BUILDING DECARBONIZATION COALITION

BDC PRESENTS

The Multi-State Plan to Power a Surge in Heat Pump Adoption

How nine states & Washington, D.C. have committed to accelerating the transition to clean buildings

Thursday July 18 | 10AM PT 1PM ET

BDC Presents: NESCAUM MOU

July 18, 2024

About the BDC

The Building Decarbonization Coalition (BDC) aligns critical stakeholders on a path to transform the nation's buildings through clean energy, using policy, research, market development and public engagement.

The BDC and its members are charting the course to eliminate fossil fuels in buildings to improve people's health, cut climate and air pollution, prioritize high-road jobs, and ensure that our communities are more resilient to the impacts of climate change.

- **Sign up for our newsletter!** https://buildingdecarb.org/newsletter
- **Membership is free!** Join us! buildingdecarb.org/join

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Thank you to our Trailblazer Members!

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Upcoming Events

Policy Calls

California

Aug 20 at 10 am PT

Webinar Logistics

- Everyone is muted.
- Ask **questions** for our panelists in the **chat.**
- Drop **comments** for the whole group in the **chat.**
- This webinar is being recorded and will be placed in our website's Resource Library.
- All registrants will be emailed with a link and additional resources early next week.

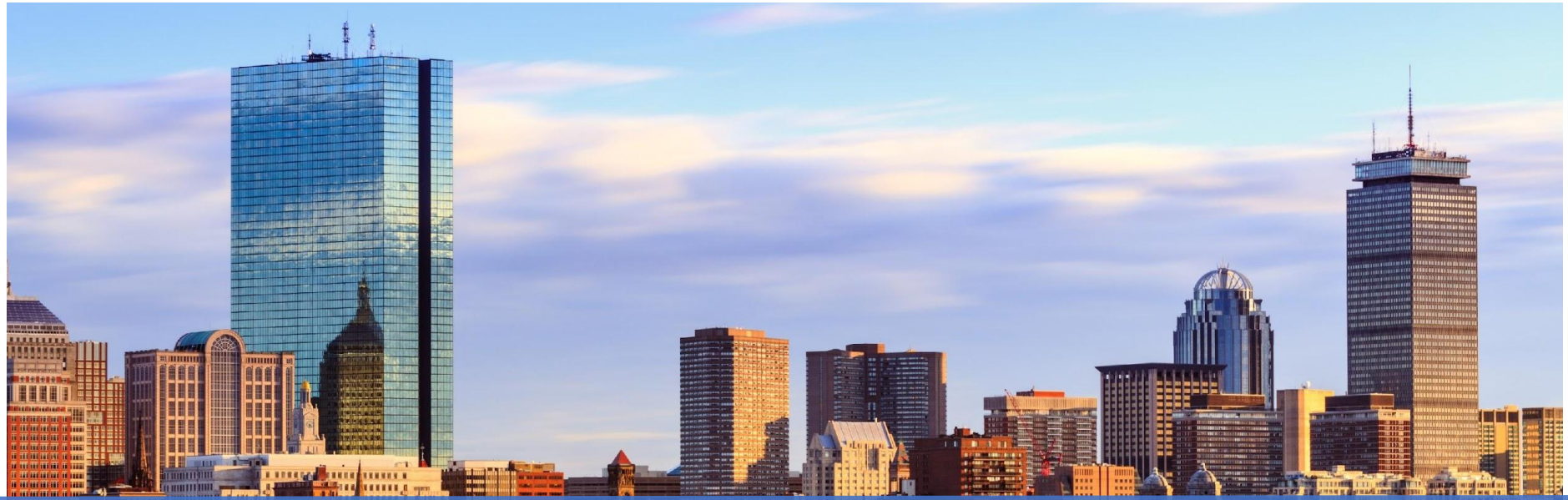
BDC

Today's Hosts

Emily Levin
NESCAUM
Senior Policy Advisor

Zach Berzolla
Maryland Department of the Environment
Building Decarbonization Section Head

Matt Casale
BDC
Associate Director of State Mobilization



NESCAUM

The Multi-State Plan to Power a Surge in Heat Pump Adoption

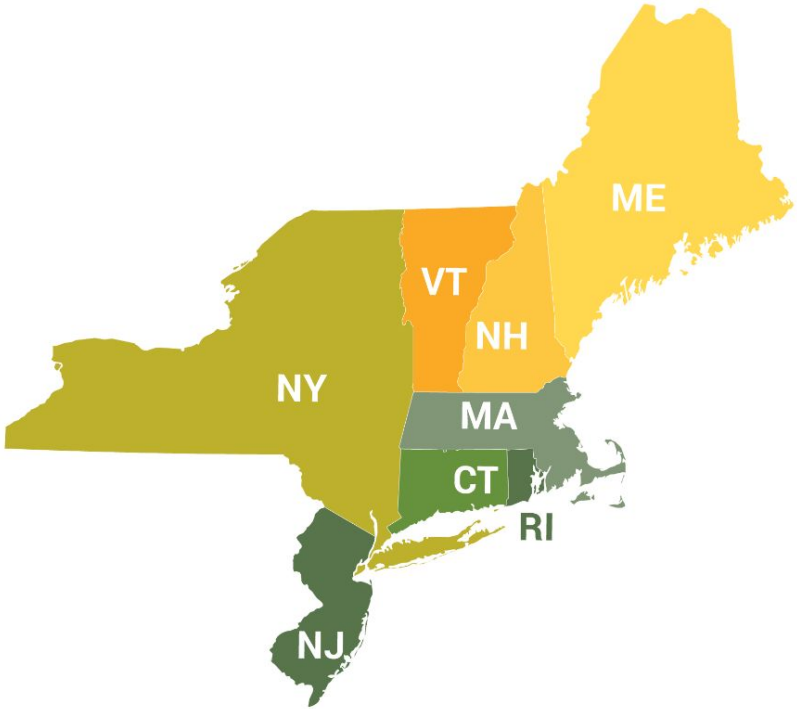
BDC Presents Webinar

July 18, 2024

Northeast States for Coordinated Air Use Management (NESCAUM)

NESCAUM is the regional nonprofit association of state air quality and climate agencies in the Northeast. We:

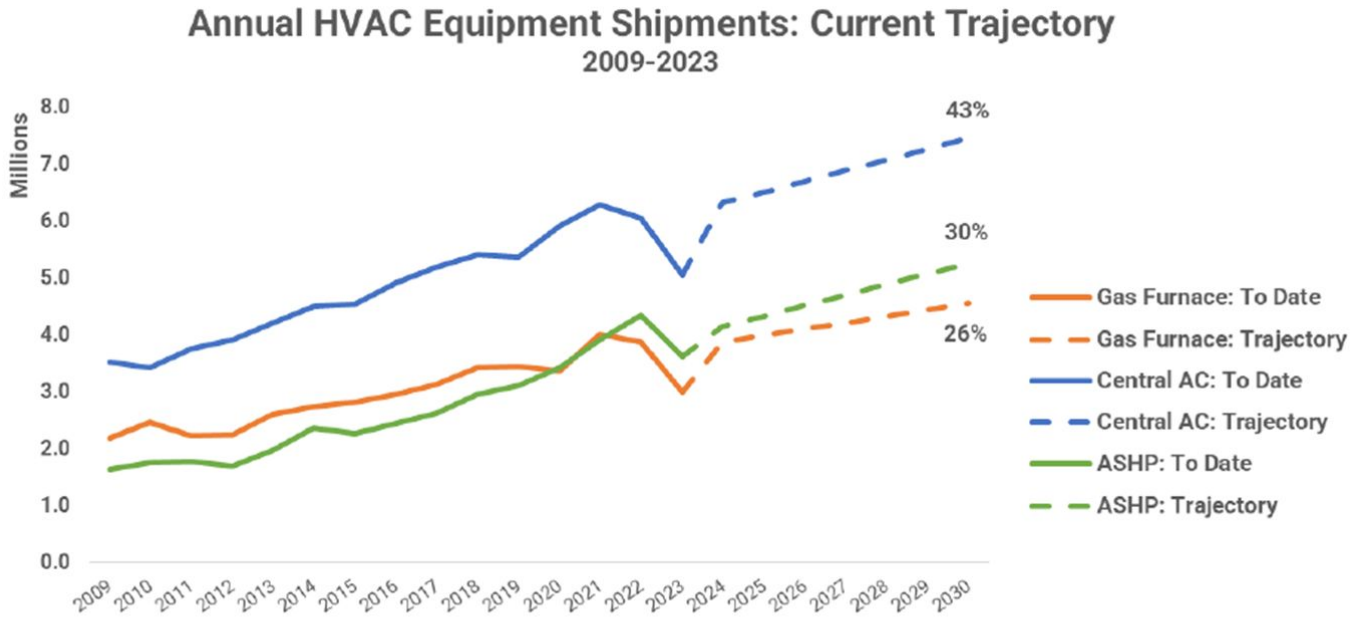
- Assist member states in meeting their air quality, climate, and environmental justice goals
- Provide scientific, technical, analytical and policy support to states
- Collaborate with states outside the region to advance zero-emission buildings and vehicles



Building a Bridge to 2050

Air Source Heat Pump (ASHP) Sales Trends

- Nationally, ASHPs are on track to make up 30% of sales by 2030
- ASHP sales recently surpassed gas furnaces
- Converting AC sales to 2-way heat pumps is a great first step



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Source: AHRI

U.S. Climate Alliance Heat Pump Announcement

- [Announcement: Decarbonizing America's Buildings]
- Announced 9/21/23 at Climate Week

Member states:

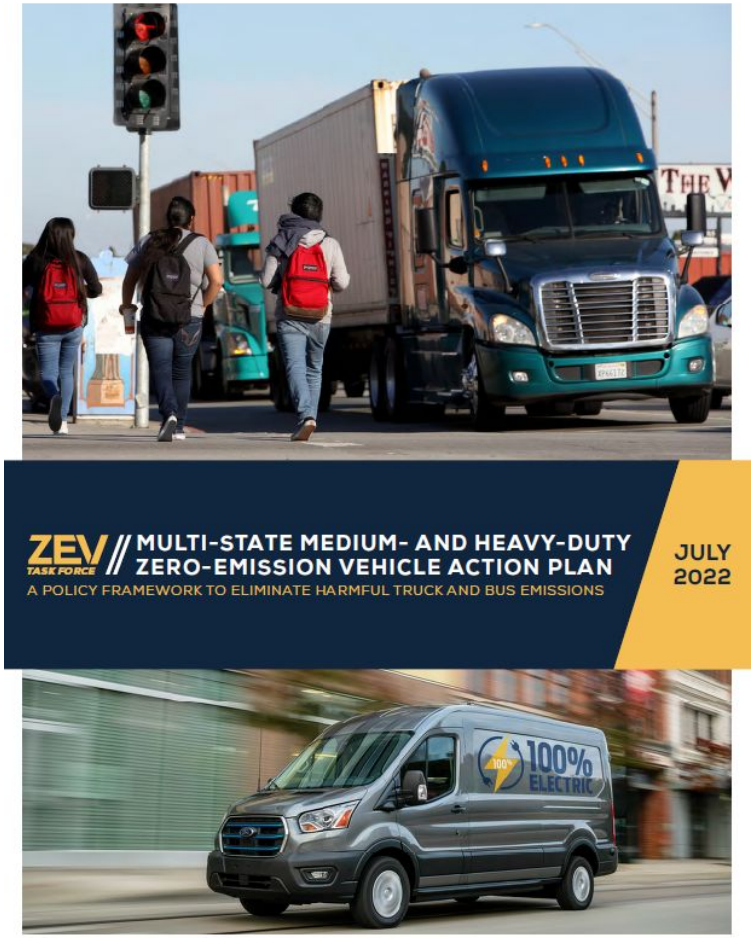
	Maine	Oregon
Arizona	Maryland	Pennsylvania
California	Massachusetts	Puerto Rico
Colorado	Michigan	Rhode Island
Connecticut	Minnesota	Vermont
Delaware	New Jersey	Washington
Guam	New Mexico	Wisconsin
Hawai'i	New York	
Illinois	North Carolina	

MOU: Accelerating the Transition to Zero-Emission Residential Buildings

- Link to MOU and February 7, 2024 press release
- Supported by heat pump manufacturers and businesses
- **Targets:** Across Signatory States, at least 65% of residential-scale heating, air conditioning, and water heating equipment shipments will be zero-emission heat pump equipment by 2030 and 90% by 2040
- **Multistate collaboration** to accelerate the transition to zero-emission residential buildings through:
  - Tracking and reporting each state's progress towards market share targets
  - Development of a multistate action plan
  - Collaboration between state environmental agencies and energy offices

MOU: Medium- and Heavy-Duty (MHD) Zero Emission Vehicles

- Signed in March 2022 by 15 states and DC, building on a light-duty ZEV MOU signed in 2013
- Targets:
  - Signatory States agree to strive to make sales of all new MHD vehicles in our jurisdictions zero emission vehicles by no later than 2050
  - To ensure adequate progress toward the 2050 goal, Signatory States will strive to **make at least 30% of all new MHD vehicle sales in our jurisdictions zero emission vehicles by no later than 2030**
  - Report MHD vehicle registration data needed to track progress toward these targets
- **Multi-state action plan** to identify barriers and propose solutions to support widespread electrification of MHD vehicles



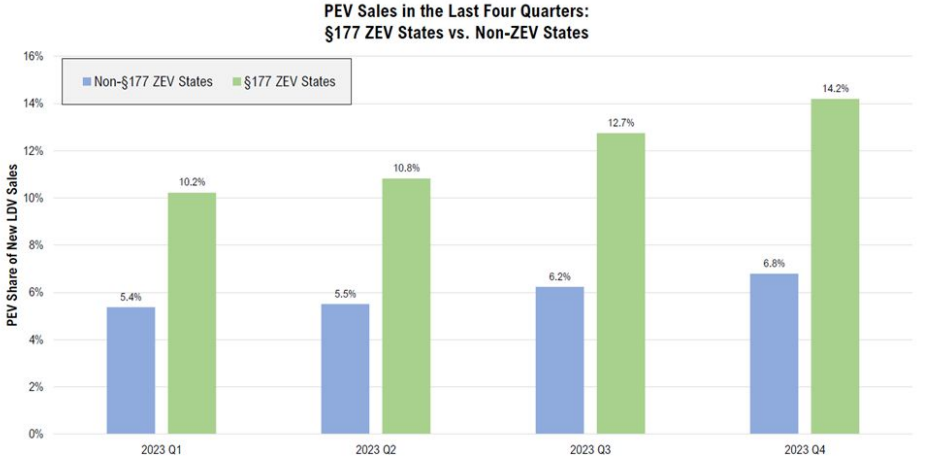
Tracking Progress Towards Interim Targets

- Quarterly / annual data reporting for key metrics
- Alignment across states on data sources and reporting methods

EVSE Deployment in the ZEV Task Force Jurisdictions

State	Total Stations	L2 Plugs	DCFC Plugs	Total Plugs	Plugs Added in 2023	% Increase in 2023
CA	16,406	38,014	10,508	48,522	5,688	13.3%
CO	2,169	4,447	932	5,379	1,058	24.5%
CT	861	2,056	416	2,472	902	57.4%
DC	376	1,081	50	1,131	204	22.0%
DE	195	324	192	516	154	42.5%
HI	386	762	69	831	-79	-8.7%
MA	3,042	6,290	659	6,949	1,248	21.9%
MD	1,723	3,974	927	4,901	1,017	26.2%
ME	494	839	220	1,059	219	26.1%
MN	788	1,487	439	1,926	484	33.6%
NC	1,606	3,187	972	4,159	1,165	38.9%
NH	262	411	176	587	125	27.1%
NJ	1,296	2,708	1,002	3,710	1,032	38.5%
NM	292	453	246	699	201	40.4%
NV	594	1,335	624	1,959	311	18.9%
NY	3,963	9,696	1,349	11,045	1,547	16.3%
OR	1,261	2,324	787	3,111	714	29.8%
PA	1,728	3,238	984	4,222	1,026	32.1%
Qc	3,982	8,028	1,482	9,510	NA	NA
RI	315	653	91	744	54	7.8%
VA	1,587	3,240	1,105	4,345	931	27.3%
VT	386	837	116	953	92	10.7%
WA	2,225	4,596	1,073	5,669	1,358	31.5%

Source: US DOE, Alternative Fuels Data Center
EVSE plug figures include public and private Level 2 and DCFC stations active as of January 24, 2024.



Section 177 ZEV States include: CO, CT, DC, DE, MA, MD, ME, MN, NJ, NM, NV, NY, OR, RI, VA, VT, WA
Source: IHS Markit / Polk via Atlas Public Policy's EV Hub

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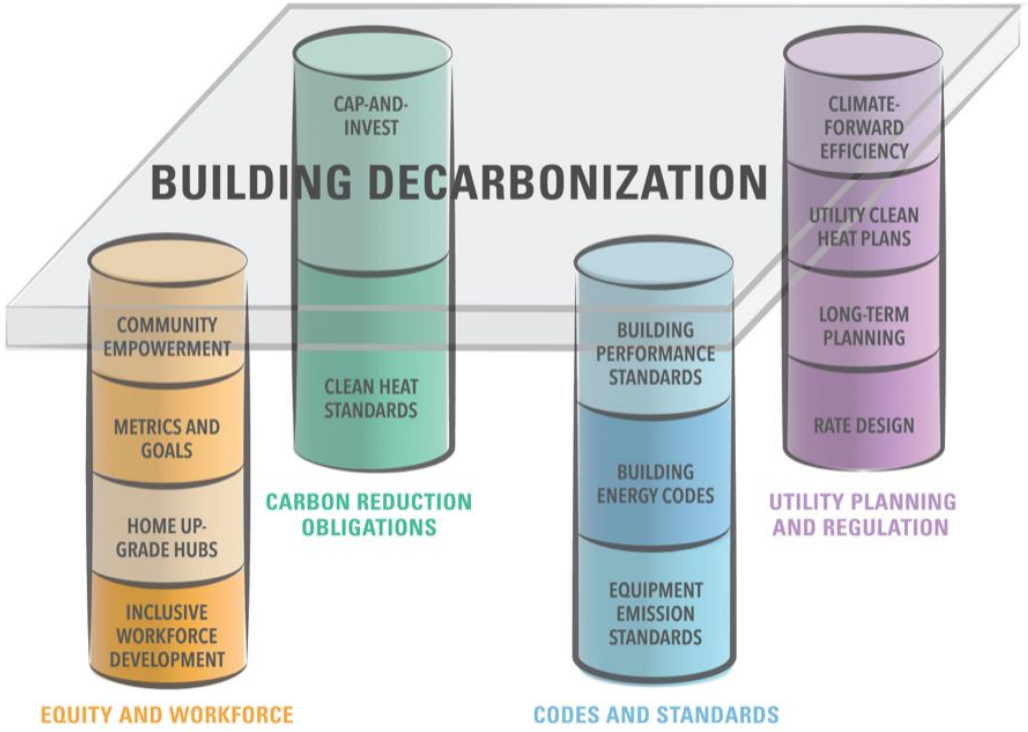
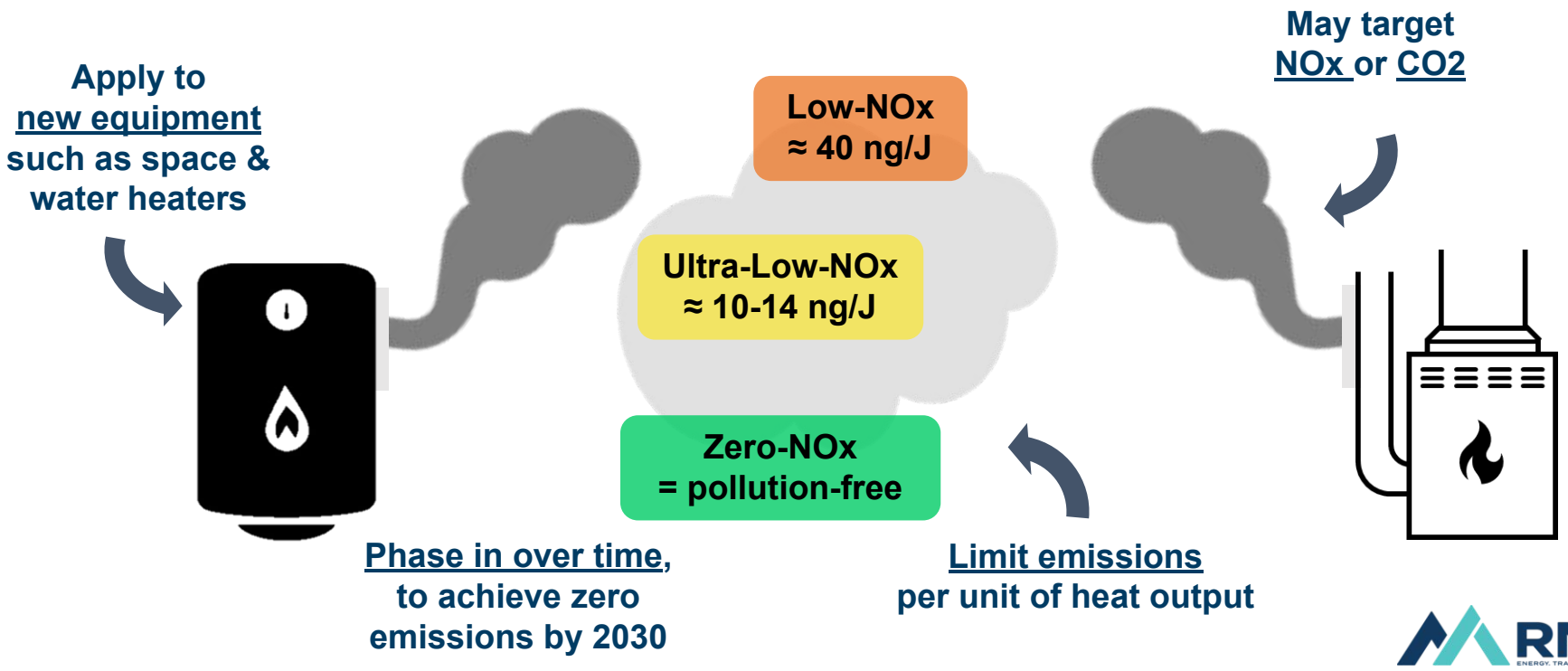
State Policy Options to Decarbonize Buildings

- Policy brief: Decarbonizing Buildings: How States Can Set the Table for Success
- Federal funding + state policy can accelerate heat pump adoption and reach 65% of sales by 2030



RAP® nee NESCAUM

Spotlight: Zero-Emission Standards for Building Equipment Sold or Installed in a Jurisdiction



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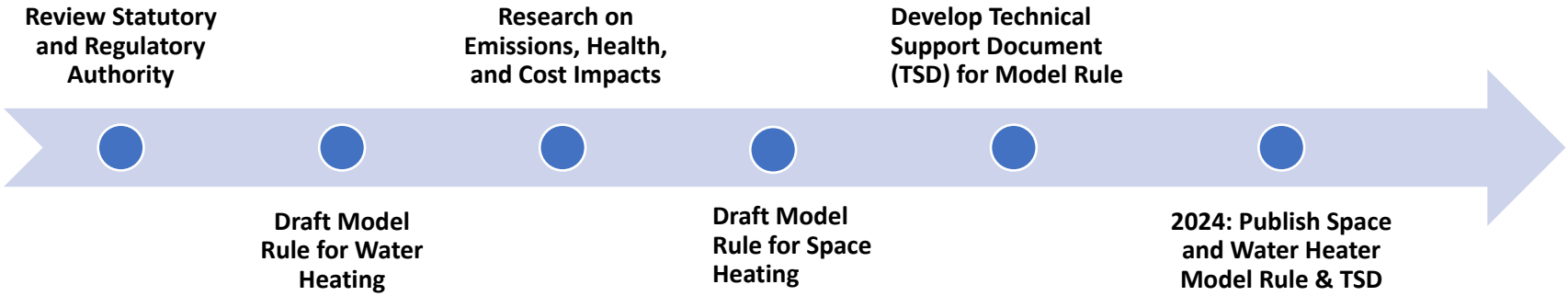
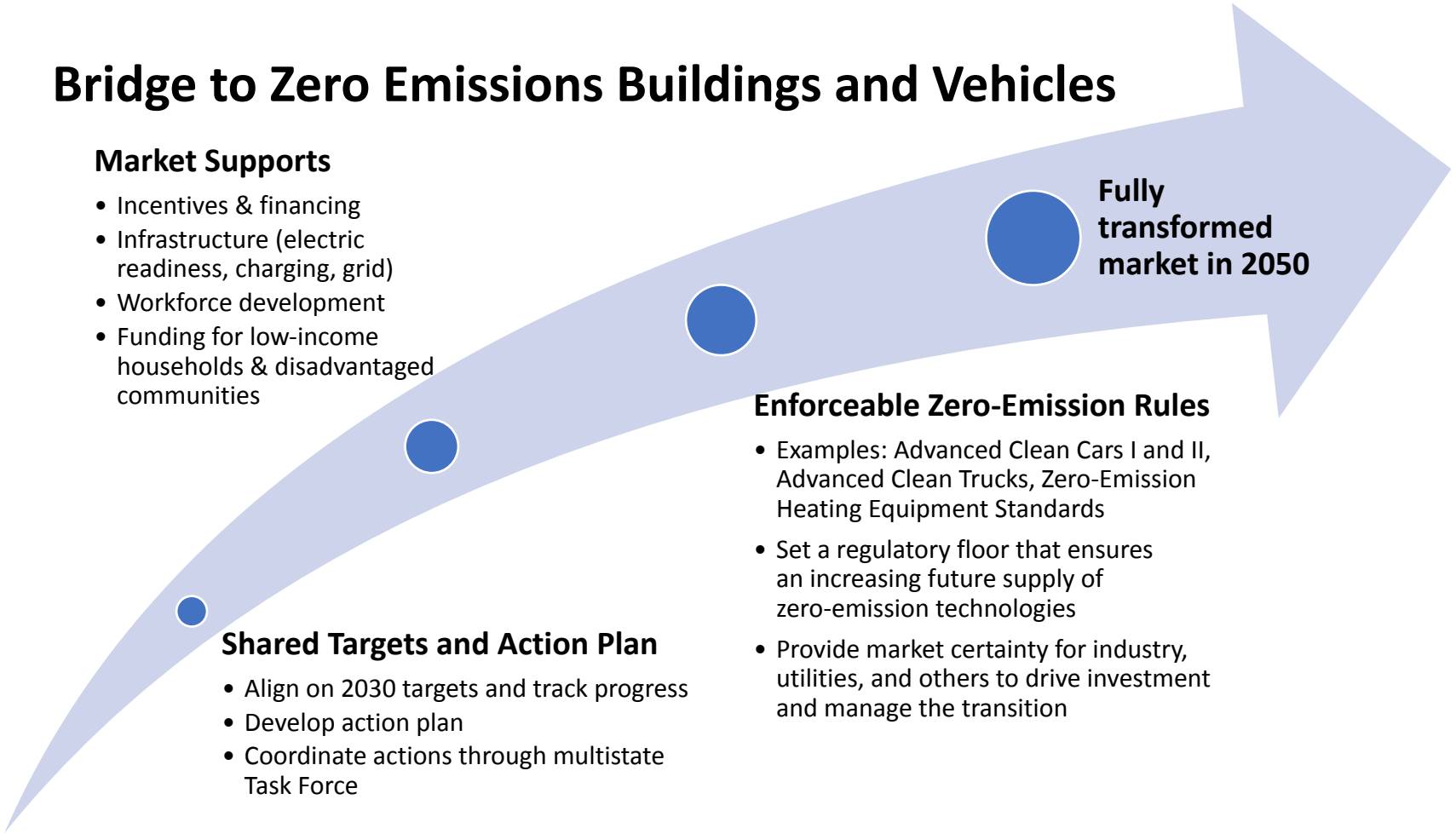
Zero-Emission Standards Model Rule

- NESCAUM and U.S. Climate Alliance have convened an Equipment Emission Standards Cohort (EESC) to explore the adoption of zero-emission standards for space and water heating equipment
- Model rule and supporting technical analyses will be available to states to use in their rulemaking documents
- States can adapt the model rule as they see fit



Bridge to Zero Emissions Buildings and Vehicles



Market Supports

- Incentives & financing
- Infrastructure (electric readiness, charging, grid)
- Workforce development
- Funding for low-income households & disadvantaged communities

Fully transformed market in 2050

Enforceable Zero-Emission Rules

- Examples: Advanced Clean Cars I and II, Advanced Clean Trucks, Zero-Emission Heating Equipment Standards
- Set a regulatory floor that ensures an increasing future supply of zero-emission technologies
- Provide market certainty for industry, utilities, and others to drive investment and manage the transition

Shared Targets and Action Plan

- Align on 2030 targets and track progress
- Develop action plan
- Coordinate actions through multistate Task Force

For More Information

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NESCAUM
NORTHEAST STATES FOR COORDINATED AIR USE MANAGEMENT

Maryland Building Decarbonization: Overview of Key Policies

Presented by:

Zach Berzolla, Ph.D.

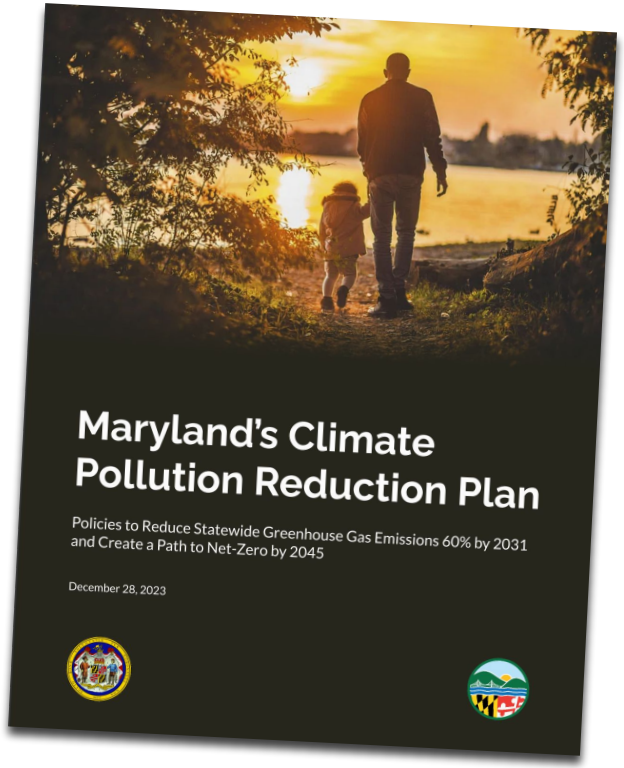
Building Decarbonization Section Head

Presentation Agenda

- Maryland's Climate Pollution Reduction Plan
- Building Decarbonization Policies
  - Building Energy Performance Standards
  - Clean Heat Standards
  - Zero-Emission Heating Equipment Standards
  - EmPOWER Maryland
- Q&A

Climate Pollution Reduction Plan

- Reduce statewide greenhouse gas emissions **60% by 2031** (from 2006 levels)
- Set the state on a path to achieve **net-zero emissions by 2045**
- **Create net economic benefits** for Maryland, including more than 27,000 green jobs
- Full plan at **mde.maryland.gov**



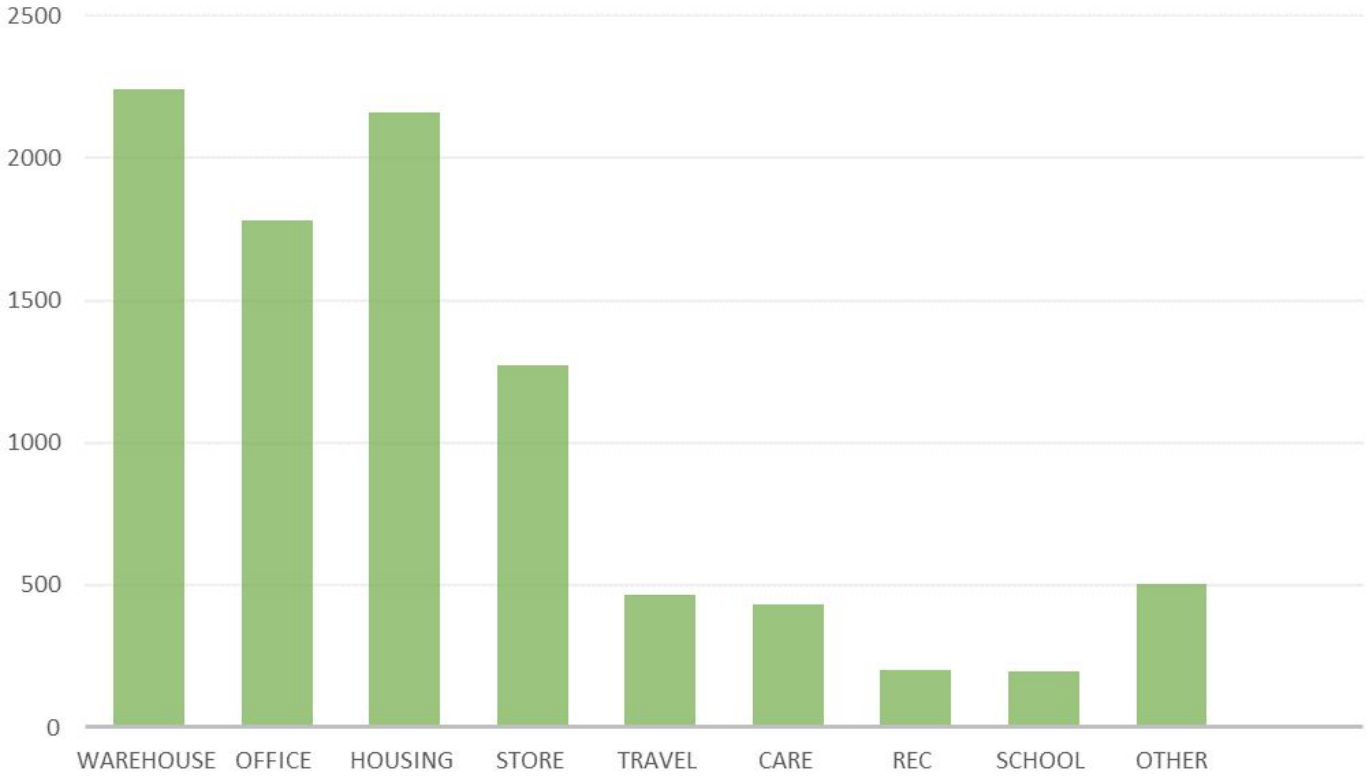
Building Sector Policies

- **Building Energy Performance Standards** (proposed)
- **Zero-Emission Heating Equipment Standard** (new)
- **Clean Heat Standard** (new)
- **EmPOWER** (current, modified)
- **Energy Codes and Standards** (current)
- **State Government Lead by Example** (current)
- **EV-Ready Standards for New Buildings** (current, modified)
- **Incentives for Building Decarbonization** (current, modified)
- **Gas System Planning** (new)

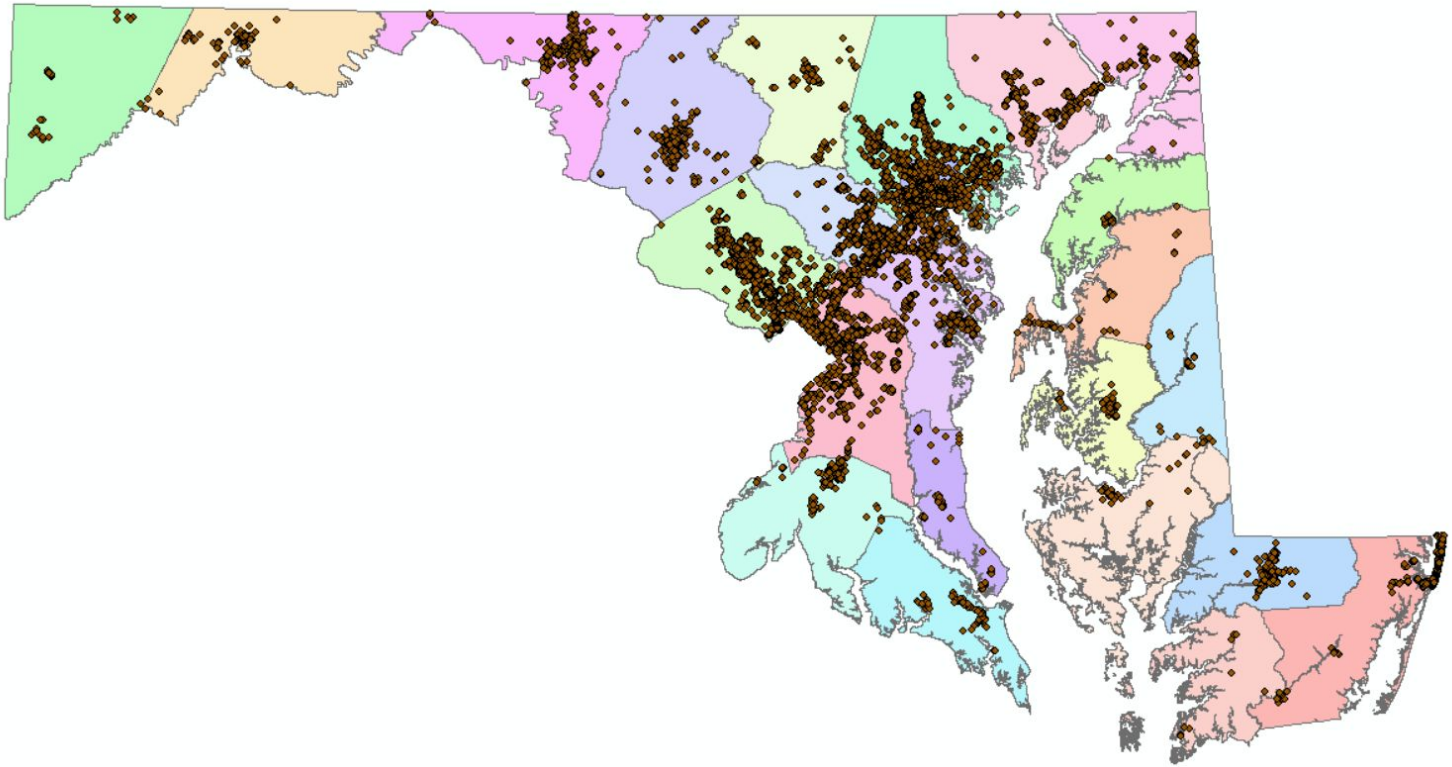
Building Energy Performance Standards

- Maryland is implementing Building Energy Performance Standards (BEPS) with the goal of covered buildings to achieve zero net direct greenhouse gas emissions and improvements to energy efficiency by 2040
- Covered building owners can take action now. Most buildings > 35,000 square feet are covered, with certain building types exempt
- Efficient, net-zero emissions buildings improve comfort, resiliency, reliability, and save on energy costs. Investments in achieving these standards will pay dividends to occupants and building owners for decades to come
- The latest regulations will be adopted in 2024. Building owners should prepare to report benchmarking data to MDE by June 1, 2025

Number of Covered Buildings



Location of Covered Buildings



Preliminary analysis

What's Next for Building Owners?

Alternative Compliance Payment

Benchmarking	Assessment	Achieve Standards
Annually, starting in 2025 Use ENERGY STAR Portfolio Manager to track annual energy use and GHG emissions	**Annually, starting in 2025** Determine if changes are needed to achieve the standards	**Annually, starting in 2030** Achieve standards **OR** Achieve partial compliance and make alternative compliance payment

E.O.: Implementing Maryland's Climate Pollution Reduction Plan

The Maryland Department of the Environment shall:

a. Propose a zero-emission heating equipment standard regulation that will phase-in zero-emissions standards for heating equipment to reduce carbon pollution and improve air quality inside homes and the ambient air;

b. Propose a clean heat standard regulation to expand Maryland's Renewable Portfolio Standard to the thermal energy system, mobilizing investment in clean heat solutions for homes and businesses

Clean Heat Standard

- A performance standard that requires heating fuel providers to reduce the GHG emissions associated with their businesses following a schedule set by MDE
- Obligated parties can meet the requirements in several ways including but not limited to helping their customers save energy, helping their customers install heat pumps, and replacing fossil fuels with lower-impact fuels
- MDE initiated a rulemaking process in 2024 to propose draft regulations based on existing statutory authority

For more information: The Regulatory Assistance Project. Meeting the Thermal Challenge: A Clean Heat Standard for Maryland November 3, 2023. https://www.raponline.org/knowledge-center/meeting-thermal-challenge-clean-heat-standard-maryland/.

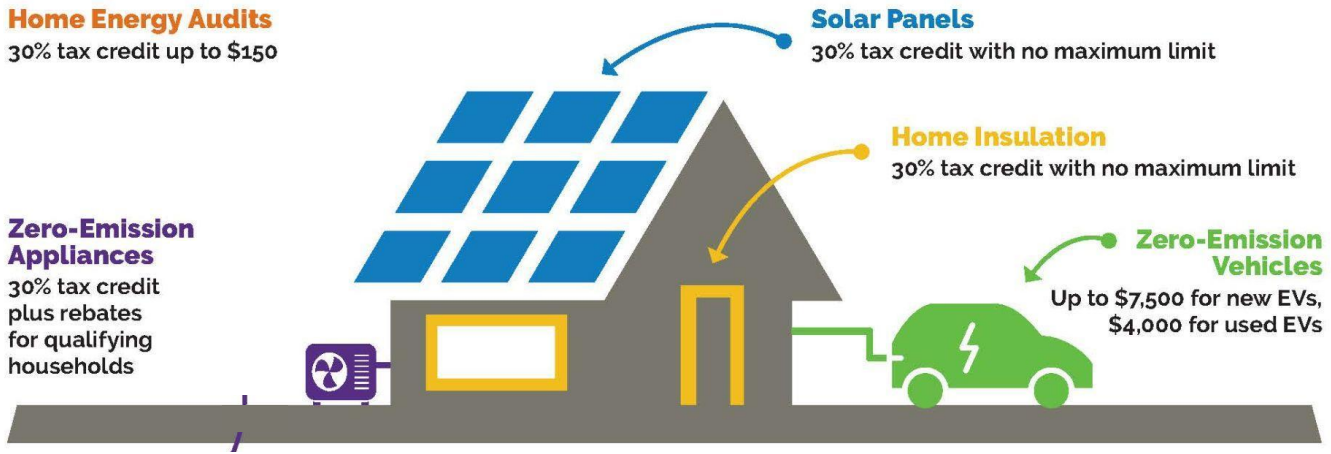
Zero Emissions Heating Equipment Standards

- Require new heating systems installed in Maryland buildings to produce zero on-site emissions beginning later this decade
- In September 2023, Maryland joined with 24 other states in the U.S. Climate Alliance in committing to quadruple the number of heat pumps installed by 2030
- MDE initiated a rulemaking process in 2024 to propose draft regulations based on existing statutory authority

Federal Tax Credits

Take Advantage of Existing Incentives for Zero-Emission Devices

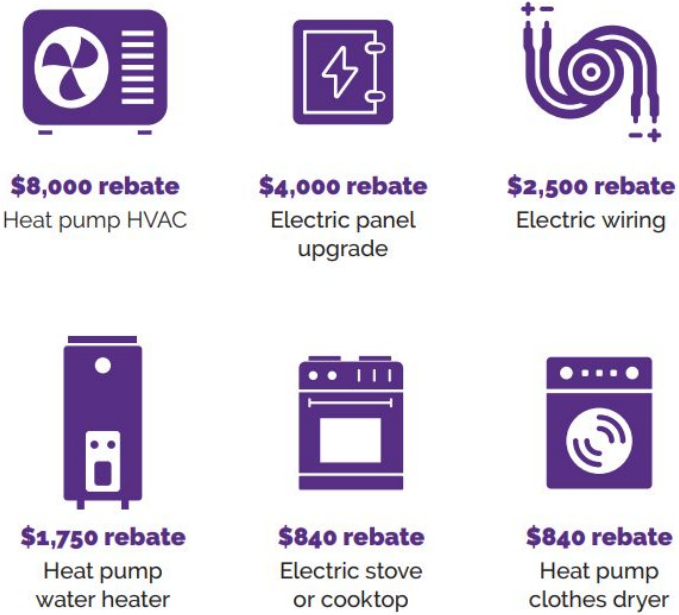
The Inflation Reduction Act offers tax incentives and rebates for making improvements around the house. More details at **energy.gov/save**



Electrification Rebates

Rebates from the Maryland Energy Administration will be available in 2025 for low, moderate and middle-income households.

Climate plan proposes to keep electrification rebates flowing when federal funding runs out.



EmPOWER MD 2024 Updates

- HB864 passed in 2024
- Requires electric companies, gas companies, and the Department of Housing and Community Development to adopt energy efficiency, conservation, demand response, and beneficial electrification measures **to support GHG emissions reductions**
- Set new annual targets for GHG emissions reductions
- Targets start in 2025

Can the Grid Handle It? Yes.

The Climate Solutions Now Act required the Maryland Public Service Commission (PSC) to study effects on the grid.

Electrification of buildings and vehicles will require modest investments below historic levels.

Electrification Creates Local Jobs

Upgrading a boiler to a heat pump can't be outsourced

Implementing MD's Climate Plan will create an additional **27,000 jobs** between now and 2031

Electricians and heat pump installers will benefit

Wrap-Up

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Questions?