

Advancing the Clean Energy Future

Weatherization and EE Resource Acquisition

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Importance of Residential EE

- From a total emissions perspective, residential sector is significant
- While lighting and equipment EE will help with reductions, building shell improvements are needed to fully address heating and cooling.



How Does Weatherization Fit into the Resource Acquisition Model?

- Resource Acquisition EE that is less expensive than supply
- Generally focused on Electricity and (to a lesser extent) Natural Gas
- Some weatherization falls into this category
- What's missing?
 - Deliverable Fuels, particularly in the Northeast
 - Measures with very long simple paybacks
 - Health and safety issues add cost but do not add benefits under some cost effectiveness tests



Pre-Weatherization Issues

- Lead
- Mold
- Asbestos
- Knob and Tube Wiring





What Makes Some Projects Expensive?

- Exterior brick walls
- Permeable sheathing or interior walls
- Accessibility / difficult building structure
- Existing partial weatherization
 - Real-world weatherization is not all or nothing
 - The first inch of insulation delivers the most savings
 - If it is already there, savings are lower but costs are nearly the same



Wall Insulation in Connecticut Building Stock

• Less than 30% of these have cost-effective upgrade





Why Should We Pursue these Projects?

- Emissions reductions
 - Likely need to meet 80% reduction targets
 - Reduces cost of transitioning to renewables
- Benefits of reduced energy cost volatility
 - Heating oil bills can easily vary by \$2000 from year to year due to price variability, resulting in tremendous burden on consumers
- Health and Safety benefits



How to Integrate into Resource Acquisition EE Programs

- More efficient than addressing these through separate programs
- Appropriate value for carbon in cost effectiveness testing
- Combine funding sources
- Program design improvements
- Complementary policies



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