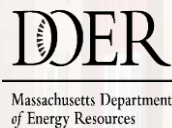


Welcome to the webinar! ❤️❤️



# HELIX

Home Energy Labeling Information eXchange



SUSTAINABLE REAL  
ESTATE  
CONSULTING  
SERVICES





[Photo credit: American Liberty Mortgage, Inc.](#)

# Today's Speakers



**Carolyn Sarno Goldthwaite**



**Ellen Tohn**



**Samantha Caputo**



**Craig Foley**



# Agenda



- HELIX
- House is a Vital Sign and Vaccine
- Connecting the dots
- Short Takes



**HELIX**

**Samantha Caputo, NEEP**

# Northeast Energy Efficiency Partnerships



*“Assist the Northeast and Mid-Atlantic region to reduce building sector energy consumption 3% per year and carbon emissions 40% by 2030 (relative to 2001)”*

## Mission

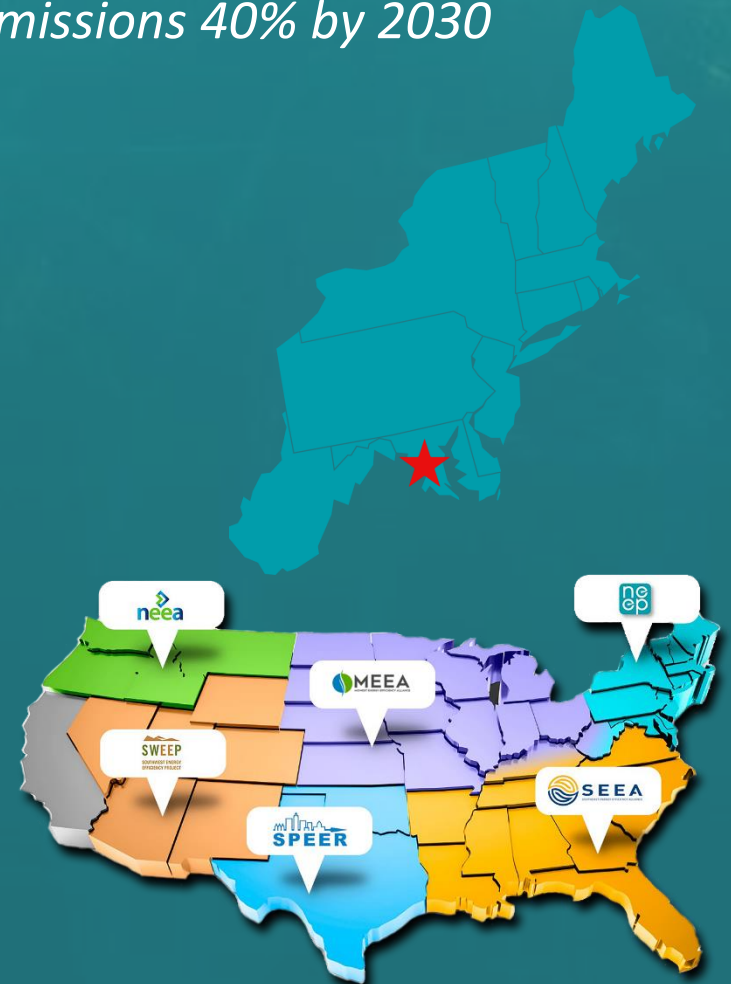
We seek to accelerate regional collaboration to promote advanced energy efficiency and related solutions in homes, buildings, industry, and communities.

## Vision

We envision the region's homes, buildings, and communities transformed into efficient, affordable, low-carbon, resilient places to live, work, and play.

## Approach

Drive market transformation regionally by fostering collaboration and innovation, developing tools, and disseminating knowledge





# Thank you to our Allies for their support!



# Thank you to our State Partners for their support!



## CONNECTICUT

**State Partners:** CT DEEP, CT Energy Efficiency Board, Eversource Energy, United Illuminating Company, Southern Connecticut Gas and Connecticut Natural Gas

*Partners in 2017 / 2018*



## NEW HAMPSHIRE

**State Partners:** NH Office of Energy Policy and Planning, NH Public Utilities Commission, Eversource Energy, NH Electric Coop, Unitil and Liberty Utilities

*Partners in 2017 / 2018*



## NEW YORK

**State Partners:** NYSERDA

*Partners in 2017 / 2018*



## RHODE ISLAND

**State Partners:** RI Office of Energy Resources, National Grid RI, RI Department of Education and RI Energy Efficiency & Resource Management Council

*Partners in 2017 / 2018*



## VERMONT

**State Partners:** Efficiency Vermont

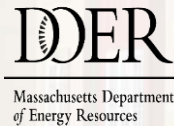
*Partners in 2017 / 2018*





# HELIX

Home Energy Labeling Information eXchange



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SERVICES



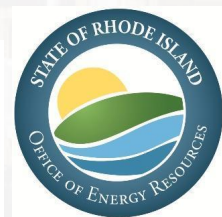
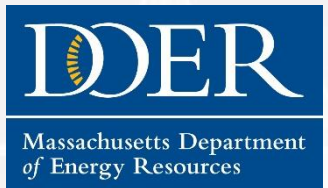
# What Is HELIX?

*HELIX facilitates consolidation of energy data in a single portal*



# Who Is Using HELIX?

HELIX has 7 States in efficiency pilot; 20 solar States







# Housing is a Vital Sign and Vaccine

Ellen Tohn

Founder, Tohn Environmental Services

# Housing is a Vital Sign and Vaccine \*

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ELLEN TOHN, TOHN ENVIRONMENTAL STRATEGIES

[ETOHN@TOHNENVIRONMENTAL.COM](mailto:ETOHN@TOHNENVIRONMENTAL.COM)

\*SPECIAL THANKS TO DR. MEGAN SANDEL, THE NATIONAL CENTER FOR HEALTHY HOUSING

# Homes Can Provide Healthy Conditions

## Avoid harmful chemicals

- Paint
- Flooring
- Cabinets

## Building systems & equipment promote clean air *and water*

- HVAC
- Filters
- Ventilation
- Hot water heaters

## Construction avoids ‘conditions’ linked to poor health (asthma)

- Radon
- Moisture
- Pests
- Cold or heat
- Carbon monoxide

## Conditions promote healthier living

- Lighting
- Acoustics
- Encourage active living
- Minimize trip/falls



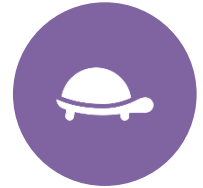
# Avoid Harmful Materials



PAINT



ADHESIVES



FLOORING



WOOD PRODUCTS,  
LIKE CABINETS



READILY AVAILABLE,  
DOES NOT ADD  
SIGNIFICANT COST.

# Poor Ventilation Can Increase Health Risks

- Higher rates of respiratory irritation and illness in housing with poor ventilation
  - Common colds
  - Influenza
  - Pneumonia
  - Bronchitis
- VOCs 2-5 times greater inside than outside



# Home systems promote clean air

*Does the bath fan work?  
Exhaust outside?*



*New fans are quiet, and  
can run automatically*







# Ventilate kitchens

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Remove moisture, odors, grease



Gas oven/range, remove  
combustion products: moisture,  
CO, NO<sub>2</sub>



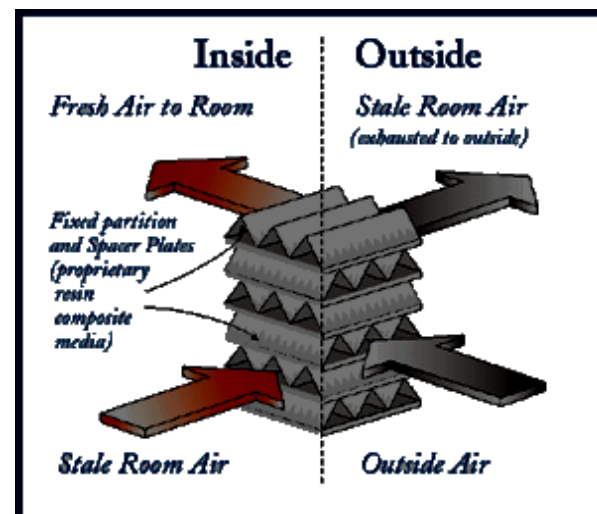
Vent to outside



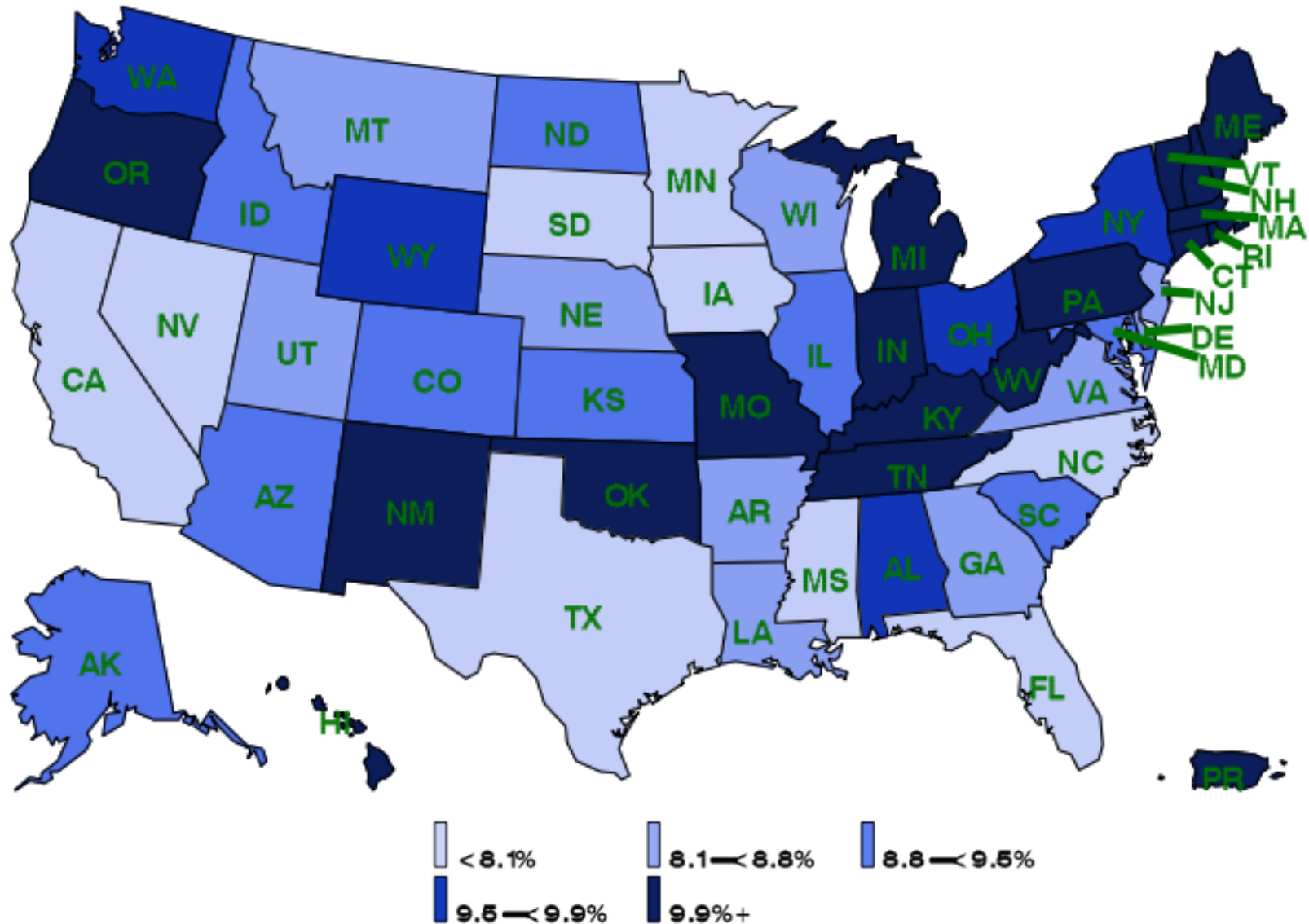
Make it quiet. If not, fans may not  
be used

# HRV/ERVs

- Installation of HRV/ERVs associated with fewer asthma respiratory symptoms
- 3 studies – all controlled trials with at-risk children or children with asthma
- Studies also observed improvements in CO<sub>2</sub>, VOCs, and airborne mold



# Adult Current Asthma Prevalence



**20-40% of asthma attacks linked to home conditions**

Pest: mice & cockroaches

Moisture/Mold

Dust Mites

Tobacco Smoke

Changes in

Temperature

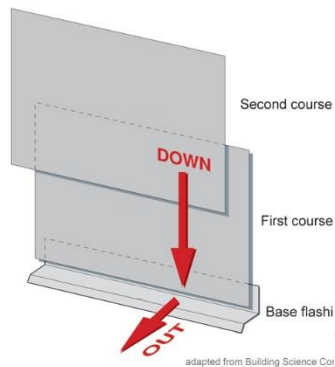
Chemicals – VOCs



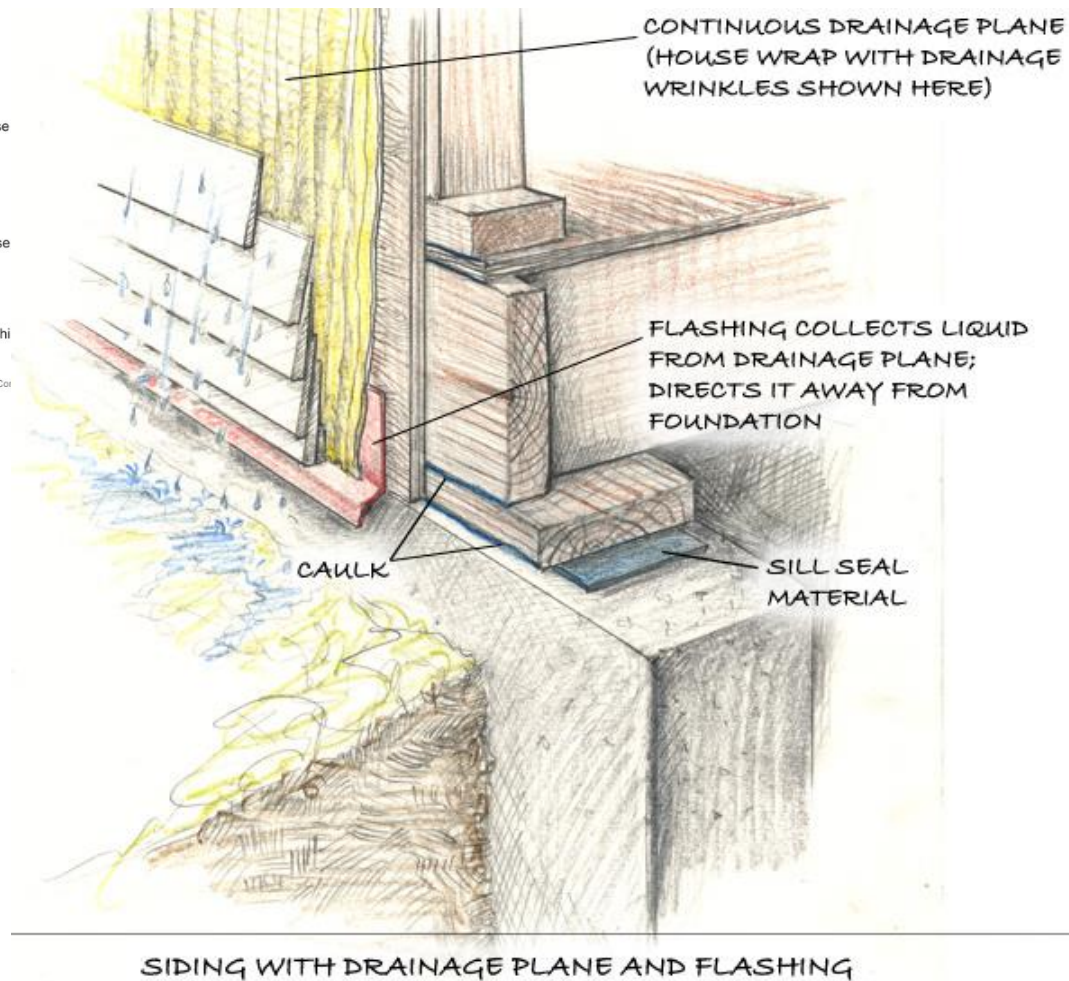
Source: Lanphear BP, Kahn RS, et al.  
Contribution of Residential Exposures to  
Asthma in U.S. Children and Adolescents.  
Pediatrics, (2001):107(6): E98.

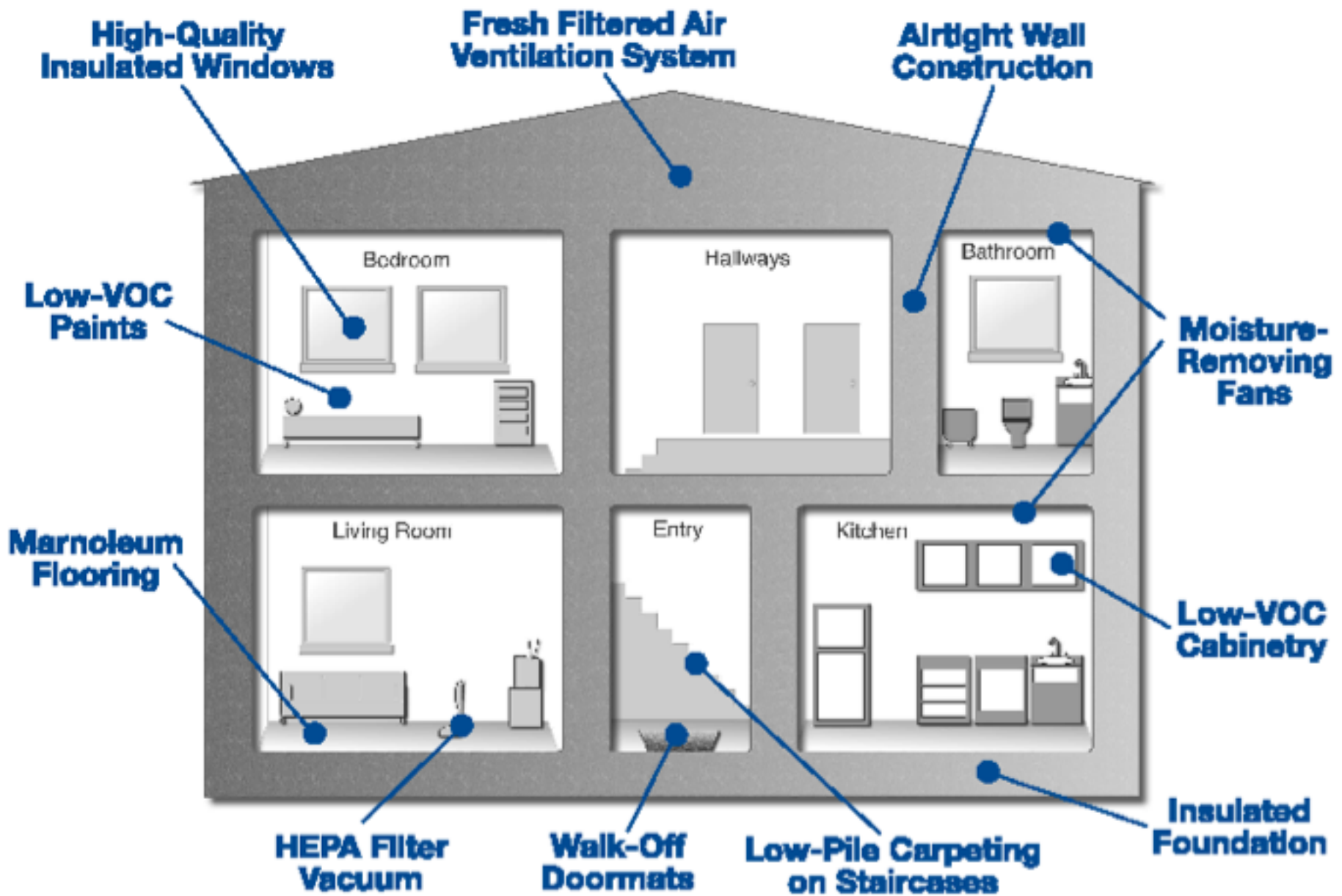


# Wall Drainage System



Courtesy [DOE Building America Solution Center](#)





**HIGH POINT BREATHE EASY HOMES**



**Poll Time!**





VERSION 1 (REV. 03)

Indoor airPLUS

CONSTRUCTION SPECIFICATIONS



October 2015  
[www2.epa.gov/indoorairplus](http://www2.epa.gov/indoorairplus)

Indoor Air Quality (IAQ)

# EPA Indoor Air Plus Certification

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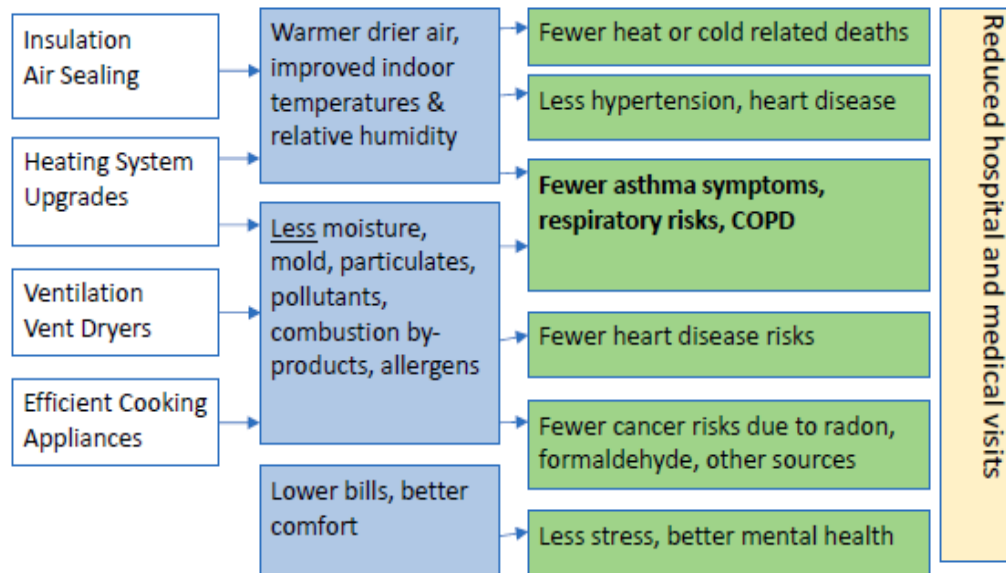


Indoor airPlus Partners; 17,000 certified homes





# Energy efficiency can reduce health risks



Source: E4TheFuture "Occupant Health Benefits of Residential Energy Efficiency"



80% think energy efficient homes  
are **healthier homes**



## Connecting the dots!

Craig Foley

Real Estate Consulting & Sales with LAER Realty Partners, Chief Sustainability Officer LAER Realty Partners



# Three HPH Projects

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# 346 Highland, Weston MA



LEED®-REGISTERED HOME  
**UNDER CONSTRUCTION**  
[usgbc.org/LEED](http://usgbc.org/LEED)

Anticipated HERS Score  
Low 20s



# 27 Madison Ave. Cambridge, MA



HERS Score 34 with 8 kWPV added  
above garage/artist studio  
-1 HERS score

# 152-158 Highland St. Roxbury, MA

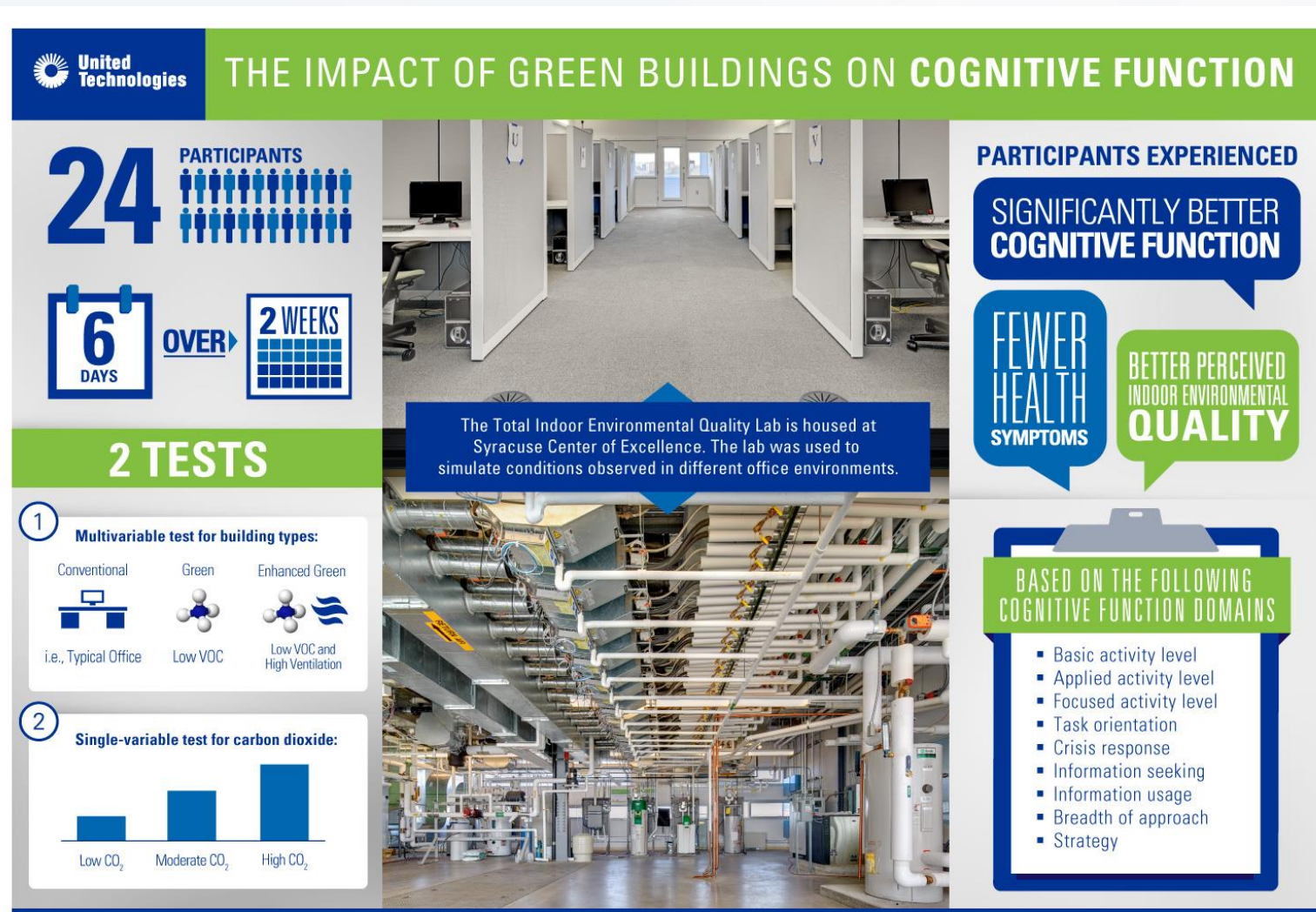


**E+ Green Building Program**

HERS Scores -14 to -22



# One other driver worth mentioning – increased cognitive performance



# One other driver worth mentioning – increased cognitive performance

## ***Green office environments linked with higher cognitive function scores”***

- crisis response (97% higher scores in green conditions and 131% higher in green+)
- strategy (183% and 288% higher)
- information usage (172% and 299% higher)
- when researchers looked at the effect of CO<sub>2</sub>—not normally thought of as a direct indoor pollutant—they found that, for seven of the nine cognitive functions tested, average scores decreased as CO<sub>2</sub> levels increased to levels commonly observed in many indoor environments

# Monetized Health Benefits of EE

**Table 1. Health Benefits of Residential Energy Efficiency**  
Summary: 25 recent studies

| Reduced Respiratory Symptoms  | Reduced Other Health Risks (examples)  | Reduced Emergency Dept. Visits or Hospitalizations | Improved Indoor Air Quality  |
|---|--|--|--|
| Asthma<br>COPD<br>Bronchitis<br>Throat irritation<br><i>Nasal allergies</i> | Colds, Rhinitis<br>Headaches<br>Heart disease<br>Hypertension<br>Sinusitis<br>Fatigue<br>Mental health<br>Lung cancer* | Asthma<br>Other respiratory                        | Moisture<br>Condensation<br>VOCs<br>Moisture/Mold<br>Dust allergens<br>Particulates<br><i>Formaldehyde</i><br><i>Radon</i> |

\*estimated based on exposure reductions

*Italics: negative outcomes*

COPD: Chronic Obstructive Pulmonary Disease; VOCs: Volatile Organic Compounds|

**“Monetized benefits** for observed occupant health improvements and reduced healthcare use exist at the national level, and are being considered in some state energy program cost-effectiveness decisions, with values **over \$1000 per household unit per year.**”





## Shameless plugs -

April 4-5 GBAR,  
Reading, MA  
April 9-10 NHAR,  
Concord, NH



346 Highland Street, Weston, MA Grand  
Opening Sunday, April 14<sup>th</sup> from 1-4 PM



# Questions & Short Takes

Carolyn Sarno Goldthwaite, NEEP



**Ellen Tohn**

[etohn@tohnenvironmental.com](mailto:etohn@tohnenvironmental.com)

**Craig Foley**

[CFoley@laerrealty.com](mailto:CFoley@laerrealty.com)

**Samantha Caputo**

[scaputo.@neep.org](mailto:scaputo.@neep.org)

**Carolyn Sarno Goldthwaite**

[cgoldthwaite@neep.org](mailto:cgoldthwaite@neep.org)

Save  
the Date



**You & HELIX**  **April 24 @ 1:00PM**  **Invite to follow**



# Resources



**Better Buildings**  
US HOME ENERGY SCORE

Real Estate Professionals

HOME ENERGY SCORE

**Help Clients Buy & Sell Comfortable Homes with Home Energy Score**

Via all want to live in homes that are comfortable and affordable to maintain. Most buyers, however, enter the largest investment of their lives without knowing how efficient or comfortable their new home is, and little bit of how much energy bills are likely to be. On average, utility costs are higher than other property issues or home insurance. As a real estate professional, you are in a prime position to bring valuable information to your clients and help them be smart consumers.

When selling a home, energy efficient features can be valuable in the home's selling. The National Association of REALTORS® (NAR) recently found that 71% of respondents said promoting efficiency in listings is very or somewhat valuable, and over half reported their clients are interested in sustainability. According to the Demand Institute, energy efficiency is the most significant annual demand in the housing market. Providing this information can make a home more appealing and available to a wider pool of potential buyers through access to energy efficiency-related financing products.

**What is the Home Energy Score?**

Use a million-dollar rating for a car, the Home Energy Score is an easy-to-understand rating designed to give homeowners and homebuyers insight about a home's energy performance. Home Energy Score uses a simple 1-to-10 scale where a 10 represents the top efficient home. The Score is designed to be easily understood and tap into people's desire to improve their score and outperform their peers.

Based on a standard, in-home assessment of a home's energy-related details, the Home Energy Score Report provides valuable information that can be included in MLS listings and used with home financing products. The Report also includes energy efficiency recommendations that would improve the Score through cost-effective investments.

**At time of sale, the Home Energy Score is**

- **FAST.** Takes less than one hour in most homes.
- **AFFORDABLE.** Free for Assessors to keep costs low.
- **SIMPLE.** Easy to understand 1 to 10 scale.
- **CREDIBLE.** Created through robust testing and analysis.
- **FLEXIBLE.** Available through a variety of software and programs.

Learn more at [homeenergyscore.gov](http://homeenergyscore.gov)



**"As homeowners start to ask more questions about energy efficiency, the Home Energy Score is a way to meet your client's needs."**

—Craig T. RE/MAX Leading Edge

**Why Use the Home Energy Score?**

No matter your client, the Home Energy Score is a way to build trust by enabling access to the reliable information buyers and sellers desire. Set yourself apart as a professional who is knowledgeable about home energy efficiency through the Home Energy Score.

- **Sellers** can showcase their home's energy features through the MLS listing.
- **Mortgage Lending Services (MLS)** around the country are adding green fields, which often include the Home Energy Score in a standard and searchable way. This makes it easier for buyers to find homes with green features or certifications and benefits the home appraisal process.
- **Buyers** can access financing products through the Home Energy Score.
- **Borrowers** can use the Home Energy Score to qualify for mortgage products such as HomeMax's HomeStyle, Energy mortgage loan, FHA's mortgage products, and other financing from Green Banks. In some cases, Home Energy Score can help borrowers qualify for larger loans. Encourage your lending partners to offer these products.
- **Homes** sell faster with energy disclosure.

One study from EnerGuide found that homes disclosing energy costs - even when those costs were high - closed at a higher percentage of the asking price and spent less time on the market than comparable homes that did not disclose energy costs. Homebuyers appreciate the credible information Home Energy Score provides when purchasing a home.

## US DOE Better Buildings

<https://betterbuildingsolutioncenter.energy.gov/home-energy-score/home-energy-score-real-estate>

## NEEP

<http://neep.org/initiatives/energy-efficient-buildings/green-real-estate-resources>



**A Guide for Renting and Creating Lower Cost Energy Efficient Apartments and Homes**

Nearly all renters pay their own energy bills, but few have options relating to the efficiency and quality of the heating and cooling systems, appliances, and windows of their rental. However, there are many steps renters can take to save and manage energy. Just because you don't own your home doesn't mean comfort, energy and cost savings cannot be achieved.

**What to Ask and Look for Before Renting**

Saving money and energy can be easy if you know what to look for. Thoroughly investigate the many energy use aspects of a potential rental before you sign a lease.



**Energy spending per square foot in rented apartments can run 76 percent higher than in owner-occupied single family homes.**

**Looking for a rental property?** A few key indicators can help you assess the efficiency of the rental. Below is information on "What to Look For," and a checklist of features to investigate "Before You Sign" when touring a potential new home or apartment. The checklist will assist you in understanding the amount of energy you may use and ultimately pay for.

**Looking to cut energy bills in your current rental?** It's natural to think that it's not worthwhile to invest in energy efficiency improvements if you don't own your home. However, there are steps you can take that pay off within a year or two and improvements that you can also bring with you to your next home. Use the "Simple Low-Cost and No-Cost Measures" and "Utility Program Offerings" sections at the end of this guide to reduce your bills quickly.

1 September 2014 issue of the Journal Building Research & Information.  
<http://journals.sagepub.com/doi/10.1177/0963721414555555>

Northwest Energy Efficiency Network | 81 Railroad Avenue Lexington, MA 02446 | P: 781-889-0277 | [www.neep.org](http://www.neep.org)

## NASEO

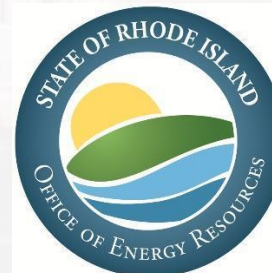
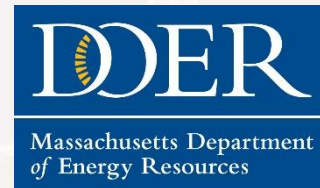
<https://empres.naseo.org/>

# Join Us!

Data Intake

Data Front-End  
&  
Management

Data Export



NYStateMLS



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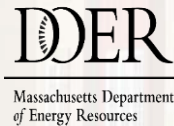
**Carolyn Sarno Goldthwaite**

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