

C1901 COMMERCIAL & INDUSTRIAL (C&I) SECTOR-WIDE (NON-SBEA) PROCESS EVALUATION

Connecticut Energy Efficiency Board
Presentation

June 24, 2021

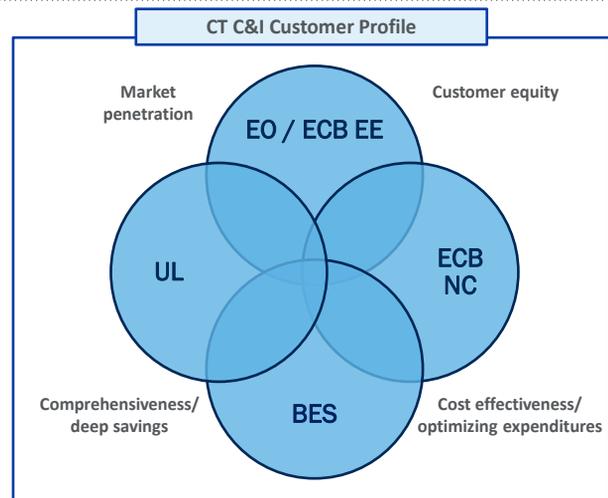


Agenda

- Introduction and Study Approach
- Cross-Program Recommendations
- Program-Specific Recommendations
- C&I Customer Profile
- Q&A

Evaluation Approach

- Process evaluations of the three main non-SBEA C&I programs:
 - Energy Opportunities (EO) (Retrofit; Upstream Lighting)
 - Energy Conscious Blueprint (ECB) (New Construction/Major Renovation; Retrofit)
 - Business Energy Sustainability (BES) (Retro-Commissioning/O&M)
- First process evaluation of Upstream Lighting (UL), a component of EO
- Comprehensive exploration of portfolio-wide topics, as well as program-specific questions
- Development of a Connecticut C&I customer profile covering all C&I accounts



Evaluation Activities

Target Audience/Activity	EO/ECB Existing Equipment	ECB New Construction	Upstream Lighting	Business and Energy Sustainability (BES)
Review of Program Materials/Data	✓	✓	✓	✓
Review of Secondary Data	✓	✓	✓	✓
Utility Staff	2 Group Interviews	2 Group Interviews	2 Group Interviews	2 Group Interviews
Implementer	n/a	Interview (n=1)	n/a	n/a
Trade Allies	Surveys (n=39)	Interviews (n=11)	n/a	Interviews (n=10)
Distributors	n/a	n/a	Interviews (n=10)	n/a
Participants	Surveys (n=69)	Surveys (n=21)	n/a	Interviews (n=15)
Non-Participants	Survey (n=93)			

- Note: C&I customer profiling work included *entire* CT C&I population (i.e., including small customers targeted by the SBEA Program)

LOOKING ACROSS THE NON-SBEA C&I PROGRAMS

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Data Base Improvements are Vital to Implementing Recommendations

- Data acquisition / processing was longest task (over a year)

Key Overarching Data Recommendations

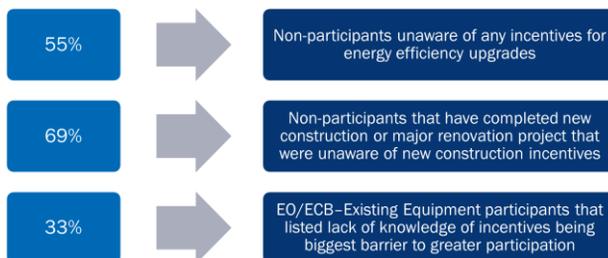
- Develop and provide data dictionaries
- Add or improve coverage of key data fields (see next slide)
- Improve account tracking (linking acct numbers to participation)
- Improve coverage of firmographic information
- Develop database queries with consistency across file structure, content, naming conventions, formatting, measure-level reporting

To implement recommendations that improve savings & facilitate evaluation, add / improve tracking of:

- ✓ Customer email addresses
- ✓ Industry segment
- ✓ Program pathway or initiative for ECB and BES
- ✓ Prescriptive vs. custom measure
- ✓ Comprehensive project (yes/no)
- ✓ Use of financing (yes/no, type of financing)
- ✓ Facility ownership status (tenant vs. owner)
- ✓ Chapter 4 for more detail

Lack of awareness is the main participation barrier

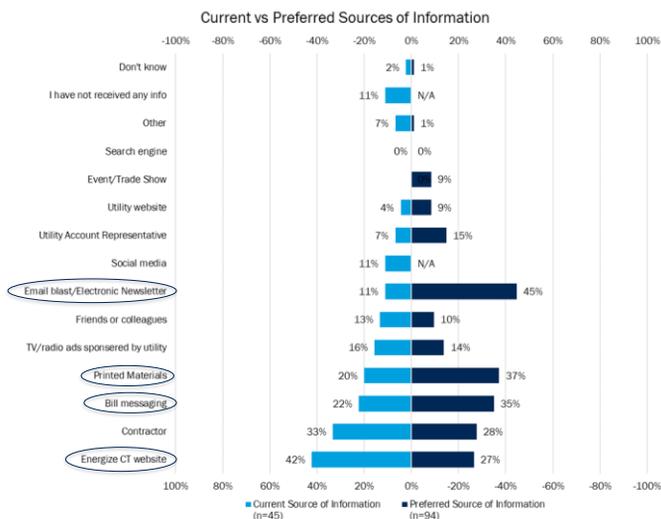
- Main program participation barrier is lack of awareness – program (NPs) & incentives (NP & P)



- After that (participation decision), additional barriers to EE upgrades are:
 - Uncertainty around monetary bill savings
 - Higher cost of energy efficient equipment
 - Lack of awareness of energy efficient options

Use low-cost print and digital to increase awareness

- Customers aware of incentives learned about them most frequently from the Energize CT website (42%) or contractors (33%)
- However, non-participants prefer:
 - Email blasts (45%),
 - Printed materials (37%),
 - Bill messaging (35%)
- Biggest gaps between current and preferred sources were:
 - Email, printed materials, Energize CT website and bill messaging



Source: Nonparticipant (C&I Population) Survey

Once enrolled, customers are satisfied with programs / works smoothly

- Satisfaction is high across all programs / meeting customer expectations for participants & distributors / trade allies
- Satisfaction in-line with similar programs throughout the country
- Some recommendations for improvements provided, but nothing of systematic nature or concern

To get deeper savings, treat customers comprehensively and encourage repeat participation

- Depth and comprehensiveness of savings is a C&I focus.
 - 16-18% of projects are “comprehensive” each year
- Current tiered incentive structure incentivizes customers to target more than one end use in projects.
 - Tiers increase per kWh, kW or CCF incentives for additional end uses included in project
- Repeat participation achieves more comprehensive treatment and deeper savings over time.

Year-over-Year Program Participation

2017 Participation	2018 Participation			Total	2018 Participation	2019 Participation			Total
	EO	ECB	BES			EO	ECB	BES	
EO (n=1,050)	8%	3%	1%	11%	EO (n=899)	7%	4%	2%	10%
ECB (n=664)	6%	6%	2%	11%	ECB (n=489)	4%	6%	1%	9%
BES (n=99)	13%	15%	11%	29%	BES (n=88)	10%	10%	13%	22%

Note: Blue indicates the proportion of customers participating in two adjacent years.

Increasing market penetration requires greater program participation

- Market actors are satisfied; the current C&I portfolio is mature and long running.
- Likely lighting savings decreases will pose challenges in the future.
- Increasing market penetration should focus on three strategies:
 - Increasing customer awareness of rebates and programs
 - More deeply engaging existing participants to facilitate repeat participation
 - Expand focus from primarily large accounts to include smaller accounts (99% of customers, 50% of savings)

Cross-Program Recommendations

- **Recommendation: Use more low-cost, wide-reaching email and/or print campaigns to increase awareness of programs & incentives**
 - Reaches large numbers of customers inexpensively
 - Addresses participation barrier of **lack of awareness of incentives/programs**
 - Entice with honed messages emphasizing **potential energy savings (\$)** and incentives to **offset project costs (\$)**
 - Steer to website for more info; end goal is to have them reach out to TA or utility rep
- **Recommendation: Support this with additional fine-tuning and updating of Energize CT website**
 - Focus on addressing **uncertainty about energy savings, higher costs of energy-efficient equipment, and lack of awareness of available options**
 - Allows utilities to better educate the customer base on less typical measures such as motors, compressors, insulation, appliances, etc.
 - Provide more and more relatable (by segment / size) case studies or calculation examples: show energy savings and project costs

Cross-Program Recommendations

- **Recommendation: Achieve deeper / comprehensive savings with (continuing) focus on repeat participation**
 - Consider expanding definition of comprehensiveness to incorporate participation over time.
 - Consider developing an additional tiered incentive structure based on “customer” or “account” that incentivizes multiple end-uses over time.
- **Recommendation: Continue segmented / strategic delivery strategy but refine by adding other customer attributes than segment**
 - Consider business size and ownership patterns.
- **Recommendation: Use market partners beyond TAs (e.g., capitalize on retailers/distributors to help push EE)**
 - These market partners can also have significant influence on non-participants’ decisions to make energy-efficient equipment upgrades.

PROGRAM-SPECIFIC RESULTS

Program-Specific Recommendations Fall Across Four Key Areas

Recommendations	EO/ECB Existing Equipment	Upstream Lighting	ECB New Construction	Business and Energy Sustainability (BES)
Customer Outreach				
Develop TA materials	✓			
Target design professionals			✓	
Target new customers				✓
Education				
Develop materials on LED benefits		✓		
Provide training on construction and design practices			✓	
Participation Process				
Streamline application process	✓			
Extend installation period		✓		
Increase implementation consistency				✓
Measure Offerings				
Fine-tune measure mix and rebate levels		✓		

EO/ECB Existing Equipment TAs Want More Marketing Support

- Recommendation: Develop, co-brand, and share marketing, promotional, and educational materials that can be used by trade allies to promote the program to their customers.
 - Regularly solicit input from trade allies on their marketing needs.
 - Develop a library of electronic resources that participating trade allies can access
 - Consider conducting events (webinars, annual informational meetings, trainings) with trade allies to make them aware of the program and available resources.
- TAs carry significant responsibility for program promotion and would like marketing materials from the utilities that they can share with customers
 - Currently, only 15% of TAs mentioned including materials with utility or EnergizeCT branding in their promotion activities with customers

Consider Changes to the Upstream Lighting Installation Timeline Requirements

- Recommendation: Consider offering the ability to extend the time to install in unique circumstances
- Distributors mentioned the 60-day installation period as a barrier
 - 60-day installation is a barrier to some larger projects (say distributors)
 - For large construction / major retrofit projects, builders often receive all materials at one time, but installation may occur over time (much more than 30 or 60 days), or even over multiple project phases that can last months

Additional Outreach and Educational Strategies Needed to Increase ECB (NC) Comprehensiveness

- Recommendation: Conduct more outreach specifically to A&E design professionals to ID projects in early planning and design stages and connect with project leads.
- Early involvement in an ECB project is imperative to maximizing savings, comprehensiveness
- Recommendation: Provide training opportunities to increase customer and trade ally understanding of energy efficient building construction and design practices
 - Opportunities include webinars and roundtables focusing on energy-efficient design principles (i.e., ZNE, LEED, etc.) and energy-efficient technologies
- Limited promotion of energy modeling by TAs affects achieving the most comprehensive projects
 - Although energy modeling is required for Paths 1 and 2, only half of interviewed trade allies (5 of 11) reported regularly promoting these services to their ECB customers

Target Frequently Participating Sectors to Bring New Participants into BES

- Recommendation: Expand outreach to new customers
 - Target manufacturing, educational, and hospital facilities that have not yet participated - foundation for current participation
 - Leverage existing utility staff and/or trade ally relationships where possible
 - Create incentives (contests, rewards) for staff that bring in new customers
- BES ecosystem (participant, TAs, utilities, market) is well-developed
 - Long-standing relationships with utility staff
 - TAs rely on repeat business and referrals to develop BES projects

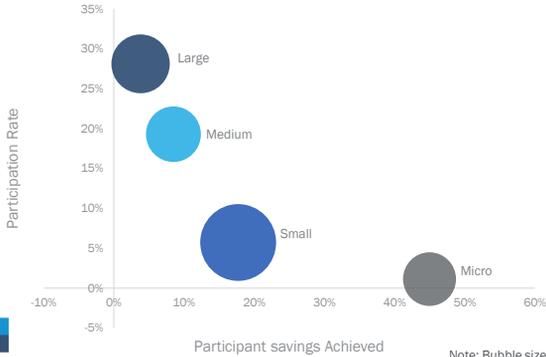
COVERAGE OF THE C&I SECTOR

C&I Customer Profile

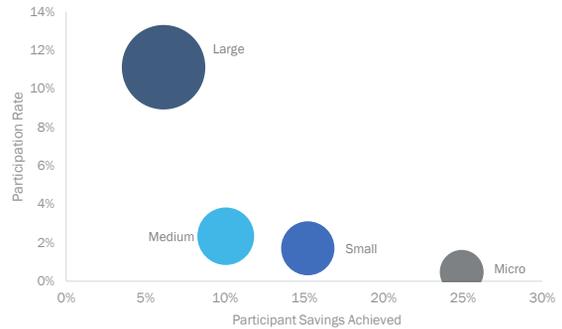
Small and medium businesses offer opportunities for increased participation and depth of savings

- Targeting medium businesses can be challenging.
 - Less prescriptive, require engineering studies that make economics challenging and limit the value proposition for contractors. Deeper savings may require more targeted marketing based on industry segment.

Electric 2019 Participation Rate and Savings Achieved



Gas 2019 Participation Rate and Savings Achieved



Note: Bubble size represents 2019 consumption.

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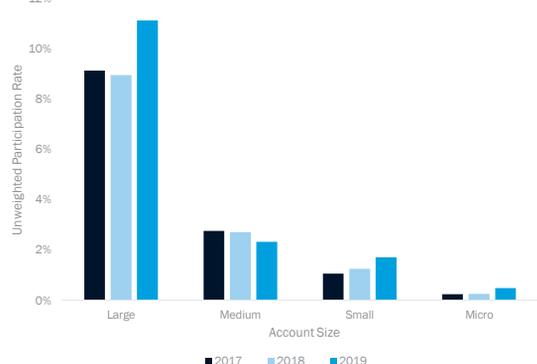
Programs currently target the largest customers

- Comparing participation (consumption-weighted vs. unweighted) shows the utilities targeted the largest of each size group, particularly for gas accounts

Gas Consumption Weighted Participation Rate



Gas Unweighted Participation Rate

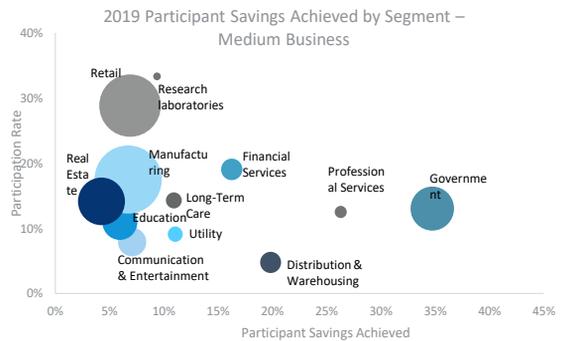
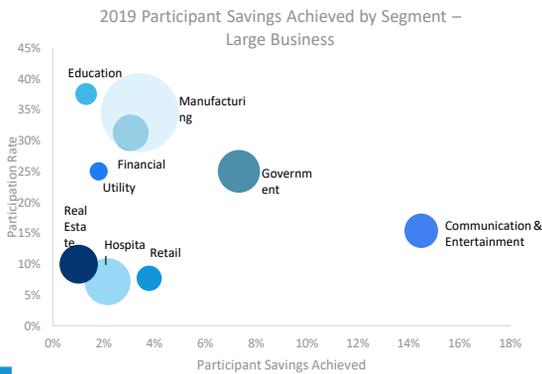


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Performance metrics vary widely by segment for large and medium electric and gas accounts

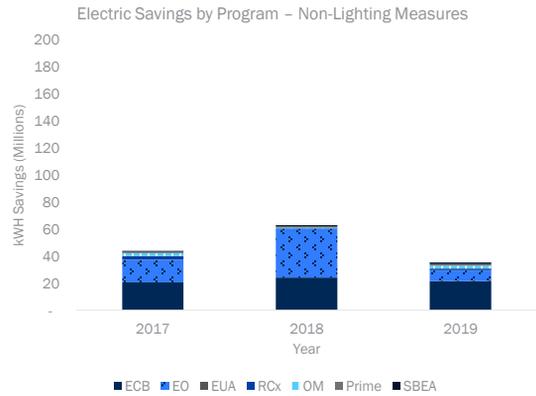
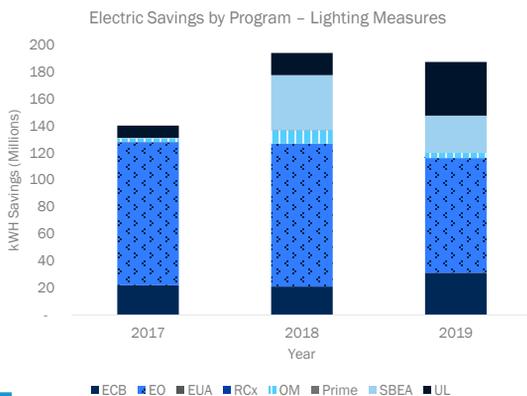
- Combined company size and segment are key program performance determinants
- Composition of firms and energy needs differ between small and medium hospitals, manufacturing, and education



Note: Bubble size represents 2019 kWh consumption; industry segment analysis only reflects Eversource accounts; segment not present in UI data.

Lighting has been central to C&I annual portfolio savings and non-lighting savings has remained flat

- The share of savings from non-lighting projects did not increase between 2017 and 2019.
- The share of accounts that have completed non-lighting projects has decreased for the EO Program most noticeably



Equity in Program Delivery: Service is in proportion to consumption across key communities

- Customers in both distressed and non-distressed and urban and rural communities appear to be being served in proportion to their contribution to consumption

Distressed Communities

- Share of incentives increased from 2017 to 2018 but declined somewhat in 2019.
- Received a slightly higher percent of the total share of savings relative to non-distressed communities than incentives for both electric and gas.

Urban vs. Rural Communities

- Rural proportion of incentives tracks closely with the proportion of accounts, consumption, and savings
- Electric participation rates are generally higher than gas participation rates
- Little difference in rural versus urban participation rates

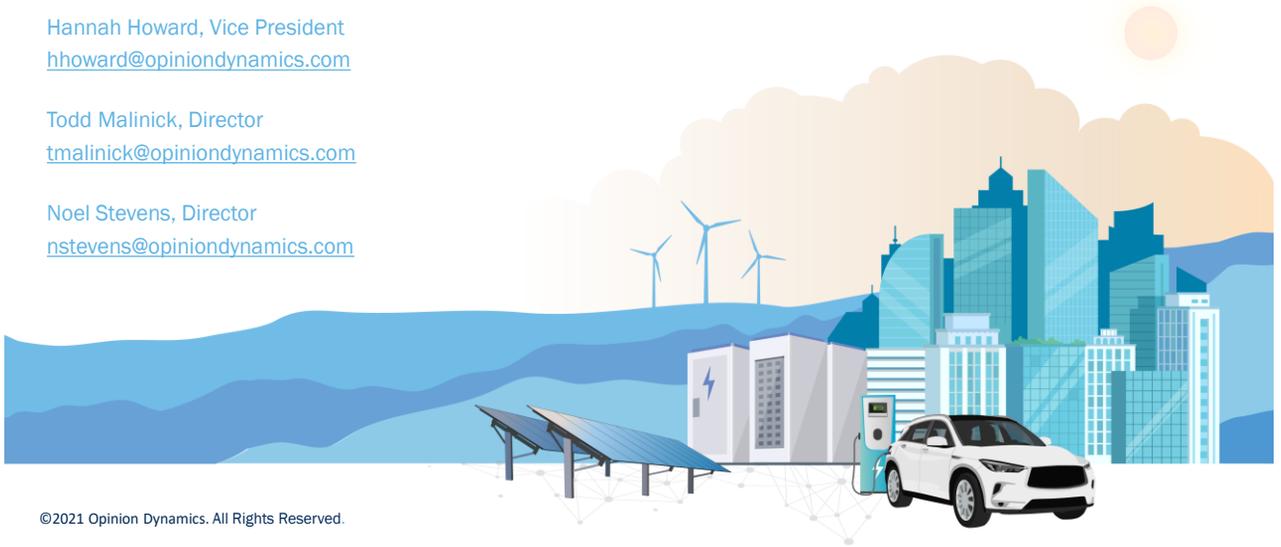
Q&A



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