

Massachusetts C&I Evaluation Contract Project Summary: 2017 C&I Customer Profile

Project time frame: October 2018 – April 2019

Program years evaluated: 2011 – 2017

Research Area: Market assessment

High-level study objectives: Analyze, summarize, and reporting on the energy efficiency program tracking data and billed usage data for all C&I gas and electric customers served by the PAs. This project identifies historical trends, their potential drivers, and their future implications for PA customer populations. It also identifies possible future research areas.

Selected new and historical key findings and implications

REPORT KEY FINDINGS	POTENTIAL IMPLICATIONS
<p>1 Electric participation and savings rates decreased for the second year in a row.</p>	<p>As seen in the 2016 CCPS report, if upstream lighting savings continue to decrease, other programs will need to increase substantially to compensate.</p>
<p>2 While savings from non-lighting end uses increased in 2017, upstream and non-upstream lighting savings decreased, contributing to an overall decline in electric savings.</p>	<p>In order to offset lower savings per unit in the lighting market, PAs will need to rely on a balanced mix of controls, weather-sensitive load end uses, and targeted base load end uses.</p>
<p>3 The decline in savings from screw-based LEDs more than offset annual savings increases from linear LEDs in all delivery pathways, resulting in an overall decline in lighting savings.</p>	<p>Upstream lighting is now dependent on LED fixtures, linear LEDs, and controls. The still-immature market for these technologies translates to lower participation and per unit-savings, than the LED screw-in market.</p>
<p>4 The upstream pathway was effective for providing commodity-style HVAC measures, such as unitary systems.</p>	<p>Savings from commodity-type measures sold via the upstream pathway will depend more on volume-based sales compared to more custom, engineering design projects.</p>
<p>5 The 2017 gas participation rates are the highest since 2013.</p>	<p>We are seeing increases from smaller gas customers, largely via the upstream delivery pathway, but new participants are not providing as much savings at the statewide level as seen previously.</p>
<p>6 Custom projects continue to provide substantial electric and gas savings and play a critical role in meeting PAs' savings goals.</p>	<p>Custom projects remained a critical component of the PAs' portfolios in 2017, but to maintain savings goals, PAs must still consider the measure mix and average savings of custom projects.</p>
<p>7 Control measures increased savings for electric and gas projects in 2017, which may indicate growing market adoption.</p>	<p>As baselines move toward more efficient lighting solutions, incorporating lighting controls into all lighting projects provides an opportunity to increase the depth of savings from lighting upgrades, even as baseline efficiencies rise.</p>
<p>8 Small and medium-sized electric accounts have demonstrated improved performance metrics since 2013 through increased depth of savings and increased participation.</p>	<p>These increases correspond to changes in the PAs' marketing practices and to the creation and growth of upstream lighting and HVAC</p>
<p>9 Small gas accounts have realized increased depth of savings, while the performance metrics for medium-sized gas accounts have remained steady.</p>	<p>The upstream pathway was primarily responsible for the increases in small business gas participation; the two largest gas PAs, National Grid and Eversource, were primary beneficiaries of this statewide increase.</p>
<p>10 Three of the largest industry segments—Manufacturing, Healthcare, and Professional Services—showed substantial year-over-year shifts in depth of savings. Drivers of these shifts vary by segment and include large multi-year participants and changing end use mixes.</p>	<p>These findings highlight the importance of understanding industry-specific drivers and trends, and how these can complement or offset one another, impacting the PAs' ability to meet goals</p>

2017 C&I Customer Profile – Base Analysis Report Summary (cont.)

Comprehensive findings, recommendations, considerations, and potential future research matrix

Recommendations, considerations, and potential future research*	
Recommendation 1 (R1)	<i>Add a location-level analysis grain to future CCPS reports.</i>
Recommendation 2 (R2)	<i>Leverage the combination of location-level analyses, energy use, and American Community Survey block group data to identify and quantify opportunities for strategic electrification and fuel switching</i>
Consideration 1 (C1)	<i>Consider investigating the characteristics of non-participants.</i>
Consideration 2 (C2)	<i>Consider modifying the Residential Customer Profile Study's American Community Survey block group analysis to target hard-to-reach small business and municipal customers.</i>
Consideration 3 (C3)	<i>Consider leveraging the C&I database to support PAs' services to chains and franchises.</i>
Consideration 4 (C4)	<i>Consider investigating the procurement preferences (upstream vs. non-upstream) and addressable market for specific measures offered through upstream lighting, HVAC, hot water, and food service programs to inform program planning, and set expectations for these delivery pathways' long-term impact on overall participation rates and savings achieved.</i>
Consideration 5 (C5)	<i>Consider research involving a total benefits assessment of lighting, HVAC, and other controls technologies.</i>

* Recommendation and Consideration numbering links directly to the report.

For full report see: 2017 C&I Customer Profile report on the EEAC website, <http://ma-eeac.org/studies/>