



PA Update on 2022-2024 Three Year Plan

September 7, 2022

WE ARE MASS SAVE®:



Agenda



- Background and Regulatory Overview
- 2022-2024 Plan Overview
 - Traditional Energy Efficiency
 - Electrification
- New Offerings

Background and Regulatory Overview

What is Mass Save



Your local electric and natural gas utilities and energy efficiency service provider are taking strides in energy efficiency: Berkshire Gas, Cape Light Compact, Eversource, Liberty Utilities, National Grid and Unitil.

As one, we form Mass Save®, with the common goal of helping all residents and businesses across Massachusetts save money and energy, leading our state to a clean and energy efficient future.

These programs and services are managed and delivered by electric and gas Sponsors, providing the energy expertise to help you save energy and money. The funding is supported from a charge on customers' energy bills.

WE ARE MASS SAVE®:



Mass Save - Path to Carbon Neutral



- In the last 10 years, Mass Save's Sponsors have:
 - Been ranked #1 for EE in the country nine times
 - Reduced 3,747,479 Metric Tons of CO2
 - Reduced 12.2 Million MWh
 - Reduced 256.9 Million Therms
 - Created \$27.4 Billion in Total Benefits
- The programs generate \$4 in benefits for every \$1 spent on EE
- The programs help to employ over 88,000 people in Massachusetts annually



Download the PDF at <https://masssave.com/pathtocarbonneutral>

- 2008 Green Communities Act
 - All Cost-Effective Energy Efficiency Measures
- 2018 Amendments
 - Addition of Electrification
- March 2021 Climate Act
 - Greenhouse Gas Reduction Goals
- July 2021 GHG Emissions Reduction Goal for EE
- February 2022 DPU Approved the Current Plan

2022-2024 Plan Overview

Core Plan Themes



■ Efficiency

- Continue to deliver nation-leading efficiency programs
- Enhanced focus on weatherization and deep retrofits

■ Electrification

- Effort at an unprecedented scale and speed, including new gas to electric offerings
- Explicit plan for efforts necessary to drive market transformation

■ Equity

- Commitment to establishing more equal access to and participation in energy efficiency programs,
- Enhanced incentives designed to better reach targeted customer segments
- Focused efforts in specified Environmental Justice Communities.

■ Workforce Development

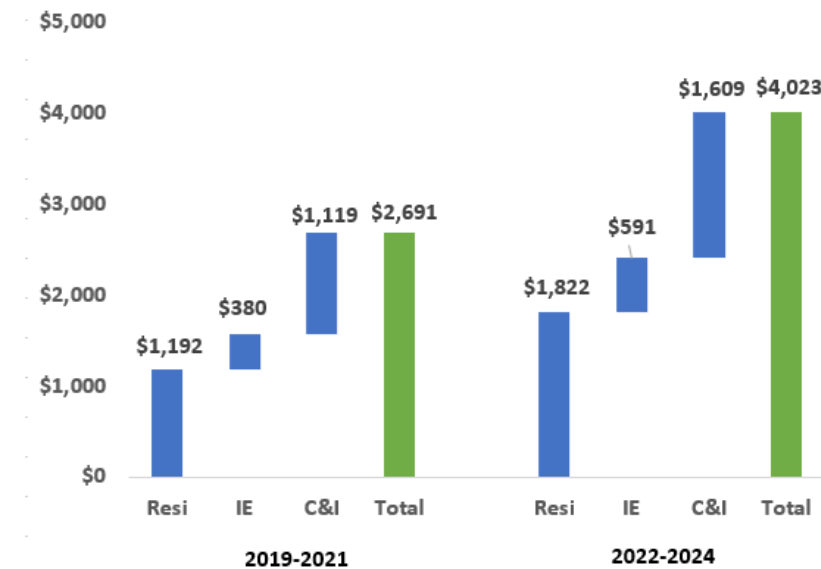
- Targeted outreach and training to bring more W/MBE enterprises into EE program delivery
- Nearly \$50mIn commitment to WFD efforts over term

Total Planned Budgets and Benefits



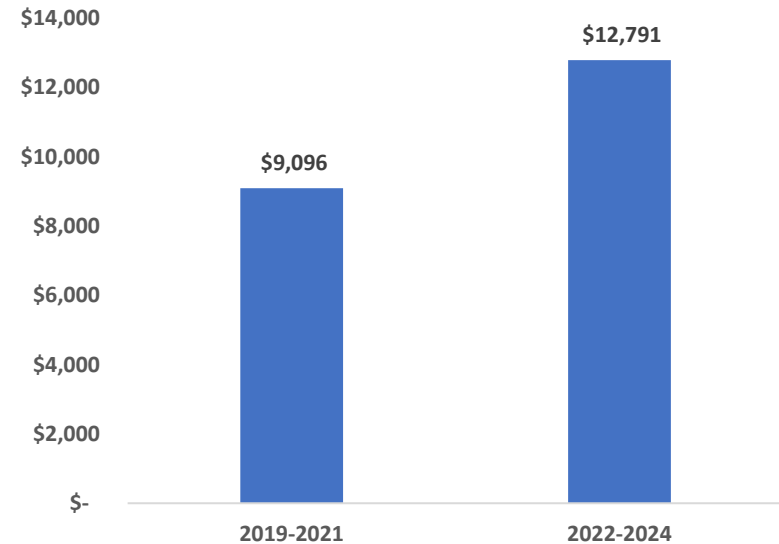
Planned budgets

(\$mIn, combined electric and gas)



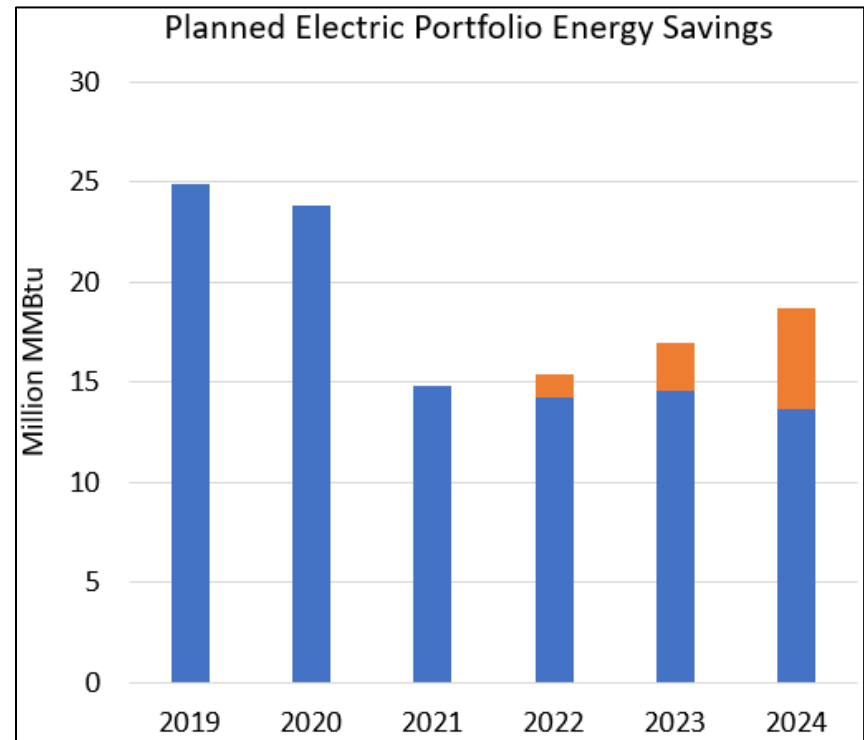
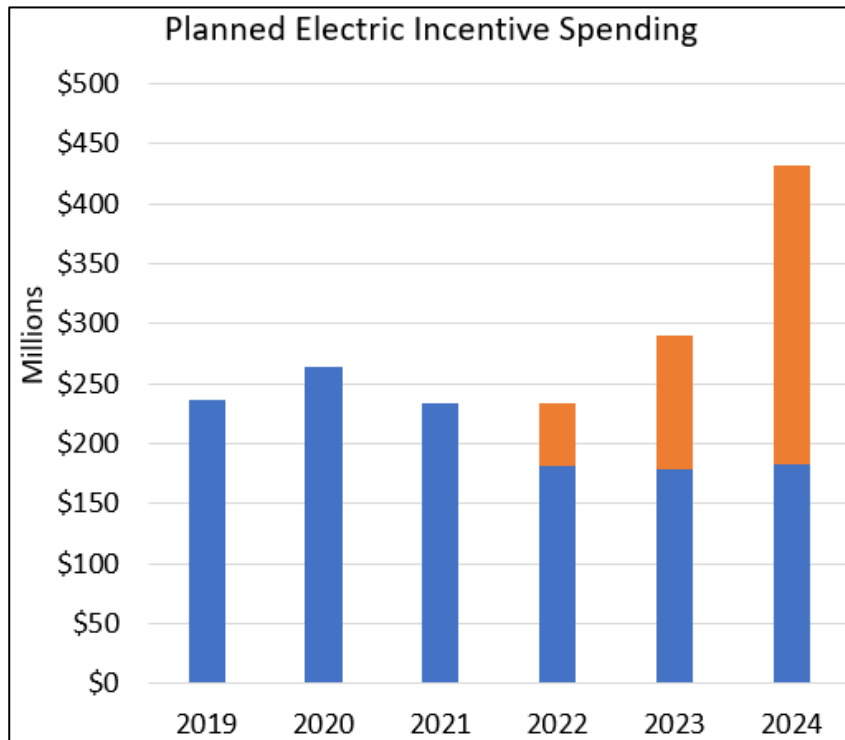
Planned benefits

(\$mIn, combined electric and gas)



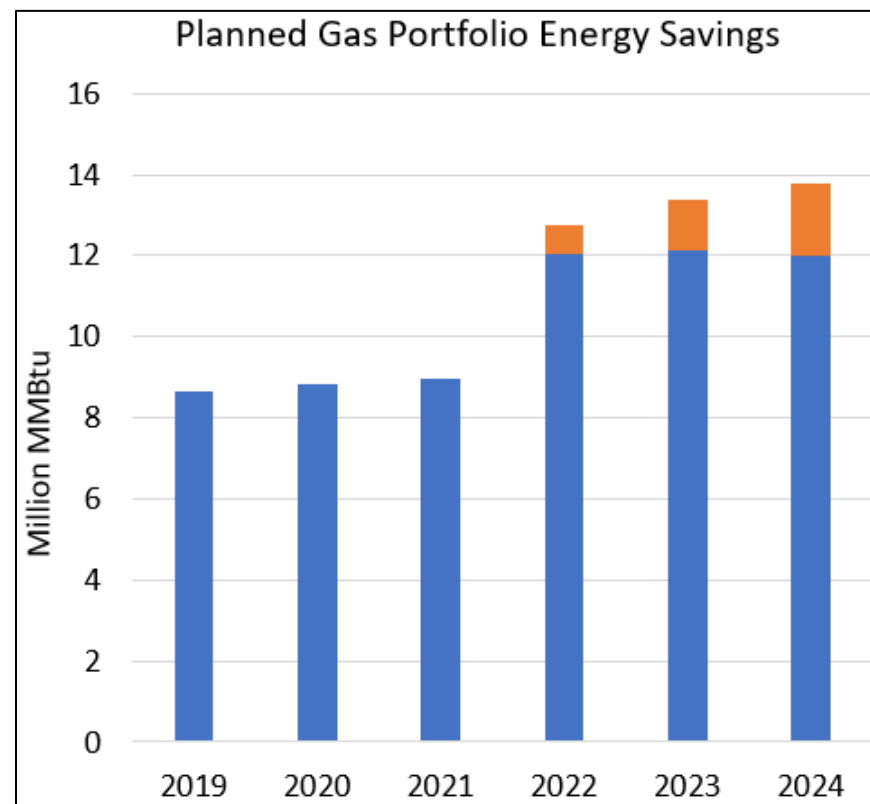
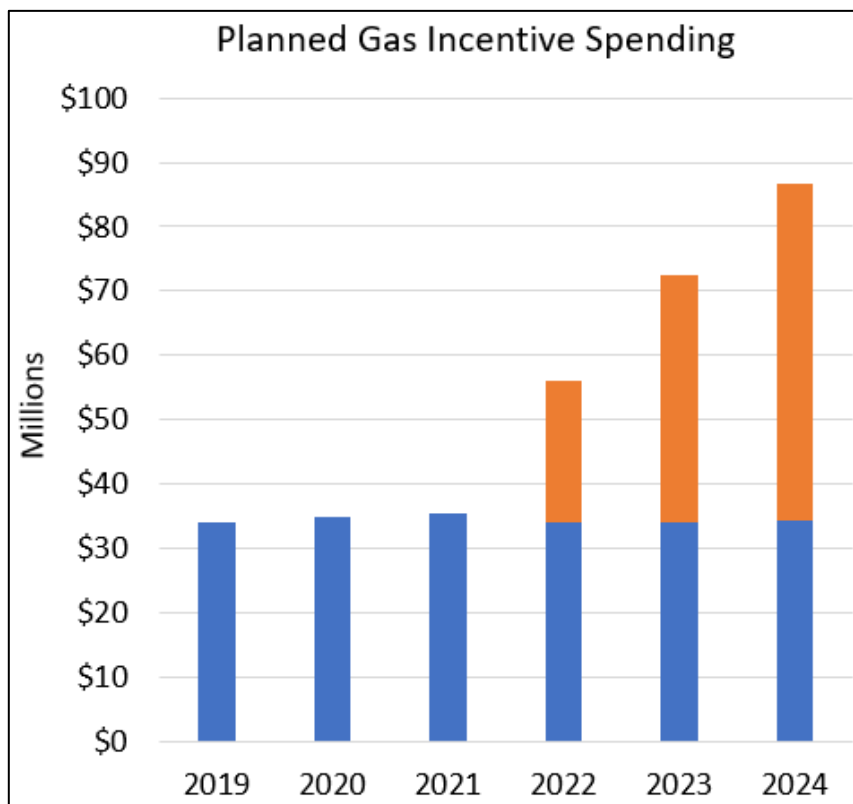
Planned budget increases distributed across all customer sectors with nearly commensurate increase in resulting benefits

C&I Electric Program Goals



- Electrification
- Traditional EE

C&I Gas Program Goals



- Electrification
- Traditional EE

Energy Efficiency Program Evolution



- Begin to shift focus away from lighting
- Enhance program focus on comprehensive projects including:
 - Weatherization
 - HVAC system optimization
 - Process Improvements
 - HVAC controls
- Introduction of “deep energy retrofit” pathways for multifamily and commercial buildings
- There are still opportunities for efficient lighting upgrades
- Phase out of natural gas combined heat and power (“CHP”) incentives; no new natural gas CHP projects will be incentivized in 2022-2024 except for already committed CHP projects.
- Active demand response remains an important piece of the portfolio; reduces overall grid costs and helps create the “flexible” grid of the future

PAs continually adjust and improve our nation-leading programs to pursue new opportunities and maximize ratepayer benefits

Massachusetts C&I Heat Pump Rebates



Equipment Type	Rebate (\$/Ton)	Equipment Capacity	EER	SEER / IEER	HSPF/ COP ¹	Capacity Ratio ²
Air Source Heat Pumps (ASHP)	\$2,500	< 5.4 tons	-	Central Ducted Systems		
			-	16	9.5	60%
			-	Ducted & Ductless MSHP Multi-Zone		
			-	16	9.5	58%
		-	Ductless Mini-Split Single Zone			
		-	18	10	58%	
		-	11.1	13.5	3.4	-
Air Source Variable Refrigerant Flow Heat Pumps (VRF)	\$3,500	≥ 5.4 and < 11.3 tons	11.5	20	3.4	-
		≥ 11.3 and < 20 tons	11	18	3.3	-
		≥ 20 and < 150 tons	9.6	18	3.3	-
Ground Source Heat Pumps – Closed Loop (GSHP-C)	\$4,500	< 150 tons	15	-	3.4	-
Ground Source Heat Pumps – Open Loop (GSHP-O)		< 150 tons	19	-	4.0	-

¹ COP rating at 47F per AHRI sheet for Air Source Equipment.

² Capacity ratio is the heating capacity rating at 17F divided by the rating at 47F

Major increase in incentives for C&I Heat Pumps in the new 3-Year Plan

Pillars of the PA Heat Pump Market Transformation Approach



	Customer Awareness and Acceptance	Contractor Enablement	Manufacturer / Distributor Engagement
Goal	Create demand pull from delivered fuel heating customers for heat pump technologies	Drive enhanced high quality installation capacity and create a primary demand generation channel	Create allies and co-investors in driving all pillars of the market transformation strategy
Core Techniques	<ul style="list-style-type: none"> Enhanced understanding of current perceptions Coordinated statewide activities to change perceptions where needed Enhanced, targeted customer education and activation channels 	<ul style="list-style-type: none"> Enhanced understanding of current perceptions Alternative rebate and participation pathways Training enablement, tools and promotion 	<ul style="list-style-type: none"> Send clear market signals around future of HVAC in the Commonwealth Demand generation for existing training / certification pathways Alternative rebate and participation pathways Changes in stocking practices and levels
Core Measurements	<ul style="list-style-type: none"> Changed perceptions Customer engagement with tools and channels 	<ul style="list-style-type: none"> Changed perceptions Contractor participation 	<ul style="list-style-type: none"> Training / certification throughput Growth in contractor networks Stocking practices



New Offerings

Commercial Weatherization



Buildings \leq 8,000 sf:

Prescriptive

- Attic insulation, wall insulation, attic air sealing

8,001 sf to 100,000 sf:

Custom Express

- Insulation, air sealing, weatherstripping

>100,000 sf

Custom

- Custom weatherization projects

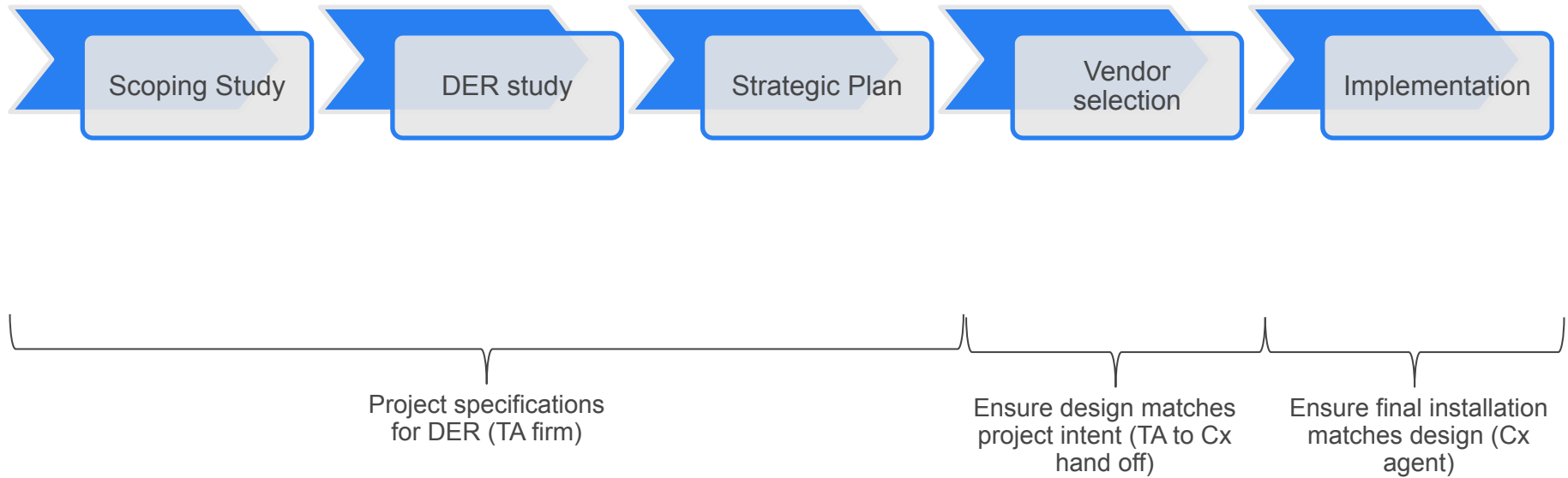
- Reduce barriers to participation for commercial customers
- Offer consistency to installation vendors
- Increase incentives for weatherization projects

Deep Energy Retrofit



- 40% reduction in GHG emissions
 - Relative to existing conditions
 - Does not include renewables
- Requires electrification and weatherization
- Buildings will have a 3 year “DER Term” to meet target
- DER is independent from and stacks on top of existing program incentives
- The customers that achieve a DER will receive bonus payments
- Customers participating in the New Construction and Major Renovation program are not eligible for DER

DER Process



Small Equipment Electrification



Landscaping equipment and forklifts, displacing commonly used engines that are powered by gasoline, diesel or propane fuel can be switched to battery-electric sources.



Equipment	Expected Incentive	Target Segment
Electric Lawnmower	\$3,500	Landscaping Businesses
Electric Leaf Blower	\$100	Landscaping Businesses
Electric Trimmer	\$100	Landscaping Businesses
Electric Chainsaw	\$100	Landscaping Businesses
Electric Lawnmower	\$75	Property Owners
Electric Leaf Blower	\$30	Property Owners
Electric Trimmer	\$30	Property Owners
Electric Chainsaw	\$30	Property Owners
Battery Electric Forklift	\$6,000	Materials Handling Companies

Streamlined BMS Offering



- Prescriptive incentive offering
 - Provide clarity on incentives at the beginning of a project
 - Incentive rate based on type of BMS project, number of sequences added and size of facility
- Custom Express Savings Calculator
 - Requires basic inputs
 - Building Occupancy
 - HVAC equipment types
 - Square footage of project area
 - Implemented sequences
- Verification and Commissioning
- Coming 2023

Community First Partnership



Partner with municipalities and non-profit community organizations



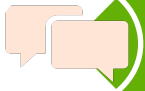
Target areas with lower participation and renters/non-English speakers/moderate income/small business



Include stronger connections to municipal governments and community organizations



Support community-led outreach



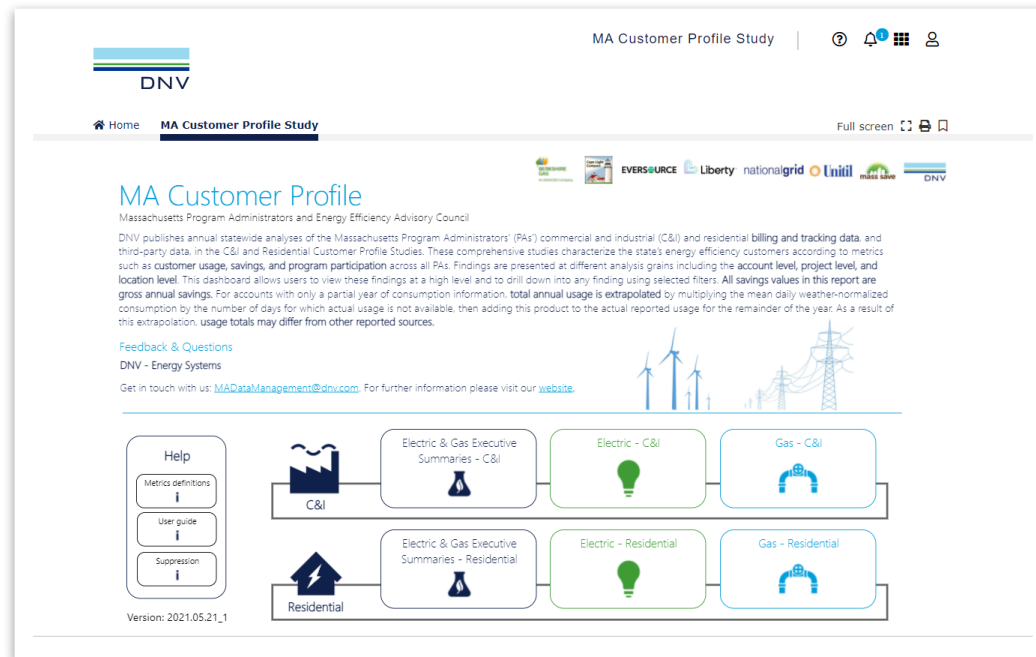
Establish a two-way communication channel for municipalities and local organizations

Workforce Development



Building Operator Certification	<ul style="list-style-type: none">▪ It's Electric: The Impact of Electrification on Building Operations▪ Heat Pumps: Are They the Right Fit for Your Building?▪ BOC 1013 – Smart Building Fundamentals
Codes and Standards Training	<ul style="list-style-type: none">▪ Energy Code for Existing Buildings▪ Air Sealing and Insulation Installation▪ Mechanical; Ventilation
Heat Pump Installer Network	<ul style="list-style-type: none">▪ Air Source Heat Pump Sizing and Design Training▪ Mini-Split Heat Pump Installation Best Practices Training▪ Weatherization 101 for HVAC Contractors▪ Integrated Controls 101
Massachusetts Energy Efficiency Partnership (MAEEP)	<ul style="list-style-type: none">▪ Heat Pumps for Engineers and Energy Auditors▪ Weatherization and Heat Pumps for Small Businesses
Passive House	<ul style="list-style-type: none">▪ All-Electric Homes Kickoff Series▪ Making the Switch to All-Electric▪ PH 101 for Structural Engineers

- MA 3 Year Plan: <https://ma-eeac.org/wp-content/uploads/Exhibit-1-Three-Year-Plan-2022-2024-11-1-21-w-App-1.pdf>
- MassSaveData: www.masssavedata.com
- Veracity Customer Profile Data Tool: <https://insight.dnv.com/MACustomerProfile/report/989>



The screenshot displays the 'MA Customer Profile Study' dashboard. At the top, it features the DNV logo and navigation icons. The main heading is 'MA Customer Profile', with a sub-heading 'Massachusetts Program Administrators and Energy Efficiency Advisory Council'. Below this, a paragraph explains that DNV publishes annual statewide analyses of commercial and industrial (C&I) and residential billing and tracking data. A 'Feedback & Questions' section provides contact information: 'DNV - Energy Systems' and 'Get in touch with us: MADataManagement@dnv.com. For further information please visit our [website](#).' The dashboard is organized into a grid of categories: 'C&I' (Commercial & Industrial) and 'Residential'. Each category has a 'Help' sidebar with links for 'Metrics definitions', 'User guide', and 'Suppression'. The main content area shows a flow of boxes: 'Electric & Gas Executive Summaries - C&I' and 'Electric & Gas Executive Summaries - Residential' (both with a flask icon), followed by 'Electric - C&I' and 'Electric - Residential' (both with a lightbulb icon), and finally 'Gas - C&I' and 'Gas - Residential' (both with a house icon). The version number '2021.05.21_1' is visible at the bottom left.



Thank You