

# **BUILDINGENERGY BOSTON**

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## **Leveraging Federal and State Incentives for Building Decarbonization**

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**Northeast Sustainable Energy Association (NESEA)  
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# IRA Overview – Residential Programs

<b>Program</b>	<b>IRA Funding Level</b>	<b>Timeline</b>
25C New Energy Efficient Home Tax Credit	CBO Est: \$12.4B over 10 years	Available through 2032
45L Energy Efficiency Tax Credit	CBO Est: \$2B over 10 years	Available through 2032
High-Efficiency Electric Home Rebate Program	\$4.5B	Available through 2031
Home Owner Managing Energy Savings (HOMES) Rebate	\$4.3B	Available through 2031
State-Based Energy Efficiency Contractor Training Grants	\$200M	Available through 2031

# IRA – Home Owner Managing Energy Savings (HOMES) Rebates

IRA provide \$4.3 billion in formula funding through State Energy Programs for HOMES rebates.

Provides direct rebates for home energy efficiency retrofits.

- Modeled \$2,000 for 20% savings, \$4,000 for 35% savings.
- Measured energy savings of at least 15% portfolio, based on Average State House 20% energy savings.
- Capped at 50% of project cost for market-rate (aver 80% Area Mean Income).

Rebates double for low- and moderate-income households (up to \$8,000, capped at 80% of project cost).







Includes a “prohibition of combining rebates” for federal programs to prevent double-dipping with other federal grants or rebates, including the High-Efficiency Electric Home Rebate Program (for the same measure).

- IRA does not include any provision prohibiting combining federal rebates with state rebates, nor does it prohibit combining rebates with energy efficiency tax credits like 25C.

Includes both single-family and multifamily.

## IRA – High-Efficiency Electric Home Rebate Program

- ▶ IRA provides **\$4.5 billion** in grants to states via the State Energy Program for a **High-Efficiency Electric Home Rebate Program**.
- ▶ LMI households are eligible for rebates **up to a total of \$14,000** for electric systems/appliances.
- ▶ Includes a "prohibition of combining rebates" section to prevent double-dipping with HOMES.
- ▶ Includes both single-family and multifamily.

	Appliance	Rebate Amount (Maximum)
	Heat Pump (for space heating and cooling)	\$8,000
	Electric Stove, Cooktop, Range, or Oven, or Clothes Dryer	\$840
	Heat Pump Water Heater	\$1,750
	Electric Wiring	\$2,500
	Electric Load Service Center (Breaker Box)	\$4,000
	Insulation, Air Sealing, and Ventilation	\$1,600

# Department of Energy Timeline - Proposed

## 2023

June: States Receive Administrative Funds

September: First States Receive Full Funds

November: First State Rebate Programs

December: Second Wave of States Launch Rebate Programs

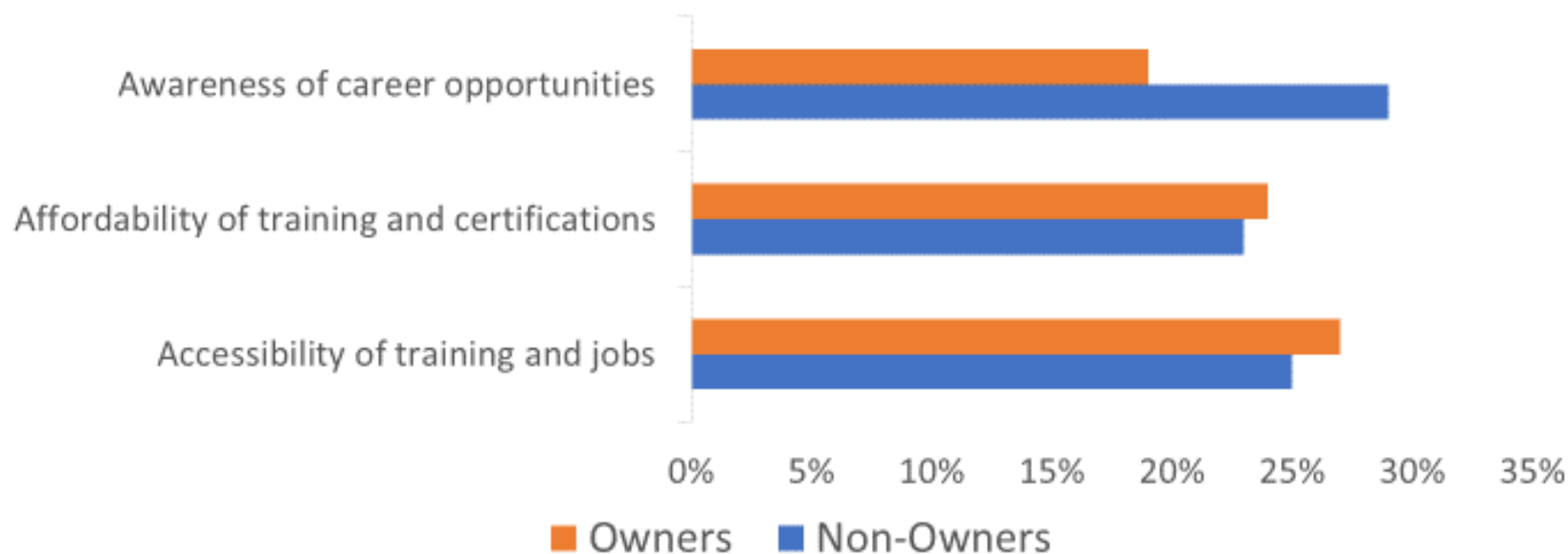
## 2024

February: Later States Launch Rebate Programs

March: Later States Launch Rebate Programs



## What are our biggest challenges in growing our building performance industry?



## IRA – State-Based Home Energy Efficiency Contractor Training Grants

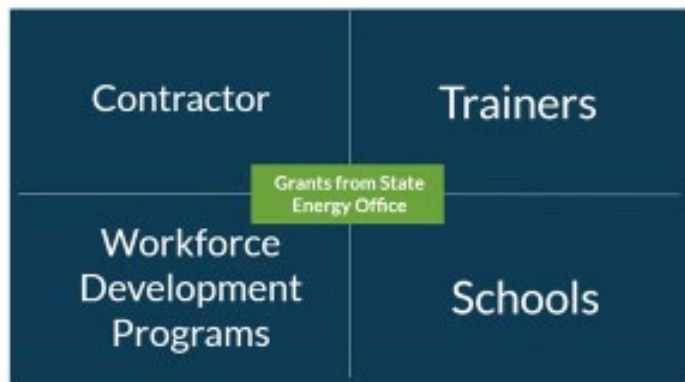


- ▶ IRA provides \$200 million for State-Based Home Energy Efficiency Contractor Training Grants.
  - ▶ Grants to states through the State Energy Program to support energy efficiency and electrification contractor training.
- ▶ Specifications will be left up to DOE in implementation.
- ▶ Previously called “Home On-line Performance-Based Energy Efficiency (HOPE) Contractor Training Grants”.



# Building a Workforce

- Organize stakeholders and **contractors**
- Identify existing assets in states
- Find gaps in current WFD programs
- Partner with local leading organizations
- Coordinate regularly between partners
- Prepare for IRA/BIL implementation



# Mass Save All-Electric Home Offer

*New Construction 1-4 Unit Residential Buildings*

# All-Electric Home Incentives



Incentives based on performance  
Level achieved and number of units



Incentive amounts are per building



Maximum incentive of \$40,000



For homes with 2+ units, all units must  
meet the same Level of eligibility

Home Type	Level 1	Level 2
Single family	\$15,000	\$25,000
2-unit dwelling	\$17,500	\$30,000
3-unit dwelling	\$20,000	\$35,000
4-unit dwelling	\$22,500	\$40,000

<https://www.MassSave.com/en/saving/residential-rebates/all-electric-home>

WE ARE MASS SAVE:



# Example- Net Zero Single Family - \$40,500+

- 25K MassSave All Electric Home Offer
- 10K IRA 45L tax credit for net zero
- Solar PV- 30% tax credit (\$10,500 on 35K system)



Concord Riverwalk Net Zero Community: ZeroEnergy Design

# FEDERAL | IRA Impact on Commercial Buildings



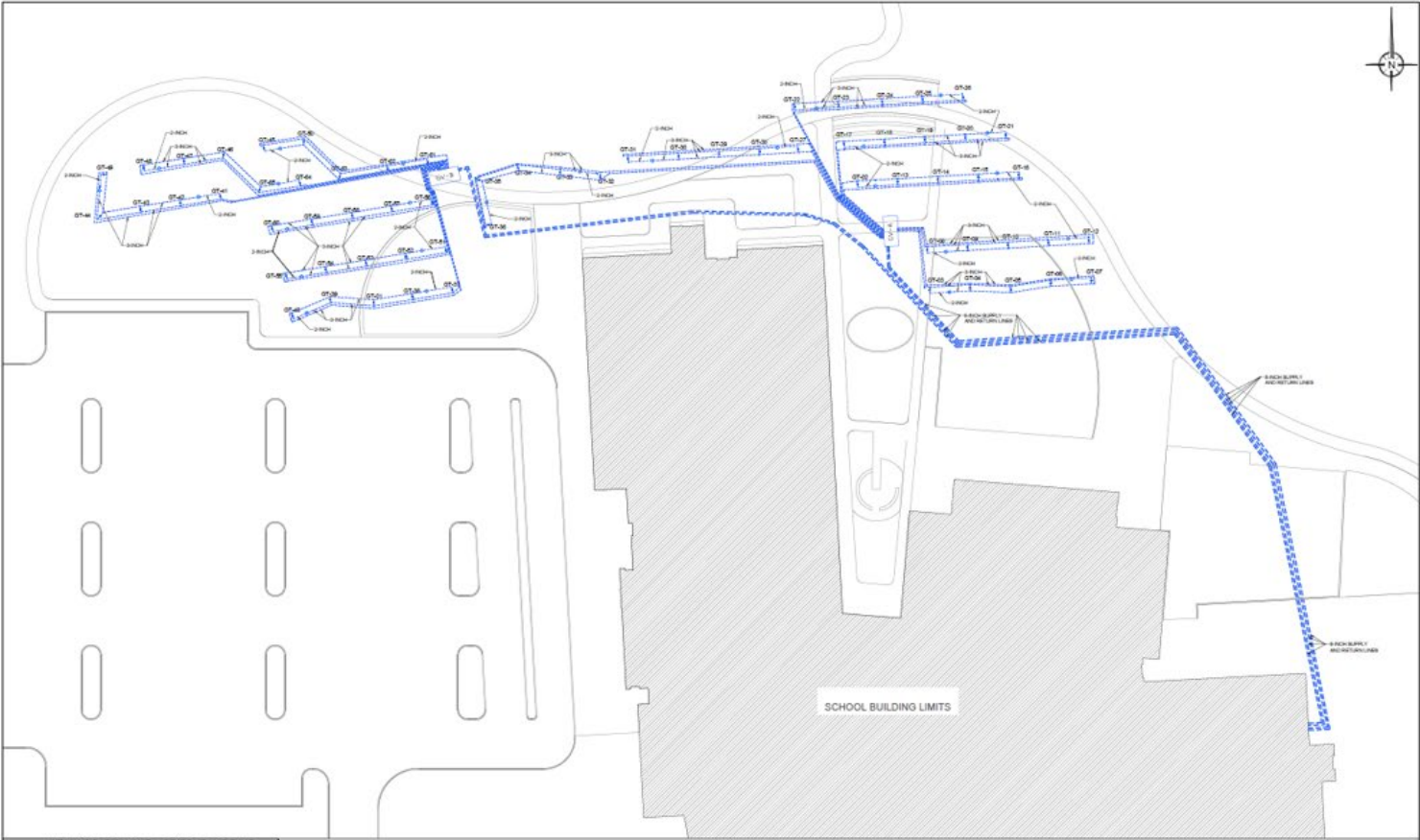
- Inflation Reduction Act extends the federal investment tax credit (“ITC”) through at least 2032 at fixed minimum 30% credit amount
  - New labor requirements introduced for laborers and mechanics working on qualifying projects
  - Bonus adders are available for domestic content (+10%) and “energy communities” (+10%) for a max potential ITC amount of 50%
- Expands ITC eligibility to include standalone energy storage systems including thermal energy storage property (i.e., geothermal)
- Introduces new ITC direct payment mechanism for tax-exempt entities to be administered by the U.S. Treasury

# COMMERCIAL INCENTIVES | Key Takeaways

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- Commercial = Non-Residential
- Commercial building owners can use both federal and state incentives
- IRA incentives for geothermal fundamentally change project economics
- The IRA enables public and non-profit entities to directly monetize federal energy tax credits
- The IRA is still in the process of being implemented by the IRS, certain incentive programs are not yet fully operational
- Ask for help! Talk to state program administrators early in process

# FEDERAL | Determining Geothermal ITC Value



# FEDERAL | Determining Geothermal ITC Value

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- For facilities financed with tax-exempt bonds, the amount of the ITC is reduced by the lesser of:
  - 15%
  - the fraction of the proceeds of a tax-exempt obligation used to finance the project over the aggregate amount of the project's financing costs
- For a project with 100% tax-exempt financing, the base ITC is reduced from 30% to 25.5%
- For a project with 100% tax-exempt financing and the domestic content adder, the ITC is reduced from 40% to 34%



# FEDERAL | Next Steps for Leveraging the IRA

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- IRS has issued guidance on labor requirements for ITC/CEIC
  - Requirements apply to laborers and mechanics, as defined at 29 CFR 5.2(m), performing construction, alternation or repair on a facility
  - Requirements apply if construction commenced after January 30, 2023
- Waiting on the IRS to issue guidance on the following key issues
  - Direct pay option
  - Thermal energy storage property
  - Domestic content adder

# Mass Save Commercial New Construction Path 1 Incentive Net Zero/Low EUI

*New Construction Commercial Buildings*

# Mass Save Path 1 Support



Prime Focus is on Building Electrification/Decarbonization (Heat pumps!) and low Energy Use Intensity (EUI) buildings



- Set an Energy Use Intensity (EUI) target
- Receive up to \$2.00/sf in incentives plus additional heat pump incentives at construction completion
- Plus - receive \$1.50/sf if building performs after 1 year at the target level
- Receive up to \$10,000 in technical support

## Heat Pump Support Levels are Significant

### Heat Pump Incentives for Commercial New Construction/Major Renovation Projects

Air source heat pumps:	\$800/ton
Variable refrigerant flow (VRF):	\$1,200/ton
Ground source heat pumps:	\$4,500/ton

Visit [www.MassSave.com/cincmr](http://www.MassSave.com/cincmr) to learn more

Contact: [Kim.Cullinane@eversource.com](mailto:Kim.Cullinane@eversource.com) for more info

# EXAMPLE | Massachusetts School Geothermal

- 170,000 SF new building
- 110 wells at 600' depth = **\$20 million**

Incentive Source	Incentive Program	Description	Estimated Value
State	Mass Save	Net Zero Technical Support	\$10,000
State	Mass Save	Path 1 Construction Incentive	\$340,000
State	Mass Save	Ground-Source Heat Pump Incentive	\$1.53 million
State	Mass Save	Post Occupancy Incentive	\$255,000
State	MA Alternative Portfolio Standard	Alternative Energy Credit Sales	\$25,000 per year
Federal	Section 48 Investment Tax Credit	% of Installed System Cost	\$6 million - \$8 million
Federal	Section 179D EE Commercial	\$/SF for 25% - 50% EUI Reduction	\$850,000

**\$2 million**

**\$7 million**

# Mass Save Commercial Energy Deep Energy Retrofit Offer

*Commercial Buildings Retrofits >40% Energy Reduction*



- **40% reduction GHG (CO<sub>2</sub>)**

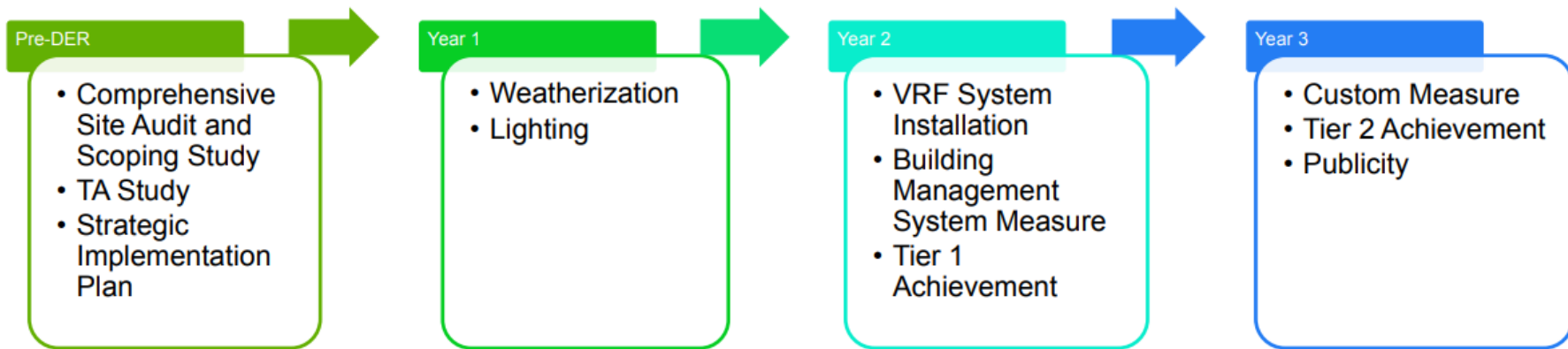


- 3 Year Deep Energy Retrofit Term
- Electrification (space heating)
- Weatherization/Ventilation
- Commissioning



- Commercial meter(s)
- Occupied 1+ yr
- Major Renovation Pathway excluded
- Renewables excluded

# Example – 50,000 ft<sup>2</sup> Library Deep Energy Retrofit



1	Pre-DER	Year 1	Year 2	Year 3	Total
% Reduction		13%	37%	41%	
Standard Incentives	\$15,000 (TA)	Wx: \$/sqft Lighting Prescriptive	VRF: \$3,500/ton BMS Prescriptive	Custom: \$0.30/kWh	
Standard Total	\$15,000 (TA)	\$13,600 + \$11,400	\$437,000 + \$7,000	\$6,000	\$475,000 + \$15,000 (TA)
DER Payments		\$8,000 (Cx)	\$20,000 + \$10,000 (Cx)	\$30,000 + \$2,000 (Cx)	\$50,000 + \$20,000 (Cx)
<b>Total Incentive</b>	<b>\$15,000 (TA)</b>	<b>\$25,000 + \$8,000 (Cx)</b>	<b>\$464,000 + \$10,000 (Cx)</b>	<b>\$36,000 + \$2,000 (Cx)</b>	<b>\$525,000 + \$35,000 (Cx &amp; T)</b>

# Library Deep Energy Retrofit Example



150K Solar; 110 Ton VRF

## MassSave Commercial Deep Energy Retrofit Incentive

- \$25K Lighting, Attic and Wall Insulation Measures
- \$444K VRF Incentive + BMS
- \$6K Custom measure incentive
- \$50K Deep Energy Retrofit Payment
- \$35K Technical Assistance and Commissioning Support

## IRA Incentives (potential for \$45K to \$295,000)

- **48 Solar:** 30% cash rebate. 10% more if domestic content. Potential for more if in a New Market Tax Credit geography.
- **179D Commercial Efficiency Improvement TAX DEDUCTION:** May be difficult to monetize but deduction can be assigned to architect, engineer after year of post construction monitoring \$1.00/SF or \$50,000. If prevailing wage and apprenticeship get \$5/SF \$250,000

Up to \$560,000 Mass Save Incentive

Up to \$295,000 IRA Incentive

Up to \$855,000

The diagram shows two arrows pointing towards a central red oval. The left arrow originates from the text "Up to \$560,000 Mass Save Incentive" and the right arrow originates from "Up to \$295,000 IRA Incentive". Both arrows point to a red oval containing the text "Up to \$855,000".



# Questions?



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