

Deep Energy Retrofit Measures Verification

Worcester, MA



Deep Energy Retrofit Measures

Welcome!

Thanks to Our Sponsors!

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Workshop Agenda

- 9:00 am – 9:15 am
Welcome and introduction
- 9:15 am – 10:00 am
Overview of Massachusetts and Rhode Island DER programs,
Why guidance and incentives are needed
Potential savings and value proposition
- 10:00 am – 3:00 pm
The Joe zone

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Workshop Agenda

- 10:00 am – 3:00 pm, Dr. Joe
Essential principles, critical functions
Applying enclosure principles to retrofit
Retrofit examples
- 12:00 pm – 12:45 pm
LUNCH
- 12:45 pm – 1:00 pm
A few words from our hosts - IES

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Workshop Agenda

- 3:15 pm – 4:15 pm
Pulling it all together: Specifications, Plans, Staged Retrofit, DER Pilot Verification Examples
- 4:15 pm – 4:30 pm
Closing Remarks

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Renewable Energy



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Who are you?

- Builders, contractors
- Architects, designers
- Developers
- Building officials, building commissioners
- Energy efficiency program sponsors
- Energy efficiency program implementation
- Regulators, program evaluators
- Building performance consultants
- Homeowners interested in DER
- Realtors, real estate professionals
- Other

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Why are you here?

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What is Deep Energy Retrofit?

- Existing buildings brought to advanced energy performance
 - 50% savings
 - Focus on the building – physical asset
- Leapfrog current housing
 - Position for another 50-100 years of service

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What is Deep Energy Retrofit?

- **Comprehensive High Performance**
 - Durability
 - Comfort
 - Indoor air quality
 - Aesthetics
 - Amenity
 - Energy

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Things you should know about DER

- **50% total energy reduction is a really BIG deal!**
 - Especially if we still want to live in these houses
 - Coffee pots, toasters, microwaves, TV' s, computers, refrigerators, dishwashers, clothes washers, dryers, freezers, lighting...

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Things you should know about DER

- 50% total energy reduction is a really BIG deal!
- *If we're not going to radically change how we live, then we have to very radically change what we live in.*

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Things you should know about DER

High performance leaves less room for error!

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What is DER?



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What is DER?



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Things you should know about DER

High performance leaves less room for error:

- Drying potential reduced
- Uncontrolled ventilation may have compensated for a multitude of sins

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Key Concepts of Deep Energy Retrofit

- The existing building is working but we may not know how it is working
- Be aware of change
 - (different than beware of change!)
- Modifications to the building must reduce known risks
 - Make the system more robust, not less

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