



NORTHEAST ENERGY EFFICIENCY PARTNERSHIPS

# Presentation to GREATER PORTLAND SUSTAINABILITY COUNCIL

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Thursday February 18<sup>th</sup>, 2016

# NORTHEAST ENERGY EFFICIENCY PARTNERSHIPS

## *“Accelerating Energy Efficiency”*



### Mission

Accelerate energy efficiency as an essential part of demand-side solutions that enable a sustainable regional energy system

### Vision

Region embraces **next generation energy efficiency** as a core strategy to meet energy needs in a carbon-constrained world

### Approach

Overcome barriers and transform markets via ***Collaboration, Education and Enterprise***



*One of six regional energy efficiency organizations (REEOs) funded by the US Department of Energy (US DOE) to link regions to US DOE guidance, products and programs*

# LONG-TERM VISION



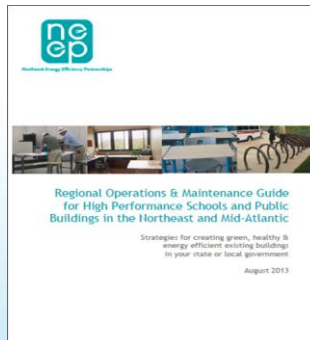
Making possible a future in which all homes and buildings are **zero net energy**, through incremental yet aggressive improvements to building energy policies and programs.



# HIGH PERFORMANCE SCHOOLS & PUBLIC BUILDINGS



- **Regional Leadership Groups**
- Operations and Maintenance
  - Workforce Development
- Street lighting
  - 20-40% of a municipality's electric utility costs
- School Construction, renovation
  - NE-CHPS
  - Linkage between health and EE
- High Performance Communities
- *Financing*





# THE CHALLENGE - ENERGY



- 42
- Not designed to meet demands of today's
- 70% of school energy use
- Per pupil energy expenditure have risen 19% while inflation was only 4%

05.25.2009 15:25

# THE CHALLENGE -IEQ



- 1 in 10 asthma
- Poor IAQ can lead to verbal, motor and behavioral disabilities.
- Cause hearing impairments, irritability and developmental delays



Source: NE Lung Assoc. & American Journal of Respiratory and Critical Care Medicine



# EAST BAY MET - ZNED

## Newport RI



“The greatest aspect of this school is the incredible indoor air quality”

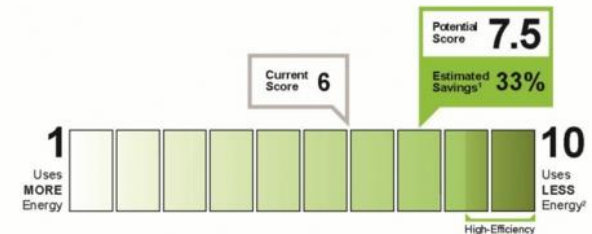
-Taylor Rocc

Teacher East Bay Met School, Newport RI

# BUILDING ENERGY RATING AND BENCHMARKING

- Two types of ratings: Asset and Operational

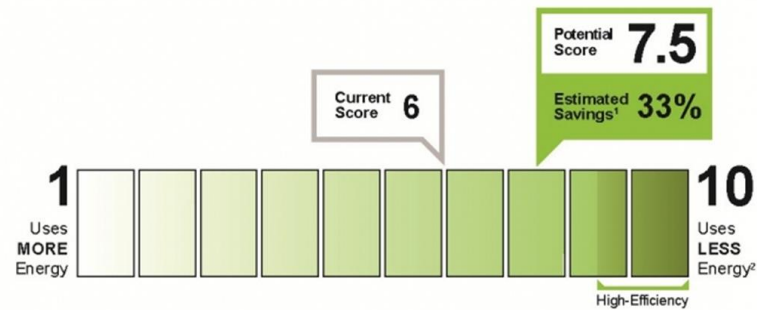
- **Asset:** The physical building systems
- **Operational:** How the building is run



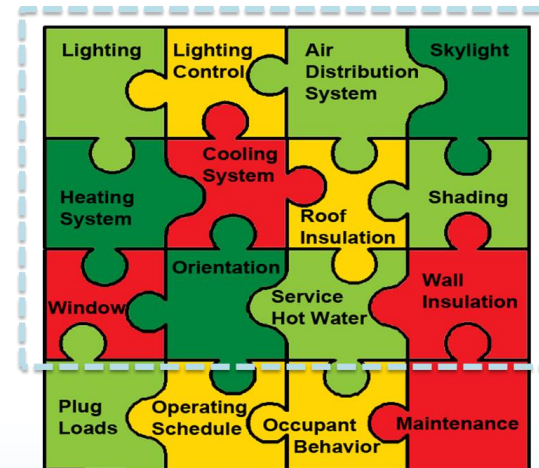
- **Asset** ratings can provide more granular, actionable data on the physical building systems that can be retrofitted
  - Examples of asset ratings: DOE's Building Energy Asset Score, MA BAR Pilot, ASHRAE's Building Energy Quotient, USGBC's LEED Rating.
- **Operational** ratings are useful in comparing similar buildings across a portfolio or in a geographic area and monitoring energy performance
  - Example of operational rating: EPA's EnergyStar Score



# COMMERICAL



## Asset Score



# CLIMATE ACTION PLANS

## Benchmarking



Boston MA  
Montgomery County MD  
Philadelphia, PA  
New York City, NY  
Cambridge MA

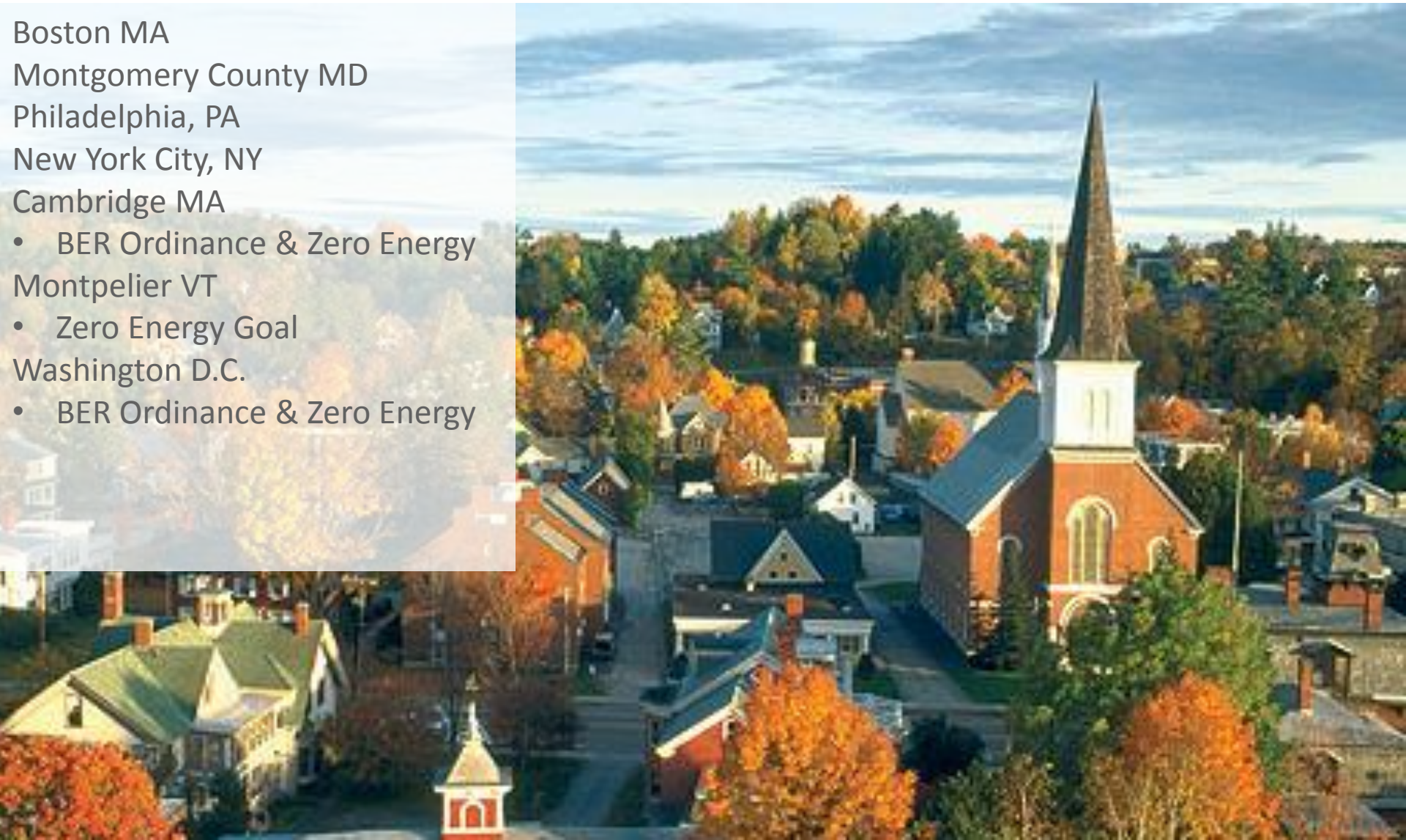
- BER Ordinance & Zero Energy

Montpelier VT

- Zero Energy Goal

Washington D.C.

- BER Ordinance & Zero Energy



# HOME ENERGY LABELING INFORMATION EXCHANGE



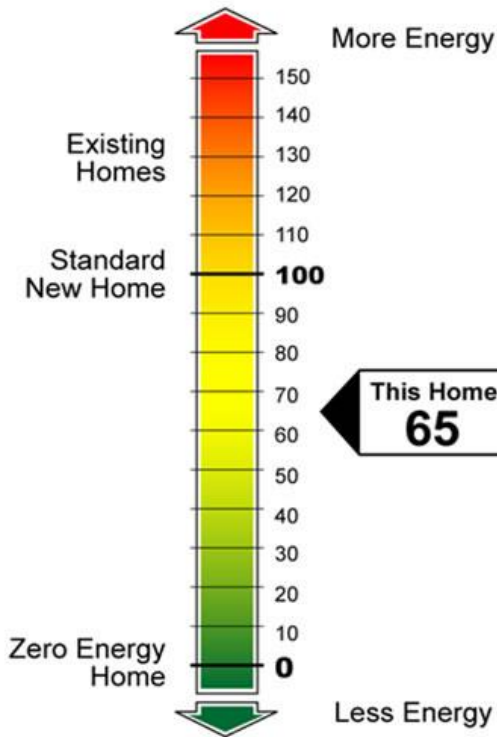
*Goal: Making energy use transparent*

To expedite the creation of **large-scale home energy labeling policies and programs** that support the market valuation of energy efficiency in homes.





# HERS® Index

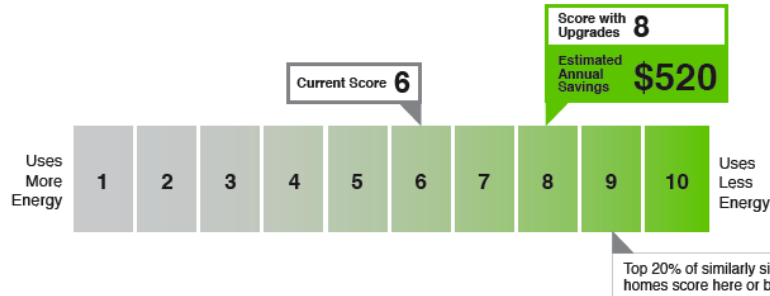


# HOME ENERGY SCORE

Address **555 Park Lane  
Pittsburgh, PA 99999**

Total Energy **190 MBTUs / year**  
Home Size **1,500 square feet**  
Air Conditioning **Yes**

Climate Zone



Energy use reported in Million British Thermal Units (MBTUs). Estimated savings reflect the amount a homeowner will save on their annual utility bill if all recommended improvements are made. Both energy use and savings estimates assume that 2 adults and 1 child live in the home. Your actual energy use and savings will depend on how you maintain your home, how many people live there, your day-to-day habits and weather. To learn more about how to save energy and money in your home, as well as more about the home energy score, visit:

[homeenergyscore.gov](http://homeenergyscore.gov)









Assessor # 85317 Assessment Date 11/05/2010 Label # 000062465



U.S. DEPARTMENT OF  
**ENERGY**



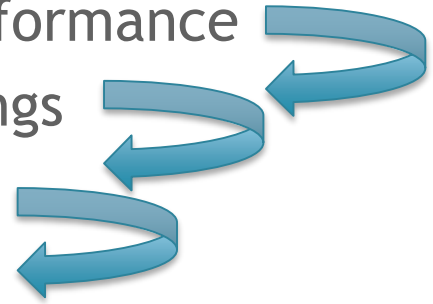


State	Status	Rating Programs / Policies
Connecticut		<a href="#">DOE Home Energy Score implementation</a> statewide via ratepayer funded programs: starting spring 2015, <a href="#">all single-family utility program homes having an audit performed</a> receive a DOE HES
Maine		2010 legislation: <a href="#">SP0357</a> required the Public Utilities Commission to develop a residential (and commercial) rating framework but has not yet been acted upon
Massachusetts		<a href="#">HomeMPG</a> pilot program: provided free energy performance scores to homeowners in Western MA from 2012-2014 and offered incentives; SB 1761 may require rating and disclosure at time of listing of sale
New Hampshire		<a href="#">DOE SEP Grant</a> : partnership with Vermont via grant awarded to advance residential (and commercial) rating in both states set to kick-off in spring 2015
New Jersey		<a href="#">Three county pilot</a> : Homeowners receiving an audit through NJ Natural Gas's SAVEGREEN Project may participate in the Home Energy Score program
New York		<a href="#">Home Energy Rating Disclosure project</a> : Ithaca-based NYSERDA pilot launched in 2014; additional research underway analyzing DOE HES statewide
Rhode Island		OER working groups: RI's state energy office launched residential (and commercial) stakeholder groups in 2015 to advance development of statewide rating programs
Vermont		Efficiency VT statewide energy label implementation (includes DOE HES) since 2014: Act 89 created working groups to develop residential (and commercial) <a href="#">label recommendations</a>

# GREEN REAL ESTATE RESOURCES



- Market forces can drive increases in the energy efficiency of buildings.
- Increased **visibility** into building energy performance
- Greater **demand** for energy efficient buildings
- Greater **investment** into efficiency retrofits
- Race to the top**, more efficient buildings



## Resources:

- Checklist for Real Estate Professionals
- Renter's Checklist
- Educational Webinars



# MULTIFAMILY RETROFITS



- NEEP's High Performance Buildings team first began its multifamily retrofit project in 2011.

- Assisted Efficiency Maine in efforts to set up a “one-stop-shop”, organized a regional working group, held focus groups for landlords and tenants, and disseminated best practices.



- 2014 Report: “Increasing Energy Efficiency in Small Multifamily Properties in the Northeast: Recommendations for Policy Action”



Increasing Energy Efficiency in Small Multifamily Properties in the Northeast: Recommendations for Policy Action

Northeast Energy Efficiency Partnerships  
April 2014

- Focused on small to mid-sized multifamily buildings (5-20 units).

# MULTIFAMILY RETROFITS



- Set for release later this year, will contain:
  - **Best practices** derived from experiences from 5 different regional organizations providing direct technical guidance and support to multifamily programs across the country.
  - **Policy and program implementation recommendations**
  - **Case studies**



# ENERGY CODES



"Sorry, but you're in violation of building codes.  
You can only use lo-cal hi-fiber wood here."

- Resources
  - Model energy codes policy
    - Best practice guide
  - Field guides - residential
- Assisting with
  - Maine TAG
    - *Stakeholder Group*
      - *Regional*
      - *Energy Code Collaborative?*

# COMPLIANCE AROUND THE REGION



Range: 34-80%



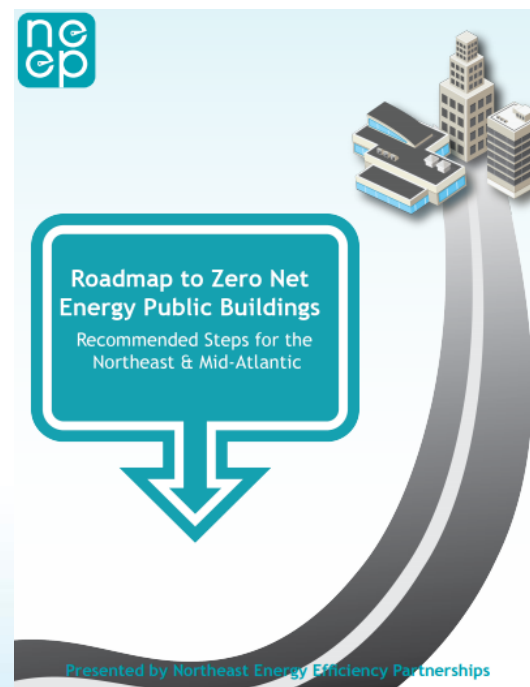
# Do energy codes matter?



Credit: Shawn Parr

# ZERO ENERGY BUILDINGS

- Public sector can **lead by example**
- **Regional Roadmap** released in 2012 with guidance from the Northeast Zero Net Energy Leadership Group group that provides five actionable steps to support the development of zero energy public buildings
- **Progress report** forthcoming including the progress of each state in the region along with updated best practices (financing tools, building for resiliency, and more)



Presented by Northeast Energy Efficiency Partnerships



# EXEMPLAR BUILDINGS



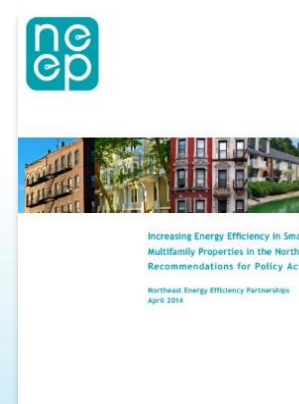
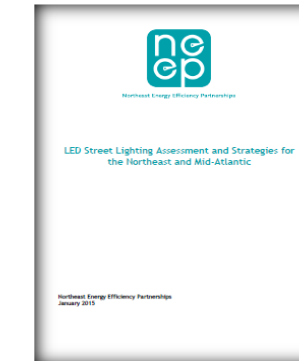
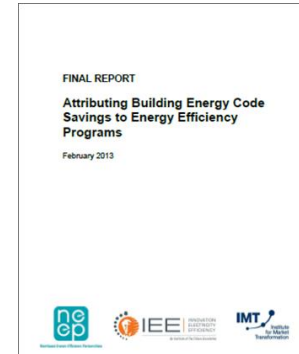
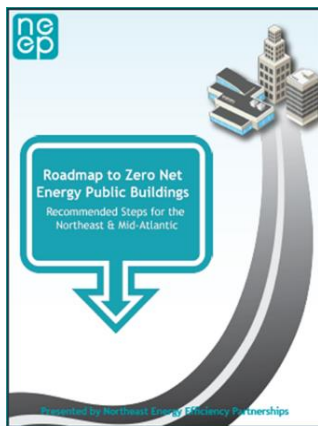
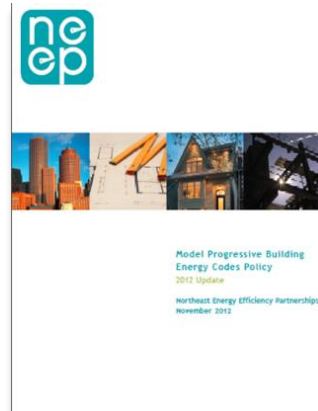
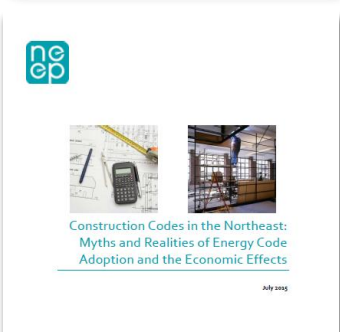
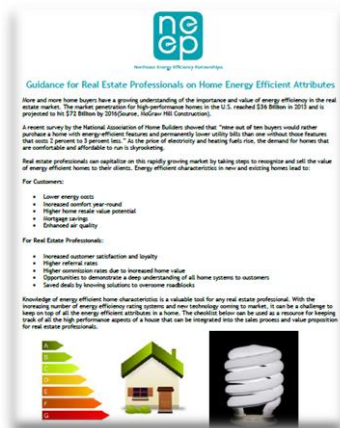
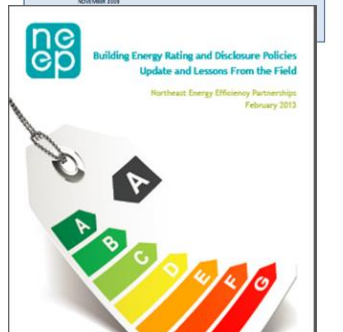
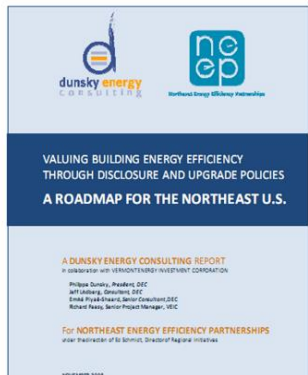
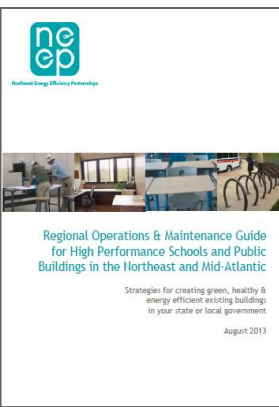
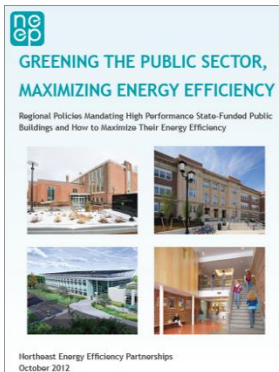
## John Olver Transportation Center



Photo: ARUP

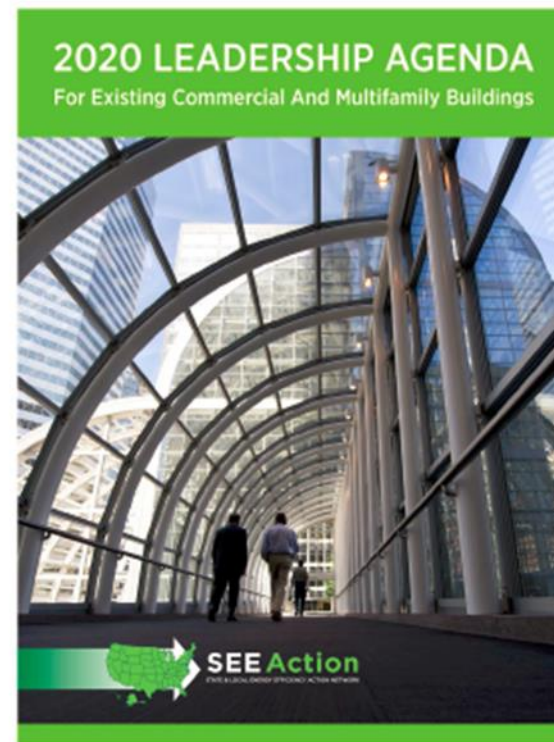
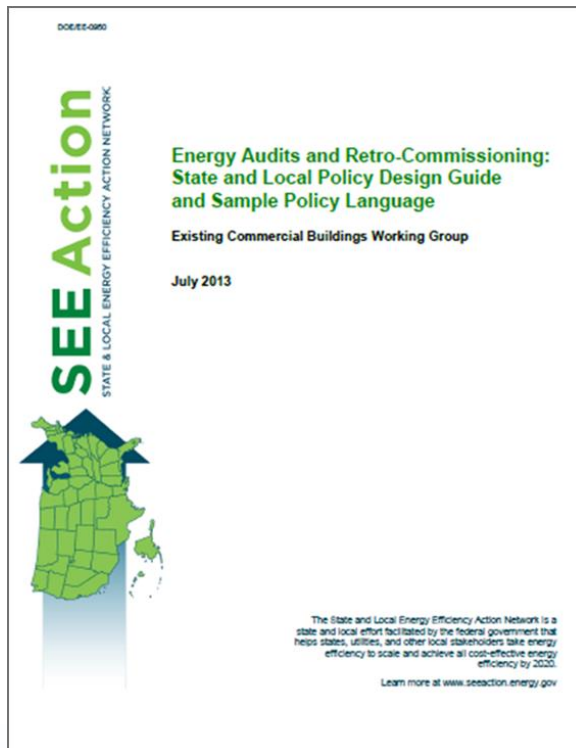
ARRA Funded  
Building Program (Reduce Plug loads  
Daylight  
Ground source heat  
pumps  
Active chilled beams  
Demand controlled  
ventilation  
Lighting controls  
• LED lighting  
• **Energy monitoring  
and display**

# RESOURCES



# SEE ACTION RESOURCES

## State And Local Energy Efficiency Action Network



<https://www4.eere.energy.gov/seeaction/>



# 2016 NEEP Summit



**June 13-14, 2016**

**Omni Mt. Washington Resort**

**Next Generation Energy Efficiency**

**Information on registration, sponsorship opportunities, and program:**  
**<http://neep.org/events/2016-summit> or contact Lucie Carriou at**  
**[lcarriou@neep.org](mailto:lcarriou@neep.org)**

# HIGH PERFORMANCE SCHOOLS

Free Training -APRIL 21, 2016

Maynard High School, MA



Register:

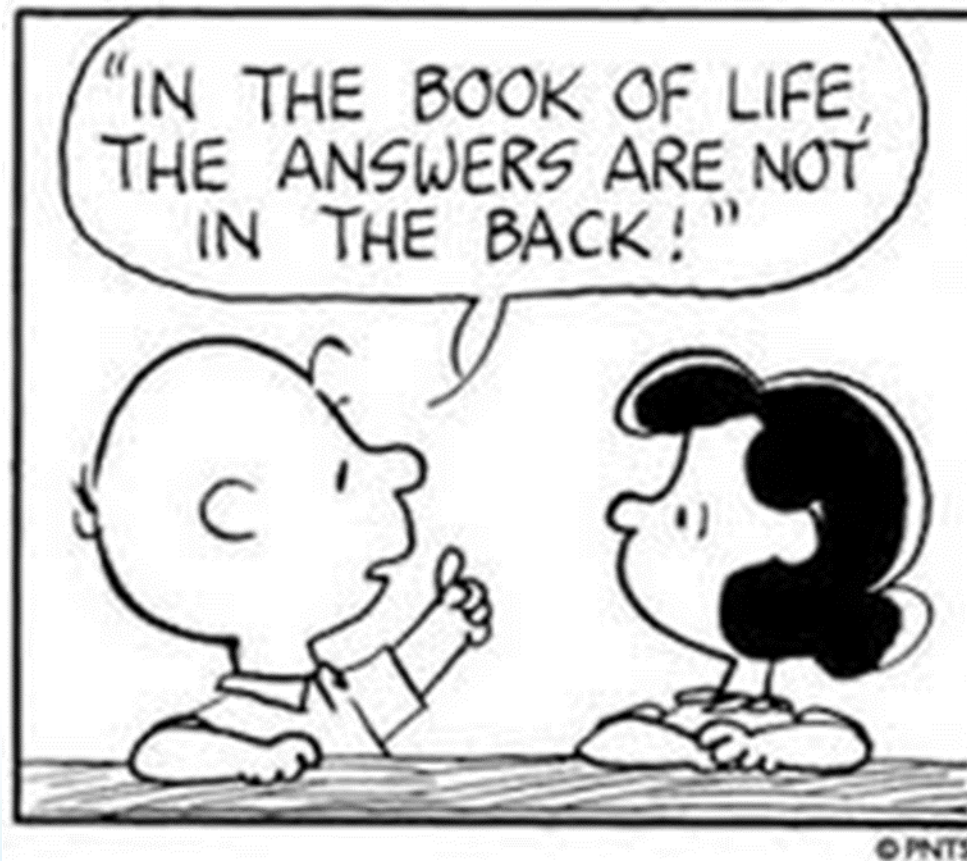
<http://neep.org/events/chps-training-solutions-green-schools-massachusetts>





## QUESTION / DISCUSSION

What's Your Vision for buildings, homes, schools .....



THANK YOU!



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