PA Update on 2022-2024 Three Year Plan

September 22, 2021

WE ARE MASS SAVE®:

Agenda

- Context for changes since April
- Plan update ‘by the numbers’
- Review of core plan themes
- Additional sector specific highlights

Context for Updates – Material Developments

- Most importantly, pursuant to the Climate Act, Secretary Theoharides set mandated GHG reduction targets on July 15
  - Focus on GHG reductions brings changes and complexity to planning, with heavy emphasis on longer lived measures and electrification, and de-emphasis of select traditional electric EE measures
- Extensive feedback from Councilors and stakeholders
- Evaluation study results (that have tended to decrease claimable savings)
- Extensive collaboration amongst the PAs (sharing assumptions and striving for consistency), as well as ongoing discussions with DOER, the AGO, LEAN, the consulting team, and industry experts

We know that some work lies ahead but hope that today's materials bring us closer to a groundbreaking new Plan for 2022 – 2024

Continuing Discussion

Some important caveats and items under discussion:

- We are continuing our discussions with the consulting team and stakeholders in real time
- We have made material progress since the April 30 Plan and July 15, and today's presentation reflects our current best thinking
  - Based on ongoing discussions and EEAC feedback, continued review of numbers presented today are likely:
    - Allocation between electric and gas GHG emissions reductions
    - Cost to achieve GHG reductions in the C&I sector
    - Heat pump water heater production

Today's presentation reflects our current best thinking, but we know that there will be continued refinements

Updated Plan Numbers

Level-Setting

- The PAs are committed to delivering on the Commonwealth's GHG goals, and fundamentally transforming our programs to do so
- There is no precedent for an effort at this scale
  - Changes will be required across the entire ecosystem of manufacturers, distributors, contractors, customers, business leaders, and government
  - Our Plan numbers necessarily contain estimates and assumptions
    - While we have used best-available data, the task is new and we may need mid-course corrections based upon what we experience in the field, what sources of external funding become available, and participating customer appetite and capacity to absorb higher capital and operating expenses as we work to reduce GHG emissions in new ways

Pathway to EEA GHG Goals

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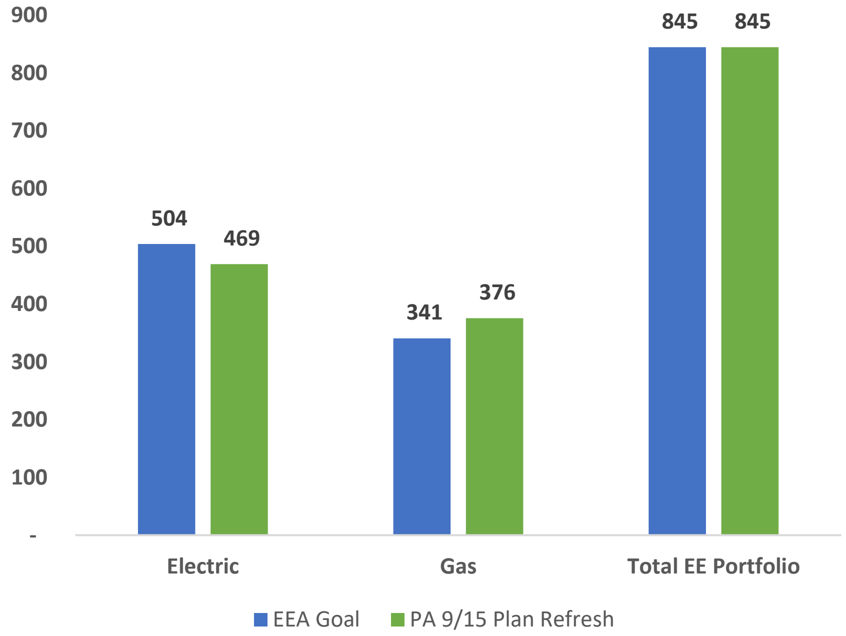
(Thousands MT 2030 CO2E reductions)

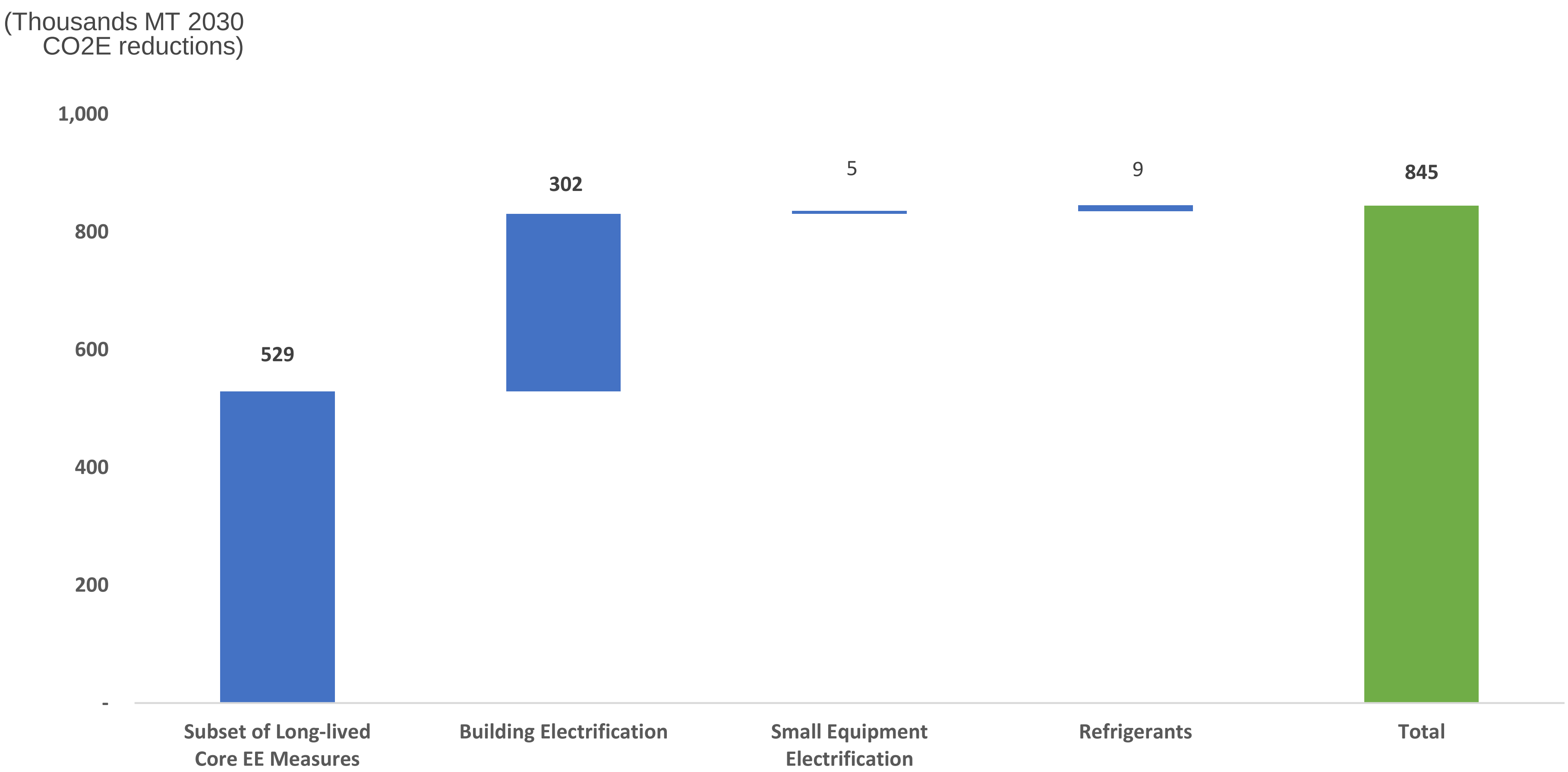


Guiding principles to PA approach

- Commitment to pathway to achieving ambitious goals established by EEA
- Plan for budget commensurate with scale of required efforts, while remaining mindful of bill impacts
- More than ever, flexibility and a focus on desired outcomes will be necessary for success
- PA approach would require some shifting of GHG goals between electric and gas levels set by EEA

Updated PA numbers present a credible (if ambitious) pathway to achieving aggregate EEA mandated GHG goals

Pathway to EEA GHG Goals

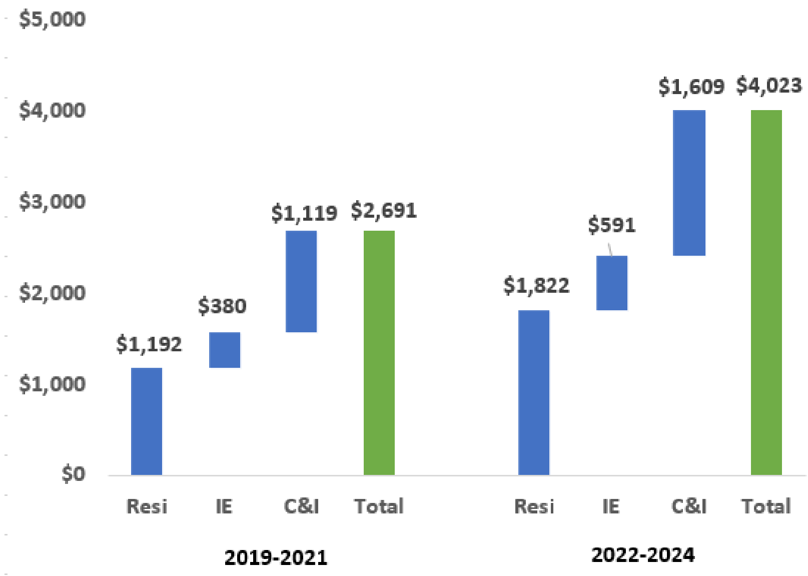


Updated PA pathway reflects GHG reductions from core energy efficiency, very significant electrification volumes, incremental efforts

Total Planned Budgets and Benefits

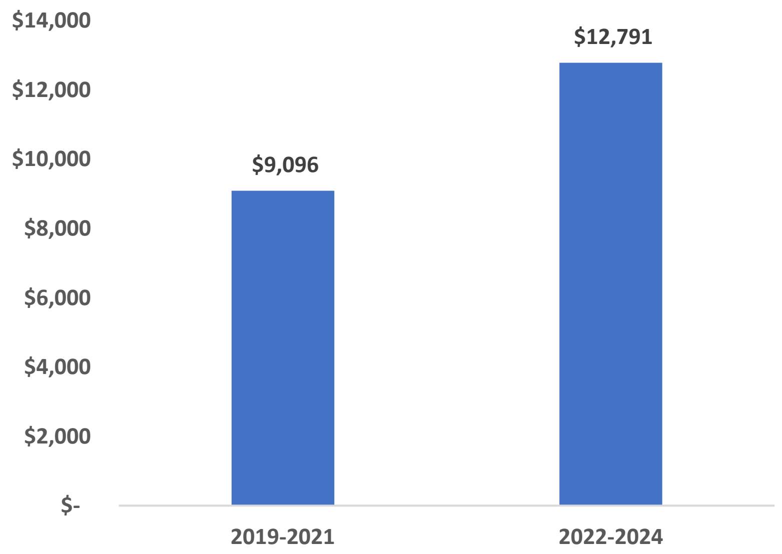
Planned budgets

($mln, combined electric and gas)



Planned benefits

($mln, combined electric and gas)



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

PA Perspective on Performance Incentive Mechanism

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- Performance incentives remain a foundational element of any successful EE plan and are intrinsically linked to plan commitments and budgets

- PAs supportive of linking PI mechanism to identified plan priorities, including electrification and equity

PAs committed to ongoing work with stakeholders to develop a PI mechanism and pool that aligns with plan goals while maintaining consistency with DPU guidance

Review of Core Plan Themes

Core Plan Themes

- **Electrification**
  - Material increases in planned volumes, commensurate budget reflective of PA commitment to building electrification
  - Explicit plan for efforts necessary to drive market transformation
- **Equity**
  - Significant increases in income eligible budgets, enhanced incentives designed to better reach targeted customer segments, including moderate income customers
  - Specific commitments related to expansion of Community First Partnership Program, equity metric tracking and reporting across both residential and small/micro business segments
  - Setting equity targets, including tracking and reporting for identified customer segments and EJ communities identified in the non-participant study across both residential and small/micro business segments
- **Workforce Development**
  - Nearly $50mln commitment to WFD efforts over term
  - Nation-leading Clean Energy Pathways program, with focus on diverse participants
  - Aggregate commitment to reach over 12,000 EE employees over the next term
  - Targeted outreach and training to bring more DBE enterprises into EE program delivery

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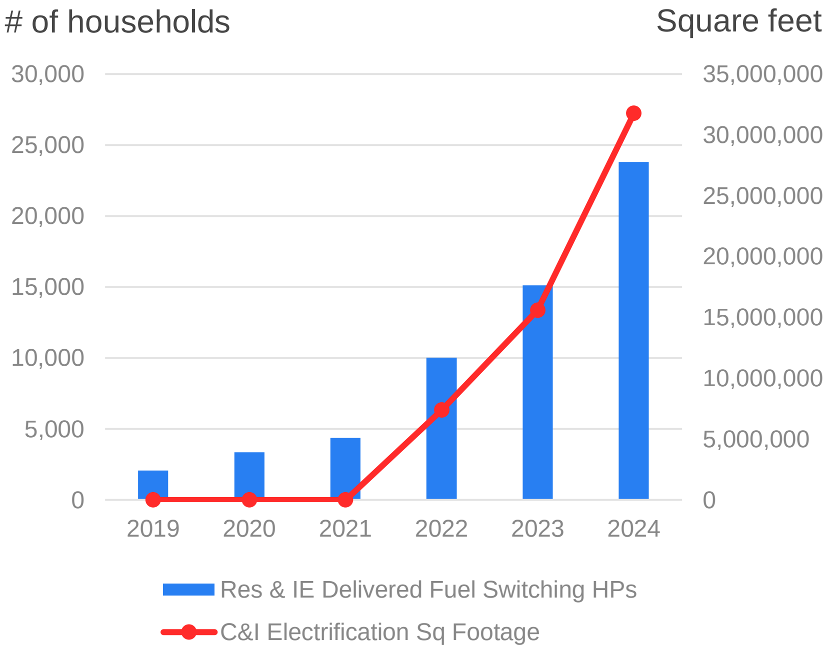
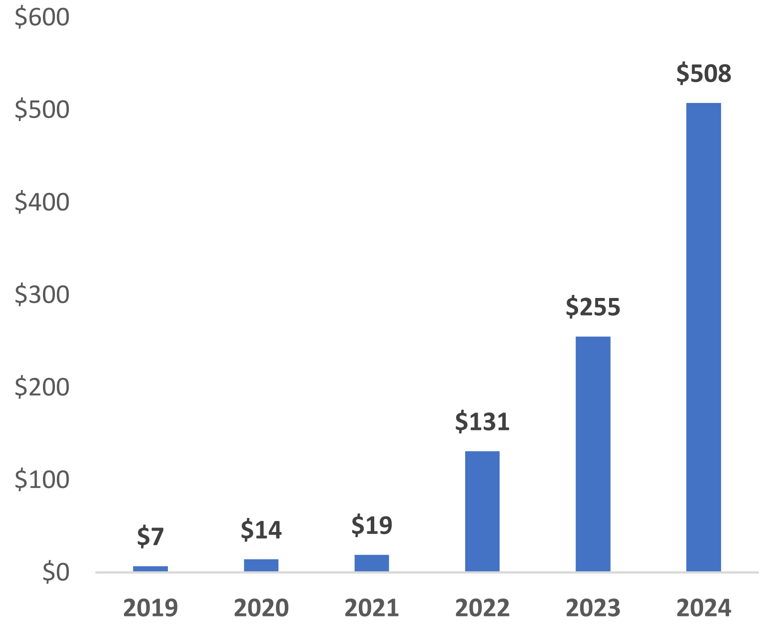
Electrification Volumes and Incentive Budgets

Planned building electrification volumes



Budgeted electric fuel switching incentives

($mln, combined electric and gas)



Updated plan represents significant ramp up in electrification investments, efforts, and expected outcomes (incl. gas to electric)

Additional Electrification Costs

- There are likely substantial additional costs associated with these large building electrification efforts (such as structural reinforcement to handle heavy equipment, required customer electrical upgrades) that are not currently included in PA incentive budgets
- Additional funds may come from external sources or be borne by participating customers
  - Absent those options, PAs will likely require MTMs for additional energy efficiency funding
- Estimated additional costs are $350-450 million

Pillars of the PA Heat Pump Market Transformation Approach

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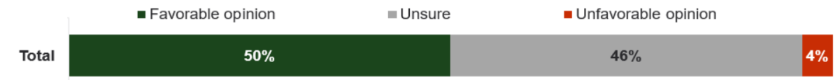
	Customer Awareness and Acceptance	Contractor Enablement	Manufacturer / Distributor Engagement
Goal	Create demand pull from delivered fuel heating customers for heat pump technologies	Drive enhanced high quality installation capacity and create a primary demand generation channel	Create allies and co-investors in driving all pillars of the market transformation strategy
Core Techniques	• Enhanced understanding of current perceptions • Coordinated statewide activities to change perceptions where needed • Enhanced, targeted customer education and activation channels	• Enhanced understanding of current perceptions • Creation and investment in heat pump installer network • Alternative rebate and participation pathways • Training enablement, tools and promotion	• 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	• Changed perceptions • Customer engagement with tools and channels	• Changed perceptions • Contractor participation • Certified installer growth	• Training / certification throughput • Growth in contractor networks • Stocking practices

Current customer awareness and perceptions

Overall Familiarity with Heat Pumps

Very familiar	16%
Somewhat familiar	31%
Not too familiar	27%
Not at all familiar	27%
Not too familiar/Not at all familiar	54%

Sentiment Towards Heat Pumps



Benefits of Heat Pumps

	Total
Using one unit to heat and cool	52%
Lower cost heating	43%
Lower cost air conditioning	38%
Looks better than a window AC unit	36%
Lower carbon heating and air conditioning	33%
Convenience	31%
Control over home temperature	30%
Setting different temperatures in different rooms of your house	27%
Increased Comfort	27%
Safety	13%
Other environmental benefits (not related to carbon emissions)	12%
Other *(No need to add duct work to home)*	3%
Don’t know	25%
There are no benefits	1%

Recent PA customer market perceptions survey results highlights opportunities to drive awareness and perceptions of benefits

Driving Customer Awareness and Perceptions

Mass Save® heat pump campaign currently in market across multichannel marketing platforms, including billboards and social media

Contractor Enablement

- Development and launch of Participating Heat Pump Installer Network
- Direct to contractor rebate pathway
- Expanded promotion and delivery of training and education materials, including leveraging manufacturer resources

Contractor enablement efforts focused on ensuring high quality customer experience, turning contractors into advocates and program “force multipliers”

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Equity

- Proposed launch of **$112M** suite of **enhanced moderate income incentives** covering HVAC, weatherization, barrier mitigation, and improved income verification processes
- 100% weatherization offer for **renters** and enhanced outreach to small multifamily buildings
- Targeted programmatic enhancements and investments in better serving **English isolated customers** and **Environmental Justice communities**, including expansion of non-English services, implementation of language access plan, and targeted marketing efforts
- Deeper equity focus in C&I sector through small business offerings and pathways, including increases in:
  - **Main Streets efforts in Environmental Justice communities**
  - Marketing and outreach in Spanish and Portuguese
  - **Collaboration with ethnic and minority small business associations**
- Expanded Mass Save Community First Partnership Program:
  - Increased commitment **to 20 teams in 30+ municipalities and focus on EJ**
  - **Dedicated implementation vendor** to support the Community Partner Teams, PAs
  - Introduction of **Energy Advocate role** that borrows from public health sector

Equitable delivery of our programs remains a core priority of the PAs and our implementation partners

Equity Budget - Breakdowns

Investment area	Amount**	Net Lifetime MMBtu Savings
Moderate Income*	$ 136,074,730	8,769,488
Renters and Landlords*	$ 44,306,061	4,016,133
Income Eligible Renters & Landlords	$ 208,238,560	11,221,235
Language Isolated Customers***	$ 9,141,743	N/A
Small Businesses	$ 185,108,288	10,722,738
Pre-weatherization barriers, MR	$ 22,965,893	N/A
Pre-weatherization barriers, IE	$ 6,331,445	N/A
Partnerships****	$ 3,600,000	N/A
Workforce Development	$ 49,585,835	N/A

*There will be some overlap of Moderate Income and renter/landlord and Pre-Wx incentives.

**Investments above are Incentive spending except for Partnerships and WFD.

***Includes projected marketing spend, language access plan, and costs associated with interpretation services for customers

****Includes 20 teams across 30+ municipalities. Total $ amount to be increased, but increase was not reflected in tables submitted for September.

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Workforce Development

- Aggregate nearly **$50mln** investment over term, targeting reaching 12,000 members of workforce over term
- Particularly focused on **building electrification**, including:
  - Residential electric HVAC training curriculum for variety of customer facing roles
  - New construction passive house and all electric new construction training
- Focused **entry level workforce engagement** and training, including:
  - Expanded Clean Energy Pathways program, with focus on diverse participants
  - Vocational and technical high school outreach
  - MA Energy Efficiency Partnership at UMass Amherst
- **DBE investments**, including:
  - New training and outreach targeted at engaging and bringing DBEs into PA programs
  - Commitment to track the number and spend of contracts directly with PAs in DBEs

Workforce development efforts align with equity goals, long-term market development and enablement needs

Additional Sector Specific Highlights

Residential / Income Eligible Sector Highlights

Increased focus on **weatherization**	• Increase in household weatherization jobs of 32% over 2019-2021 term planned levels • Increased barrier mitigation support • Weatherization + heat pump bonus
Continued **de-emphasis** of support for **non-heat pump HVAC systems**	• Cease all incentives for non-heat pump central A/C systems • Elimination of incentives for non-condensing fossil fuel heating systems in all market rate programs
New **electrification HEAT Loan** package	• Up to $25,000 for heat pumps with up to $5,000 eligible for barrier remediation, including electric panel upgrades
Launch of **enhanced moderate income incentives**	• HVAC, weatherization, barrier mitigation, and improved income verification processes

Residential and income eligible sector highlights reflect broader plan themes

Residential / Income Eligible Sector Highlights

Introduction of **All-Electric Path to Zero 1-4 Initiative**	• High-performance offering for the 1–4-unit building sector that requires all electric heating and hot water and 30% energy savings above the standard 1–4-unit home
Increased income eligible participation in **active demand reduction** offerings	• Increase in Wi-Fi thermostats to IE participants, inclusion of IE thermostats in ADR reporting
Income eligible multi-family **deep energy retrofit**	• Customized approach for buildings going beyond typical retrofit. Will provide flexible, non measure-specific incentives similar to New Buildings program
52% increase in income eligible program budgets over 2019-2021 term	• Including significant increases in electrification targets

Residential and income eligible sector highlights reflect broader plan themes

Electrification & GHG Reductions for Commercial Buildings

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Rapid Heat Pump Adoption

- Focus on delivered fuels (propane, fuel oil) heating customer conversions
- Additional targeted gas to electric conversions with specific customer segments (see below)

HVAC Redesign

- Work with customers across all delivery pathways to meet customer needs and preferences
- Recalibrate incentives to increase influence over purchase decisions

Deep Energy Retrofit Offering Design

- Long-term engagement with focus on significant energy and GHG reductions over time
- Encourage comprehensiveness and deeper commitment with motivated customers

Municipal/Government, University, Schools and Hospitals (MUSH) market may be less driven by near-term economics. Corporations with sustainability goals and commitments may also be receptive.

Other GHG Reductions Activities

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Reduce CHP

- Significantly reduced emphasis on natural gas-fired CHP, focusing on completing existing projects committed to prior to July 15 of this year, and not new CHP projects that increase 2030 emissions

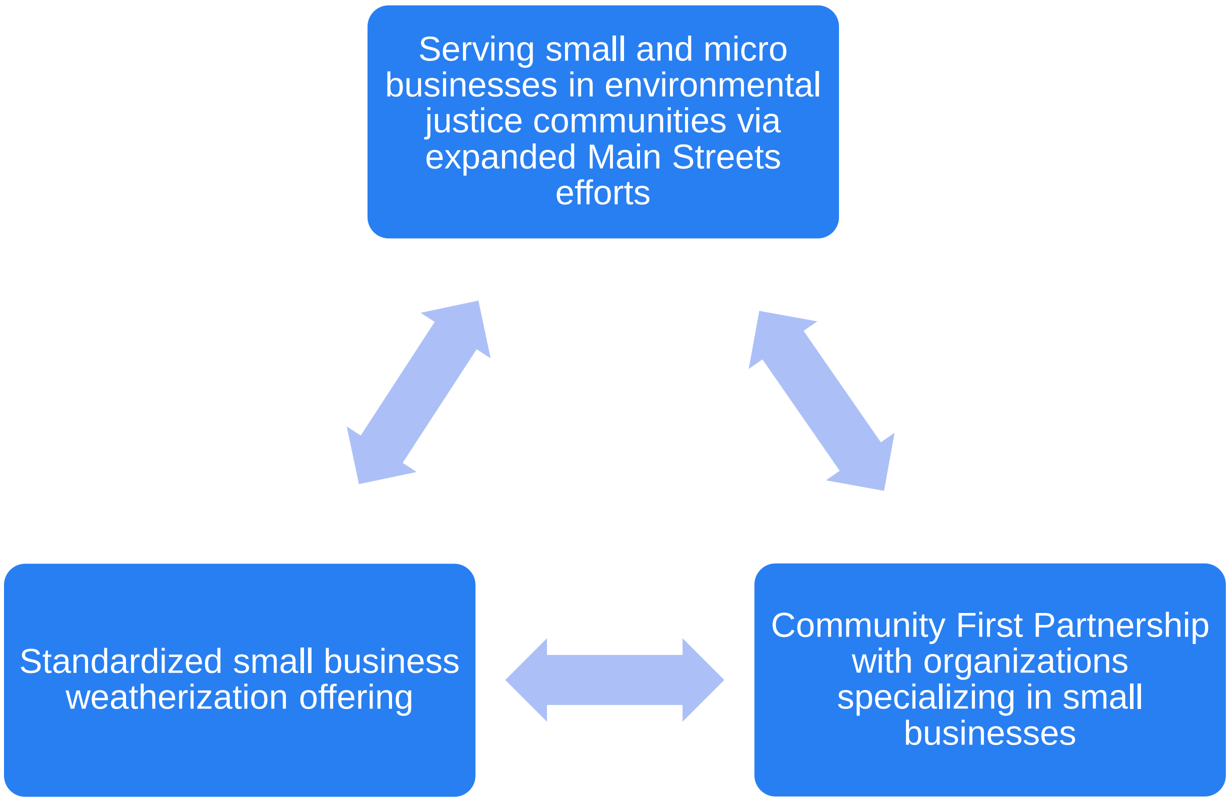
State Buildings

- As a display of leadership by example, engage the Commonwealth, the largest property holder in the state, to commit to undertaking GHG reducing projects in a significant amount of square feet

Customer Recognition

- Developing new ways to create customer, employee, and Environmental, Social and Governance (ESG) leadership recognition, celebration, and value for those institutions who are leading the way in reducing GHG emissions

Driving equity within our C&I programs



Allocating and focusing additional resources to serving small & micro businesses to drive additional participation, broader and more comprehensive savings

We Need Your Help

The PAs embrace the challenge in front of us, but achieving these nation-leading outcomes will require support and effort from each of you