Leveraging Federal and State Incentives for Building Decarbonization

Steve Skodak (Building Performance Association)
Eben Perkins (Competitive Energy Services)

Curated by Beverly Craig

Northeast Sustainable Energy Association (NESEA)
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Steve Skodak
Chief Executive Officer, CAE, CFRE
sskodak@building-performance.org

Eben Perkins
Vice President Consulting
eperkins@competitive-energy.com
## IRA Overview – Residential Programs

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

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

- Awareness of career opportunities
- Affordability of training and certifications
- Accessibility of training and jobs

[Bar chart showing comparisons between Owners and Non-Owners]
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

<table>
<thead>
<tr>
<th>Contractor</th>
<th>Trainers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workforce Development Programs</td>
<td>Schools</td>
</tr>
<tr>
<td>Grants from State Energy Office</td>
<td></td>
</tr>
</tbody>
</table>

[Image of workers wearing helmets]
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

<table>
<thead>
<tr>
<th>Home Type</th>
<th>Level 1</th>
<th>Level 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single family</td>
<td>$15,000</td>
<td>$25,000</td>
</tr>
<tr>
<td>2-unit dwelling</td>
<td>$17,500</td>
<td>$30,000</td>
</tr>
<tr>
<td>3-unit dwelling</td>
<td>$20,000</td>
<td>$35,000</td>
</tr>
<tr>
<td>4-unit dwelling</td>
<td>$22,500</td>
<td>$40,000</td>
</tr>
</tbody>
</table>

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

- 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
Determining Geothermal ITC Value
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%
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
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

<table>
<thead>
<tr>
<th>Heat Pump Incentives for Commercial New Construction/Major Renovation Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air source heat pumps: $800/ton</td>
</tr>
<tr>
<td>Variable refrigerant flow (VRF): $1,200/ton</td>
</tr>
<tr>
<td>Ground source heat pumps: $4,500/ton</td>
</tr>
</tbody>
</table>

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

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

$2 million

$7 million
Mass Save
Commercial Energy
Deep Energy Retrofit Offer

Commercial Buildings Retrofits >40% Energy Reduction
• 40% reduction GHG (CO₂)

- 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 ft² Library Deep Energy Retrofit

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

Steve Skodak
Chief Executive Officer, CAE, CFRE
sskodak@building-performance.org

Eben Perkins
Vice President Consulting
eperkins@competitive-energy.com