Industrial: 57%
- Total: 69%

Benefits:
- Residential: 69%
- Low-Income: 58%
- Commercial & Industrial: 44%
- Total: 62%
Statewide Achievements as Percent of 2017 Planned Goal (9/12 Months, 75% of Plan Year)

- **Participants**
  - Residential: 101%
  - Low-Income: 66%
  - Commercial & Industrial: 39%
  - Total: 100%

- **Annual Energy Savings**
  - Residential: 62%
  - Low-Income: 60%
  - Commercial & Industrial: 40%
  - Total: 54%

- **Lifetime Energy Savings**
  - Residential: 63%
  - Low-Income: 59%
  - Commercial & Industrial: 41%
  - Total: 53%
Cumulative Statewide Achievements as Percent of 2016-2018 Planned Goal (21/36 Months) 58% of Term

**Lifetime Savings**

- Residential: 58%
- Low-Income: 50%
- C&I: 45%
- Total: 52%

**Results by Sector**

- C&I, 36%
- LI, 10%
- Res, 53%
Cumulative Statewide Achievements as Percent of 2016-2018 Planned Goal
(21/36 Months) 58% of Term

Total Benefits

Residential: 60%
Low-Income: 55%
C&I: 48%
Total: 56%

Results by Sector

Res, 60%
LI, 14%
C&I, 26%
## Greenhouse Gas Reductions

### Three-Year Cumulative Greenhouse Gas Emissions Reductions
(January 1, 2016 through June 30, 2017)
21/36 months; 58% of term complete

<table>
<thead>
<tr>
<th>Sector</th>
<th>Net Annual Energy (MWh)</th>
<th>Net Annual Natural Gas (Therms)</th>
<th>Net Annual Oil (MMBTU)</th>
<th>NOX</th>
<th>SO2</th>
<th>CO2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2016-2018 Planned</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4,151,386</td>
<td>58,446,676</td>
<td>567,471</td>
<td>838</td>
<td>407</td>
<td>2,165,214</td>
</tr>
<tr>
<td>A - Residential</td>
<td>1,767,618</td>
<td>34,900,670</td>
<td>826,732</td>
<td>401</td>
<td>195</td>
<td>1,076,556</td>
</tr>
<tr>
<td>B - Low-Income</td>
<td>120,239</td>
<td>6,193,762</td>
<td>284,777</td>
<td>22</td>
<td>11</td>
<td>106,837</td>
</tr>
<tr>
<td>C - Commercial &amp; Industrial</td>
<td>2,263,529</td>
<td>17,352,244</td>
<td>(544,038)</td>
<td>415</td>
<td>202</td>
<td>981,821</td>
</tr>
<tr>
<td><strong>Cumulative Plan-Term to Date (Q3 2017)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2,548,105</td>
<td>28,993,943</td>
<td>(215,742)</td>
<td>488</td>
<td>237</td>
<td>1,188,280</td>
</tr>
<tr>
<td>A - Residential</td>
<td>1,266,250</td>
<td>16,230,275</td>
<td>36,116</td>
<td>263</td>
<td>128</td>
<td>633,684</td>
</tr>
<tr>
<td>B - Low-Income</td>
<td>75,501</td>
<td>3,162,453</td>
<td>124,950</td>
<td>14</td>
<td>7</td>
<td>58,426</td>
</tr>
<tr>
<td>C - Commercial &amp; Industrial</td>
<td>1,206,355</td>
<td>9,601,215</td>
<td>(376,808)</td>
<td>212</td>
<td>103</td>
<td>496,170</td>
</tr>
<tr>
<td><strong>Cumulative Plan-Term to Date % of Planned</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A - Residential</td>
<td>72%</td>
<td>47%</td>
<td>4%</td>
<td>66%</td>
<td>66%</td>
<td>59%</td>
</tr>
<tr>
<td>B - Low-Income</td>
<td>63%</td>
<td>51%</td>
<td>44%</td>
<td>63%</td>
<td>63%</td>
<td>55%</td>
</tr>
<tr>
<td>C - Commercial &amp; Industrial</td>
<td>53%</td>
<td>55%</td>
<td>69%</td>
<td>51%</td>
<td>51%</td>
<td>51%</td>
</tr>
</tbody>
</table>
Gas Forecasts
Gas 2017 Year End Savings Forecasts

Lifetime Savings

- Residential: 63%
- Low-Income: 59%
- C&I: 41%
- Total: 53%

Goal
Projection Range
YTD
Gas 2017 Year End Spending Forecasts

Spending

- Residential: Planned 91%, Projection 58%
- Low-Income: Planned 100%, Projection 60%
- C&I: Planned 104%, Projection 57%
- Total: Planned 96%, Projection 58%

YTD
Key EEAC Priority Updates from Q3

- PAs presented on small business offerings and turnkey delivery program models.
- PAs presented on their approach to capturing energy efficiency opportunities created during limited window of home renovation or addition, Integrated Community Grant Initiative, High Performance/Zero Energy Workshops, Appliance Standards & Technical Assistance, Mass Landlords Association Partnership among other exploratory projects.
- The Massachusetts Technology Assessment Committee ("MTAC") approved Advanced Oxidation Secondary Pool-Water Disinfection.
- PAs provided data on moderate income and renter initiative KPIs in the Q3 report.
Priority 2: 2019-2021 Planning

Priority 2: 2019-2021 planning: Identify key factors affecting the programs’ ability to maintain high goals and cost-efficient program delivery and explore possible impacts on the 2019-2021 Three Year Plan.

- PA C&I teams held multi-day planning sessions with PAs from across the country for an exchange of best practices ideas, while residential teams engaged in 2019-2021 planning sessions.
- The residential PAs also kicked off Q3 with a full day off-site meeting focused on 2019-2021 planning efforts. Additionally, the first 2019-2021 EEAC Residential Workshop was held on September 26.
- PAs presented on encouraging the transformation of the residential new construction market including implication of the updated User Defined Reference Home (UDRH) baseline.
- PAs and other stakeholders continued to be engaged in ongoing discussions about changes that will affect the 2019-2021 Plan.
Priority 3: Equitable customer participation: Ensure equal access to energy efficiency programs through enhanced delivery models.

- PAs shared information on the multi-family retrofit initiatives including process maps and common measures installed.
- The PAs presented a case study on how a multi-family high rise building interacts with Mass Save.
- The PAs continue to monitor progress of the Renter and Moderate Income offers, and make adjustments as needed; PAs look forward to the final results of the current evaluation and any considerations and recommendations for modifications that would encourage increased customer participation.
Priority 4: Data transparency: Advance transparency, availability and effectiveness of data and information to assess and improve energy efficiency programs.

- PAs held a session walking through the MassSave.com redesign that focused on customers’ interactions with the website.
- The PAs shared monthly data dashboard presentations and reports to the EEAC along with second quarter data and a related presentation.
- The enhancements to MassSaveData.com were discussed in a presentation to the EEAC. New Time Series now allows user to look at quarterly or annual data over time, HEAT Loan data is now available on MSD, and geographic data can be viewed in a map or table.
Priority 5: Identify opportunities for advancing an integrated approach to demand side management for the 2019-2021 Plan, including peak load reduction, integration of distributed resources and planning in a manner that decreases costs, increases resilience and reliability, supports innovation, and improves both the environment and the economy.

- The PAs continue to implement their Demand Response Demonstration Projects, and have been working with various demand response consultants, equipment vendors, installers, and other vendors.

- Passive demand reductions through normal energy efficiency measures achieved 144,195 KW of summer capacity demand savings across the electric portfolio through August 2017 for calendar year 2017. Passive demand reduction occurs every day after installation of energy efficiency equipment, depending on load shape, and does not require customers take additional actions as in peak shaving Demand Response Demonstration Projects.
Thank you