

# CADMUS



# Draft Recommendations for the Commercial and Industrial Sector

November 8, 2023

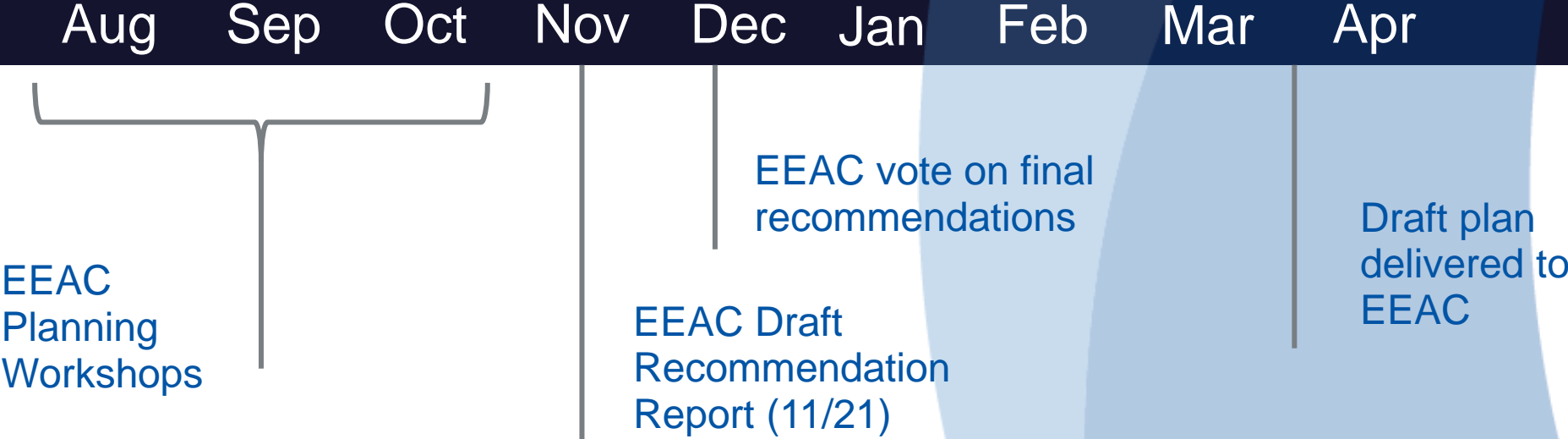


# EEAC Timeline

Three-year plan

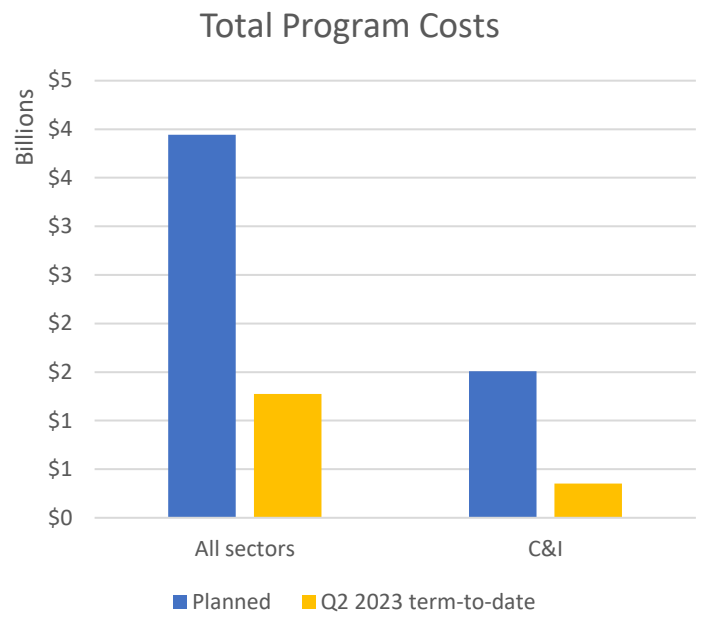
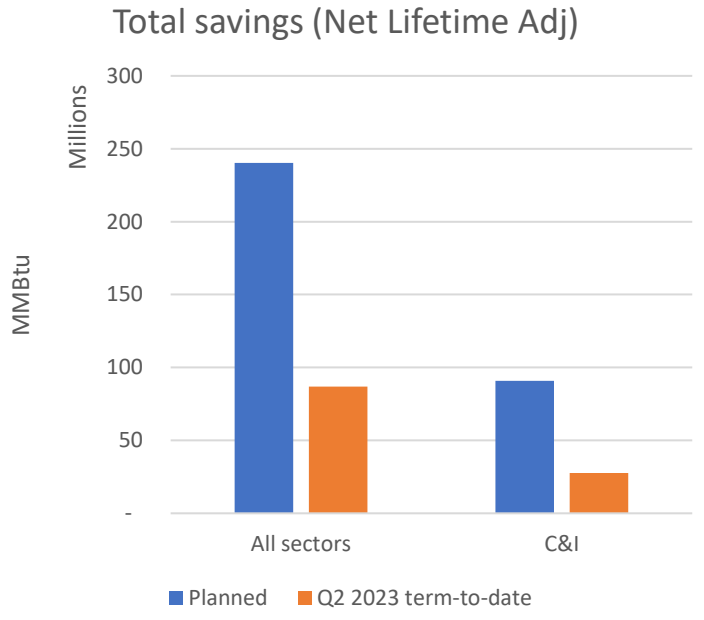
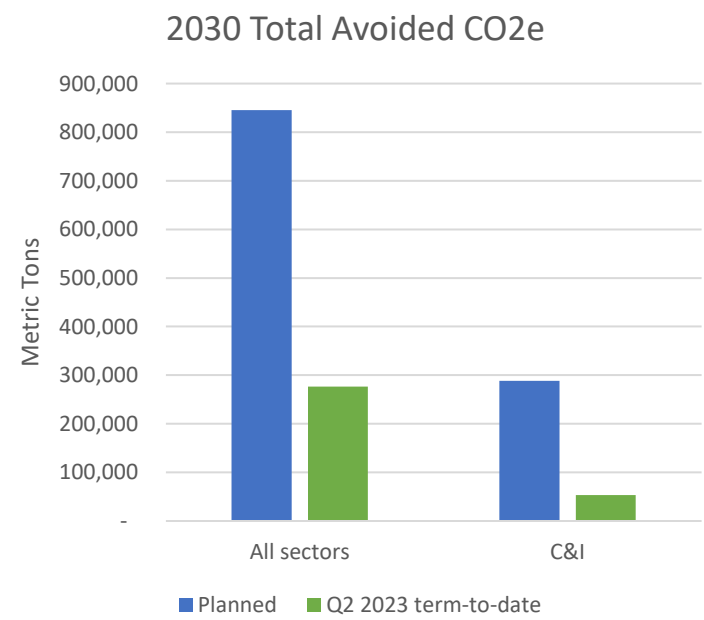
June 2024 – EEAC Comments to PAs  
End of Oct 2024 – PAs file final plan filed with DPU  
End of Feb 2025 – DPU Issues Order on Plan

AESC Study, Potential studies, GHG goal from EEA Secretary



# 2022-2024 Performance to Date (Q2 2032)

Programmatic performance is lower than expected for key metrics.



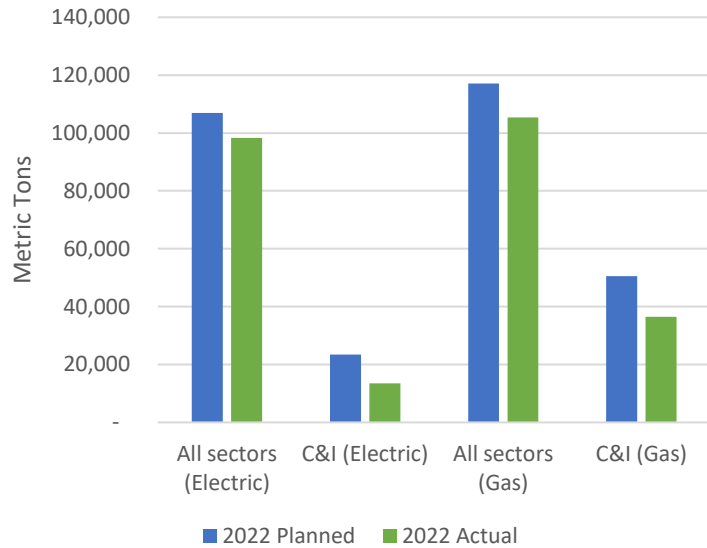
- Overall GHG achievement is 33% of planned value; 19% of C&I.
- Total savings is 36% of planned value; 30% of C&I.
- Total program expenditures are 32% of budgeted values; 23% of C&I.



# 2022 Performance

No portfolio achieved targeted metrics, but the C&I portfolio generally lagged the overall programs

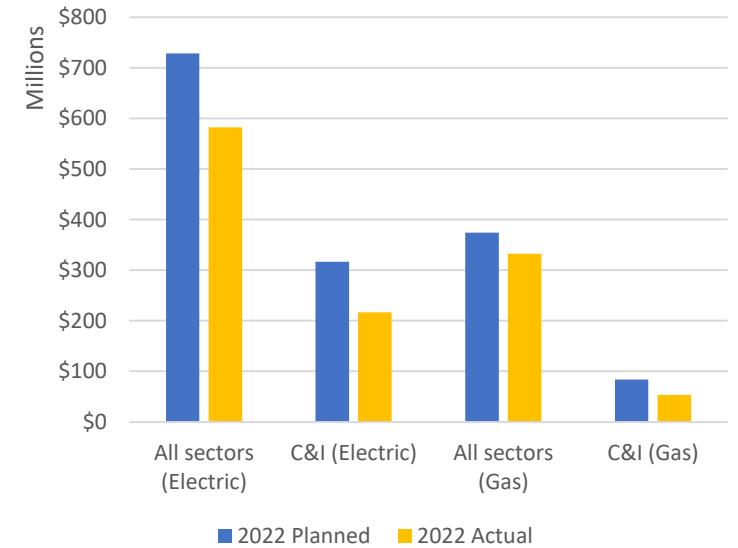
### 2030 Total Avoided CO2e



### Total Net Lifetime Adjusted Savings



### Total Program Costs



# Overview of C&I Sector Recommendations

Overarching themes presented by EEAC Consultants on August 24, 2023

## Key resources

- [2025-2027 Three-Year Energy Efficiency Plan Workshop #1: Commercial & Industrial \(C&I\) – MA Energy Efficiency Advisory Council \(ma-eeac.org\)](https://www.ma-eeac.org/2025-2027-Three-Year-Energy-Efficiency-Plan-Workshop-1-Commercial-Industrial)
- [Three-Year Energy Efficiency Plan Workshop #6: Finalize Recommendations – MA Energy Efficiency Advisory Council \(ma-eeac.org\)](https://www.ma-eeac.org/2025-2027-Three-Year-Energy-Efficiency-Plan-Workshop-6-Finalize-Recommendations)

## Enhance and Expand Offerings

- Lay the Foundation for Medium and Large Customer Energy Transition
- Enhance and Expand Electrification

## Deliver Services to Drive and Accelerate Savings

## Track, Use and Share Data

# Recommendation #1A

## Expand and enhance electrification offerings to all C&I customers

### Lay the Foundation for Medium and Large Customer Energy Transition

- Undertake high-volume existing building commissioning offer that provides existing building commissioning studies to 2,200 medium and large customers by 2027.
  - Address "first cost" barriers by paying full cost of studies for qualifying customers.
  - Streamline and systematize processes
  - Incorporate instrumentation and collect data to encourage vendor engagement

### Facilitate Customer Facility Decarbonization planning

- Leverage resources to help customers identify service providers that can help develop plans
- Implement approach like New Construction “design charette” to help customers set goals and define planning process
- Track site data, plans and milestones in a database to support customer implementation and reporting

### Expand access to Deep Energy Retrofits

- Allow implementation/achievement timelines based on customer capital investment plans

# Recommendation #1B

## Expand and enhance electrification offerings to all C&I customers

Electrify 60% of delivered fuel C&I customers, targeting 70% of delivered fuel electrification projects completed in 2027 to be full conversions.

- Undertake high-volume existing building commissioning offer that provides existing building commissioning studies to 2,200 medium and large customers by 2027.

Electrify 20% of as customers who are program participants by 2027, expanding full heating system conversions, and incorporating weatherization.

- Revamp heat pump offers to make weatherization a precursor for maximum electrification (perhaps a prerequisite for any heat pump incentives)

Educate and encourage customers to bring building ventilation levels to code and enable the PAs to claim savings for doing so.

# Recommendation #2

**Deliver services to drive and accelerate savings**

## Expand and enhance account management model

- Ensure that medium and large customers have a dedicated account manager and improve coordination between account managers and PA engineering staff.
- Improve opportunity tracking to include unimplemented projects identified by prior audits and studies



# Recommendation #3

## Track, Use, and Share Data

Develop the data and information systems necessary to understand, facilitate, and track customer systems, plans, and projects over time

- Track information on existing buildings, systems, energy efficiency opportunities, and long-term plans in a database accessible to customers and PAs.
- Use publicly available EUI data to identify and target high energy use customers for audits and energy planning

Provide C&I measure spreadsheets quarterly

- Accurately track and report quantities and sizes of equipment supported by the program
- Track participation pathways

Provide cumulative, initiative-level quarterly reporting relative to planned values. When performance is below a certain threshold, provide monthly reporting until saving/benefits increase above stated threshold.

# Overview of Topics

Streamlined  
Process for  
Custom HVAC  
Projects

Existing Building  
Commissioning  
(EBCx)

Deep Energy  
Retrofits

Linkage between  
Weatherization  
and Heat  
Electrification

Battery Storage  
Capacity/Incentive  
Cap

Status of C&I  
Working Group

# Streamlined Process for Custom HVAC

<https://www.masssave.com/business/programs-and-services/deep-energy-retrofit>

Control setbacks present a large opportunity for thermal energy reduction and are typically implemented through the Custom HVAC pathway. These “custom” HVAC projects typically offer greater energy and GHG savings than more traditional projects such as lighting upgrades but come with significantly longer implementation times (up to 4x) largely due to navigating PA engineering teams requirements. Suggestions for improvement include:

- Development of minimum standards for Custom HVAC technical analysis and minimum requirements document (MRD), soliciting input from PA engineers, TA vendors, design engineers, and customers.
- Encourage impartiality of TA vendors
- Technical analyses that meet minimum standards should be approved for PA Letter of Agreement and not be subject to further analysis.
- Final incentives should be based on observed savings subject to standards outlined in MRD. That is, incentive will flexible based on observed savings, relative to an established baseline.

Have ABC members pursued Custom HVAC projects with the PAs? What issues have arisen?

Are there any specific recommendations that are broadly applicable?

- Improvements to PA coordination/communication
- Resolving issues in a timely manner/unnecessary delays
- Lack of reasonable engineering judgement and rejection of “industry standard practice” when uncertainty exists.

# Existing Building Commissioning (EBCx)

<https://www.masssave.com/business/programs-and-services/espo>

<https://www.masssave.com/en/business/rebates-and-incentives/building-and-hvac-controls/building-management-systems-and-controls-incentives>

“Undertake high-volume EBCx studies to 2,200 medium and large customers by 2027...studies should address priority end uses including HVAC, envelope and process loads”

- “Address first cost barrier to stimulate the market and increase volume. Cover the full cost of EBCX studies for qualifying customers”

Councilors and PAs raised concerns regarding overall costs and incentivizing customer to follow through in implementing system upgrades.

Have ABC members pursued EBCx, Retrocommissioning, or other controls/system performance audits, studies, or upgrades with the PAs?

- Issues with qualified/ pre-selected vendors.
- Program requirements
- Estimated savings
- Post-implementation verification requirements

How do ABC members think about and invest in maintaining system performance over time?

# Deep Energy Retrofit Pathway

<https://www.masssave.com/business/programs-and-services/deep-energy-retrofit>

“Expand access to Deep Energy Retrofits (DER) by allowing longer timelines based on customer investment plans and including projects that can achieve GHG reduction goals prior to electrification.”

Have ABC members pursued the DER offer or other decarbonization planning efforts with PAs?

What is a reasonable timeline?

- Need to balance capital investment plans against regulatory time horizons
- DER offer is intended to target customers making significant investments in GHG reduction

Are there other concerns/issues with the DER pathway that should be raised?

# Linkage between Weatherization and Heat Electrification

<https://www.masssave.com/en/business/rebates-and-incentives/heating-and-cooling/heat-pumps/variable-refrigerant-flow-systems>

“Revamp heat pump offers to make weatherization a precursor for maximum electrification incentives to increase comfort and reduce costs.”

“Require weatherization for heat pump incentives, full and partial displacement”

Have ABC members pursued heat electrification projects?

- What have been the scope and scale of such projects?

Have ABC members pursued weatherization of building envelope projects?

To what extent would linking heat electrification incentives to weatherization help/hinder heat pump adoption?

# Battery Storage Capacity/Incentive Cap

<https://www.masssave.com/en/business/programs-and-services/commercialconnectedsolutions>

“For purposes of ConnectedSolutions performance-based incentive payment calculations, sites that are exporters of power during ConnectedSolutions events will have their performance incentive capped at 150% of the site’s annual peak load, independent of load associated with charging or discharging the battery and any behind-the-meter solar PV production.”

Have ABC members installed (or considered installing) battery storage systems?

- If so, did ConnectedSolutions incentives factor into decision making?

Has the program capacity/incentive cap been a barrier to installing battery storage systems or impacted proposed system size?

# Formalize C&IWG into EEAC structure

<https://www.mass.gov/commercial-industrial-working-group-ciwg-for-mass-save-programs>

The CIWG is an initiative for increased engagement, communication and coordination among the Program Administrators (PAs), Department of Energy Resources (DOER) and stakeholders on the Mass Save Commercial & Industrial (C&I) program. The mission of the group is collaboration towards meeting the energy savings and greenhouse gas (GHG) emissions reduction goals of the Mass Save C&I programs.

- The C&IWG is not formally part of the EEAC

How have ABC members engaged in the EEAC, either in the planning process or for specific issues?

How have ABC member historically communicated programmatic frustrations or concerns?



# Other topics?

Opportunity to raise and discuss other issues and barriers to EE program participation and building decarbonization

- Financing
- Interconnection and system/service upgrades
- Supply chain issues and equipment availability

# Next Steps and Engagement Opportunities

Upcoming deadlines and meeting dates

- November
  - Public comment (3 minutes) at the November 15<sup>th</sup> EEAC meeting (1-4 pm)
  - ABC intends to provide written comment at the November 15<sup>th</sup> EEAC meeting.
  - Discussion on Draft Council Recommendations
- December
  - Public comment (3 minutes) at the December 20<sup>th</sup> EEAC meeting (1-4 pm)
  - EEAC will finalize and vote on Council Recommendations
  - Begin drafting EEAC Priorities for 2024
- March
  - Draft plan delivered to EEAC