

Housing Innovation Awards at the Solar Decathlon

U.S. DEPARTMENT OF
ENERGY | Energy Efficiency &
Renewable Energy



Breakfast Presented by BASF
Friday, October 4, 2013
8:30-10:30 a.m.
Historic Hanger 244
Orange County Great Park in Irvine, CA

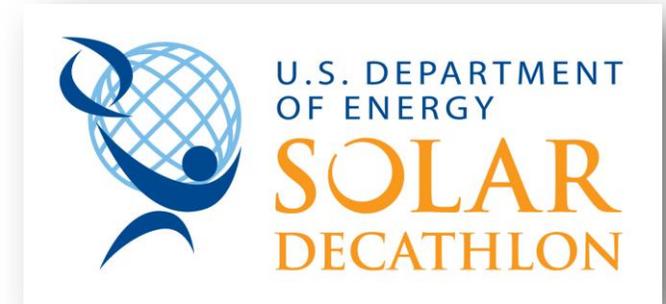
Friday, October 4, 2013

8:30 AM-10:30 PM



Christine Barbour Master of Ceremonies

Housing Innovation Awards





Thank you for making the Housing Innovation Awards breakfast possible!

Housing Innovation Awards

Thank you for supporting the
DOE Challenge Home Builder
Awards!



Thank you for supporting
the Building America Top
Innovations!

ENVIRONMENTS FOR



Keynote

Chris Little

Residential Construction
Manager, BASF Corporation's
Center for Building Excellence





BUILDING AMERICA
TOP INNOVATIONS

*Recognizing Top Innovations
in Building Science*

ENVIRONMENTS FOR *Living*[®]

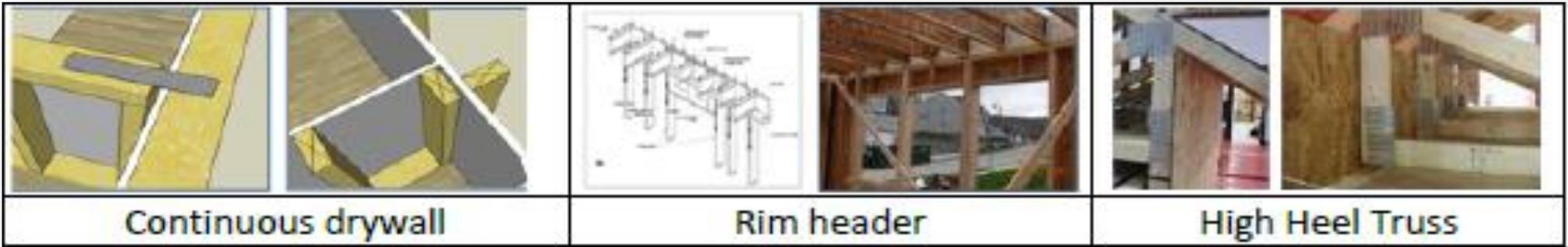


David Bell
EFL – Director of Building Science
Masco Home Services

Next Generation Advanced Framing

PHI

- 3 Advanced framing techniques
- Improve thermal performance
- Reduce the cost of energy-efficient constructions
- Simplify the construction process



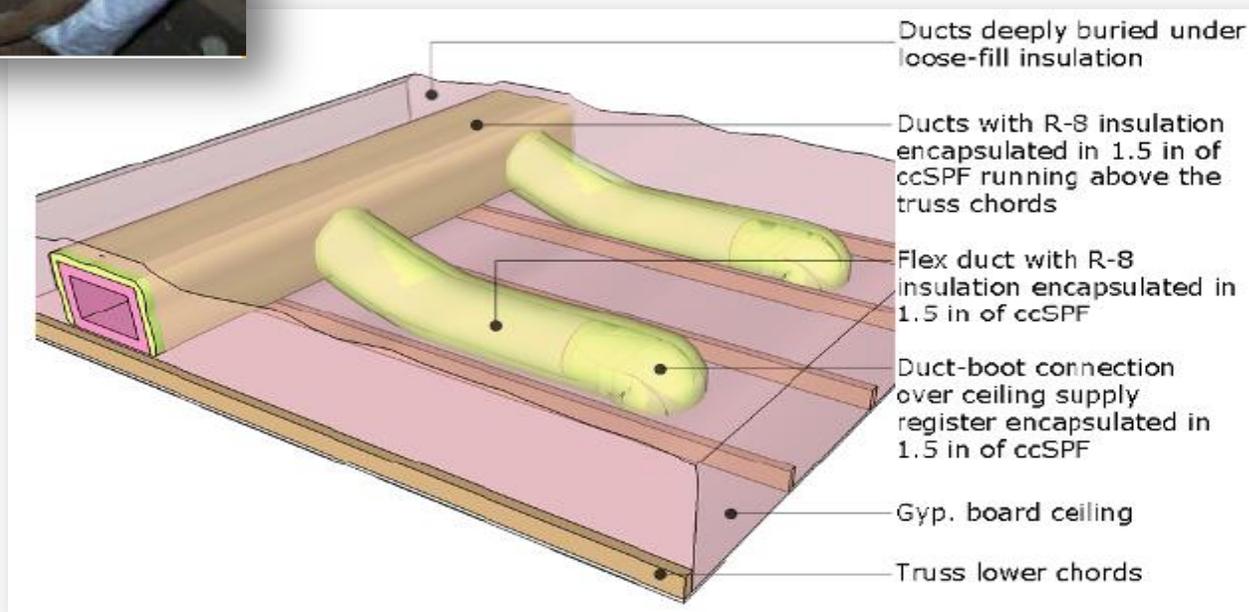
High Performance Ducts

CARB



Technique allows ducts installed in a vented attic to meet the code requirements for ducts in conditioned space.

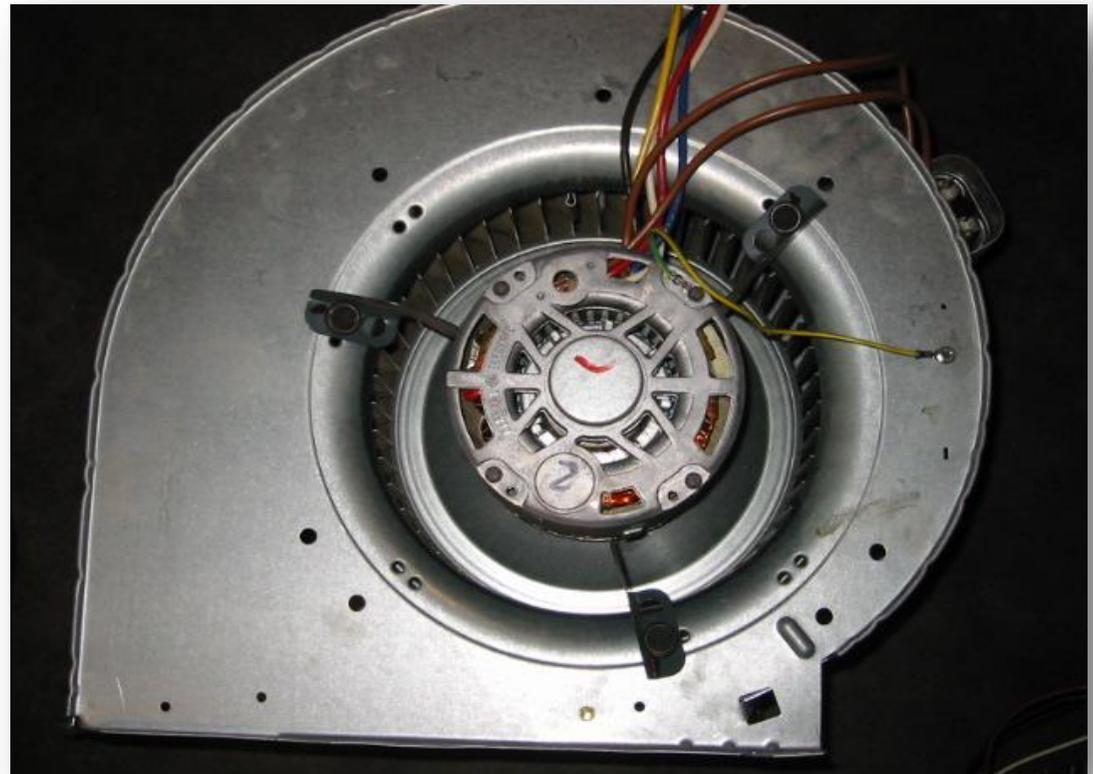
Nearly all the benefits of locating the ducts in conditioned space without the expense of a fully insulated attic.



High-Efficiency Furnace Blower

LBLNL

LBLNL's work with furnace blower design led to the **creation of a standard** for rating blowers, credits for the use of good blowers in **Federal tax credit** programs and energy codes, and consideration in current federal rulemaking procedures.



High-Efficiency Window A/C

NREL



- Simple, affordable methods homeowners can employ to increase the energy efficiency of window air conditioners.
- Save up to 10% in cooling energy!

Zero Energy Ready Single-Family Homes

ARBI, BA-PIRC, BSC, CARB, IBACOS, PHI,
NorthernSTAR



Using a whole-house approach, Building America teams have made major strides in cost effective construction for new construction homes

Three promotional posters for Longleaf Village homes by Tommy Williams Homes. The top poster shows a couple relaxing in a pool with the text 'Our monthly utility savings pays for the babysitter... for a week!'. The middle poster shows two children playing with the text 'I love the cleaner air my family breathes'. The bottom poster shows a woman holding a baby with the text 'I'm so glad my baby's room is comfortably cool in the summer and toasty warm in the winter.' All posters include the 'High Performance Tommy Williams Homes' logo and the slogan 'Better than 99% of ALL homes being built in Florida' - U.S. Department of Energy. They also mention 'LONGLEAF VILLAGE' and 'TommyWilliamsHomes.com/Longleaf'. The middle poster includes a 'FREE \$5,000 Gas Gift Card WITH PURCHASE OF ANY INVENTORY HOME' offer. The bottom poster features a '20 Years BOSSHARDT' logo.

Exterior Rigid Insulation Best Practices

BSC, PHI, NorthernSTAR



Field and lab studies by Building America's research teams show the most **effective ways to take advantage** of the thermal, air, and vapor resistance properties of rigid foam insulation on walls, roofs, and foundations.

Window Replacement, Rehabilitation and Repair Guideline *BSC*

- Improve performance of existing windows!
- Includes information on cost, durability and historic considerations



Quality Management System Guidelines *BSC, IBACOS and PHI*

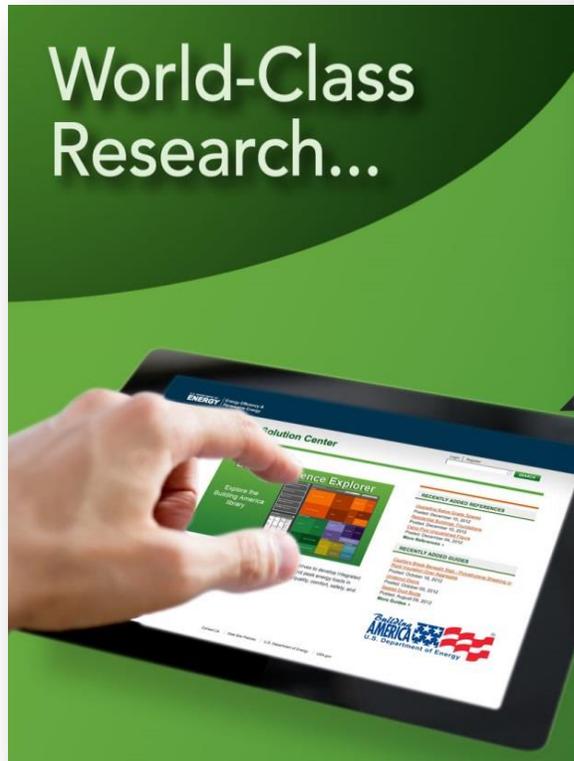
- Customized for residential construction
 - Used by builders, trades, and designers
 - Helps **eliminate mistakes** that would require high-cost rework



Building America Solution Center (BASC)

PNNL

- Easy to use online tool
- Search by building component, keyword, or checklist



World-Class
Research...

Scope Description Ensuring Success Climate Training CAD Compliance More Info...

Scope

Reduced Thermal Bridging

All corners insulated \geq R-6 to edge*

- A. Utilize recessed corners or an equivalent framing technique that uses no more than three studs per corner to allow access to insulate the cavity to \geq R-6.
- B. If the corner is conventionally framed, drill a hole and fill the cavity with insulation.

* All items of 4.4.5a-4.4.5e must be installed to comply with 4.4.5 and ENERGY STAR.

ENERGY STAR Notes:

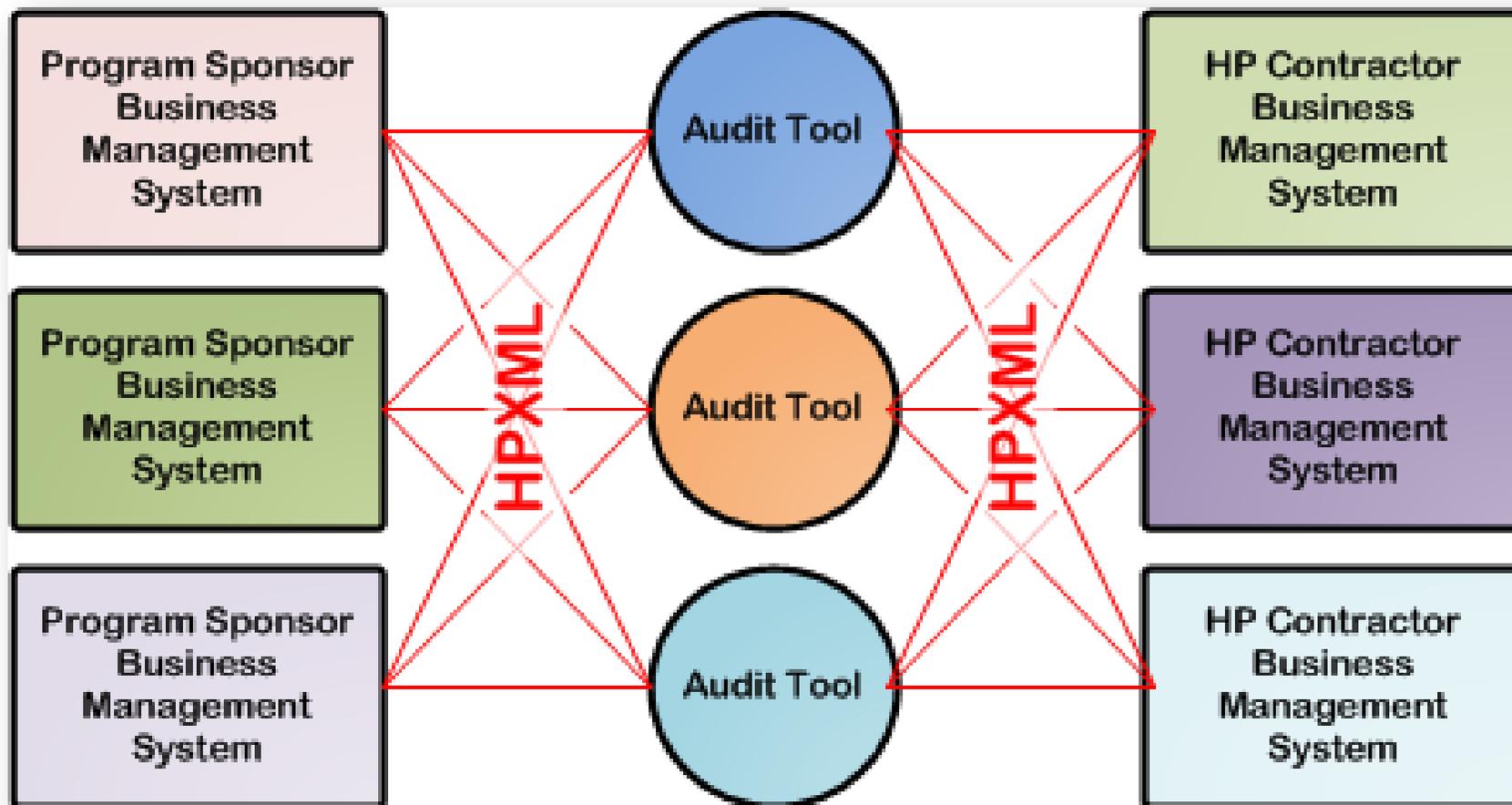
Up to 10% of the total exterior wall surface area is exempted from the reduced thermal bridging requirements to accommodate intentional designed details (e.g., architectural details such as thermal fins, wing walls, or masonry fireplaces; structural details, such as steel columns). It shall be apparent to the Rater that the exempted areas are intentional designed details or the exempted area shall be documented in a plan provided by the builder, architect, designer, or engineer. The rater need not evaluate the necessity of the designed detail to qualify the home.

Mass walls utilized as the thermal mass component of a passive solar design (e.g., a Trombe wall) are exempt from this item. To be eligible for this exemption, the passive solar design shall be comprised of the

...At Your
Fingertips

Standardized Data Sharing System (HPXML)

NREL



- Standardized data transfer protocol
- Enables **quick data sharing** between energy efficiency programs





Energy Efficiencies Solutions

Customer Relations and Market Leadership



“We are vested in learning all that we can about the environmental impacts humans have on the earth and utilizing scientific data to increase conservation of our planet’s resources, increase general awareness and spark action in order to positively impact the world around us.”



Halco

Market Leadership, Energy Savings, and Sales & Marketing



Comfort today. Energy for tomorrow.



“We believe our success in the home performance business is because we are ‘all in.’ When someone calls in for a furnace or AC replacement estimate, we turn it into an energy assessment. Our entire business model revolves around Home Performance with ENERGY STAR. We are very passionate about what we do.”



Insulation Technologies

Customer Relations and Energy Savings

“We see how the home or system is performing, look to see what can be improved, come up with the best plan of attack, and perform the work how we know it should be done. All of the time keeping the customer’s initial request at the heart of what we do, while keeping integrity in tack 100% of the time.”



Powersmith Home Energy Solutions

*Market Leadership, Energy Savings,
and Sales & Marketing*



“Our goal is to make it as easy as possible for homeowners to have an assessment, learn about their home, and continue on to a retrofit. To do that we must seamlessly educate, price, and present the solution to our clients.”



DOE Challenge Home Builder Awards

Judges

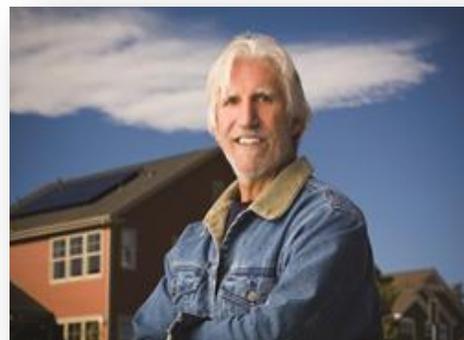
Michael Lubliner a Senior Building Science Specialist at Washington State University Cooperative Extension Energy Program



Joe Nagan, owner of Home Building Technology Services in Kaukauna Wisconsin



Rick Schwolsky is the founding editor-in-chief and current editor-at-large of Hanley Wood's *EcoHome* magazine.

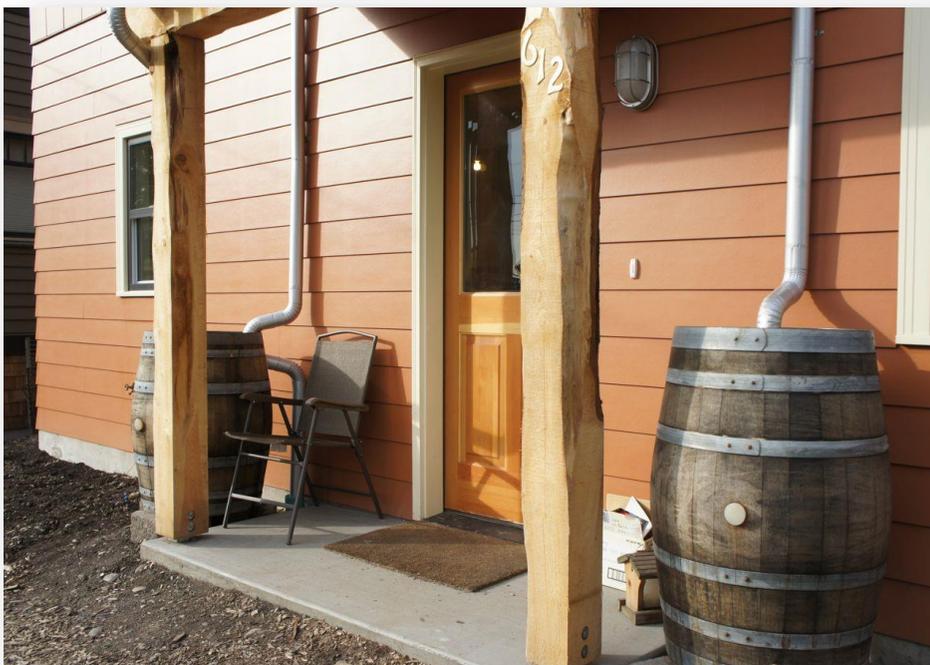


Margo Thompson, Research Engineer, Newport Ventures, Inc.



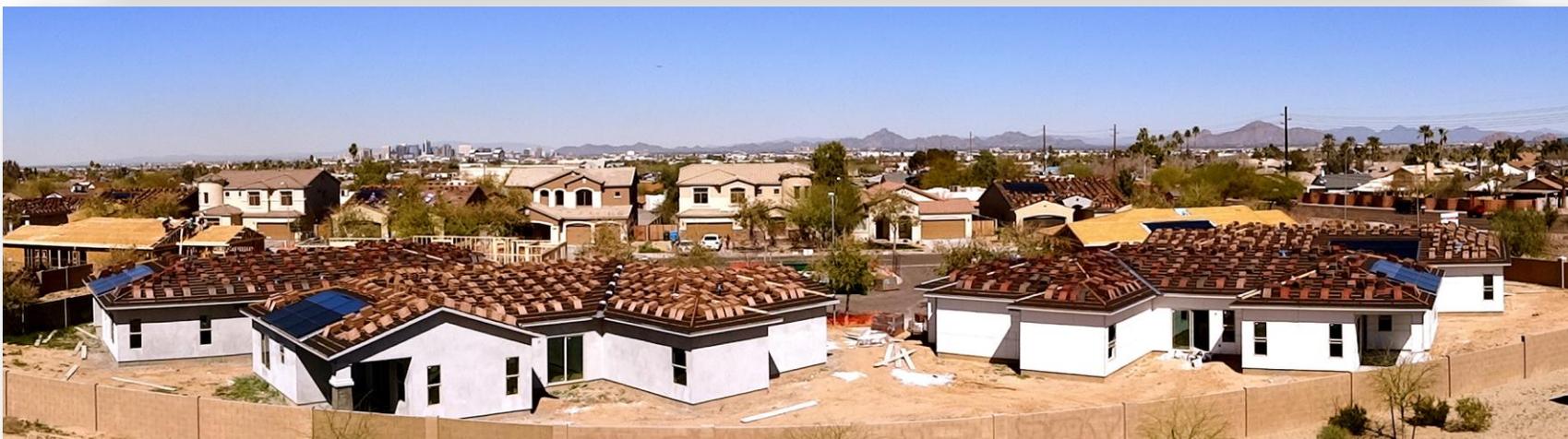


TC Legend Homes Bellingham, WA



Mandalay Homes

Phoenix, AZ



Ithaca Neighborhood Housing Services

Ithaca, NY



Manatee County Habitat for Humanity

Bradenton, FL



Mandalay Homes

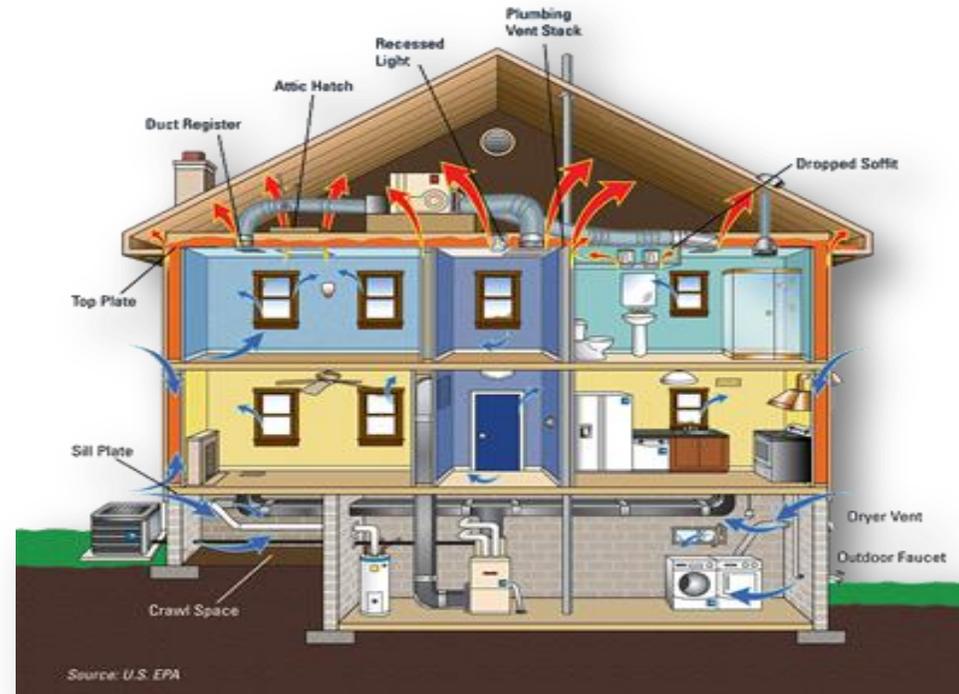
Phoenix, AZ



Grand Winner

for Affordable





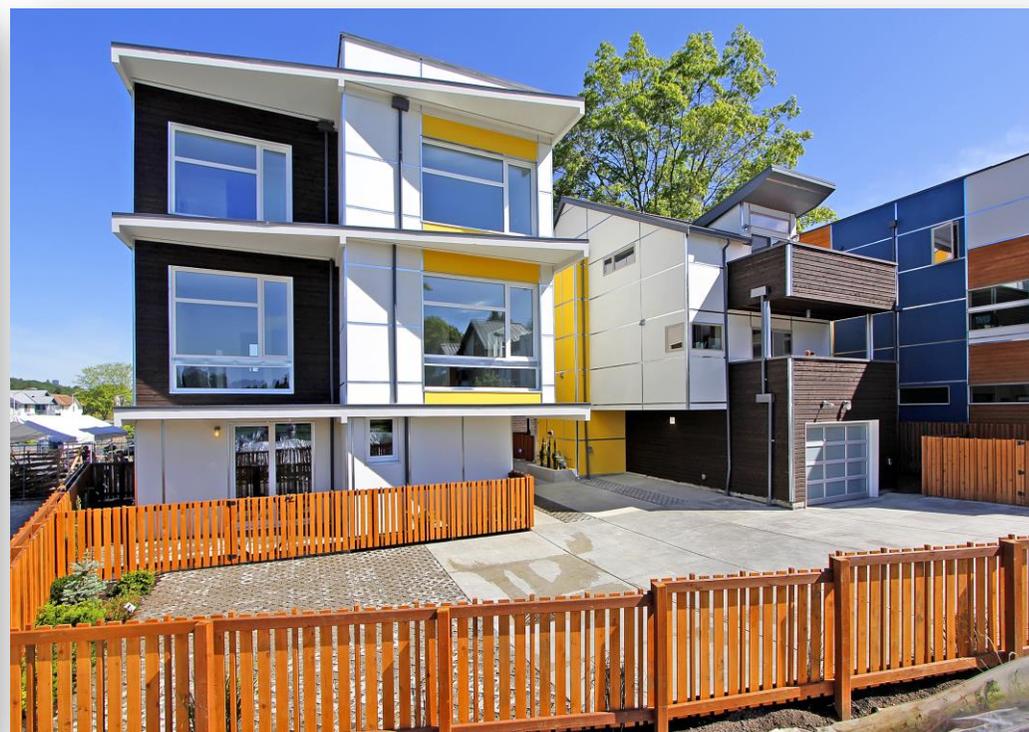
Building Systems

Clifton View Homes

Whidbey Island, WA



Dwell Development Seattle, WA



Weiss Building & Development, LLC

South Elgin, IL



Weiss Building & Development, LLC

South Elgin, IL



Grand Winner
for Systems



CHICAGOLAND'S PREMIER
GREEN HOME BUILDER





Custom Homes

Caldwell & Johnson Custom Builders & Remodelers

North Kingston, RI



Weiss Building & Development, LLC

South Elgin, IL



Ferguson Design & Construction, Inc.

Sagaponack, NY



BPC Green Builders

Wilton, CT



Transformations, Inc

Townsend, MA



Preferred Builders, Inc. Greenwich, CT



E2 Homes, Inc.

Winter Park, FL



StreetScape Development, LLC

Libertyville, IL



Preferred Builders, Inc.

Greenwich, CT

Grand Winner
for Custom





Production Homes

Palo Duro Homes, Inc

Albuquerque, NM

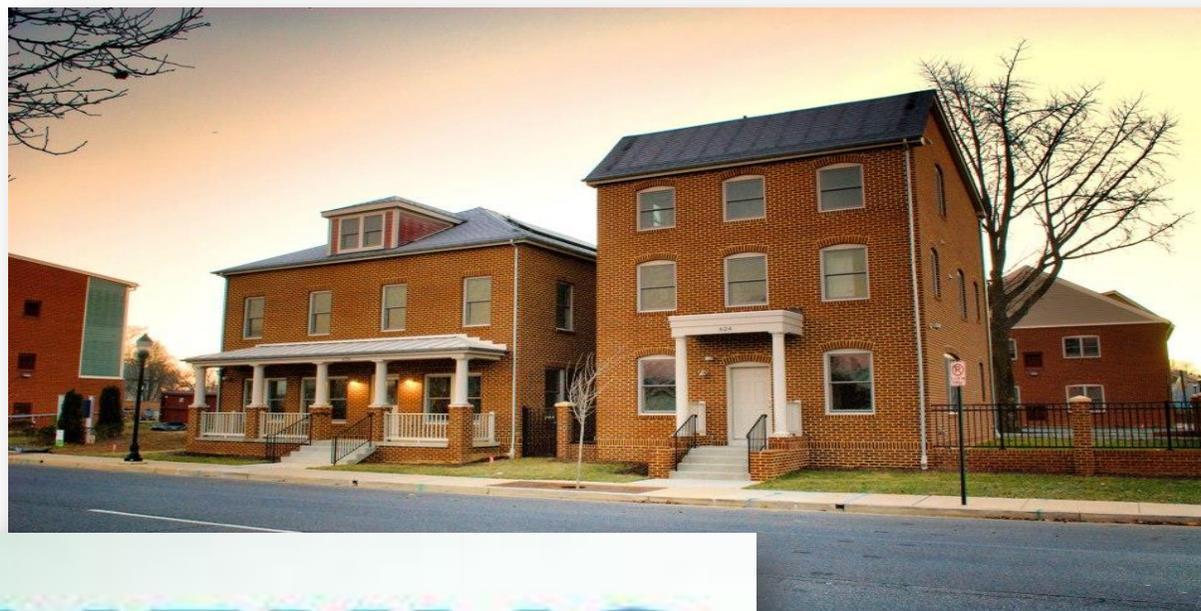


Transformations, Inc. Townsend, MA



Nexus EnergyHomes

Stevensville, MD



New Town Builders

Denver, CO



KB Home Los Angeles, CA



Garbett Homes

Salt Lake City, UT

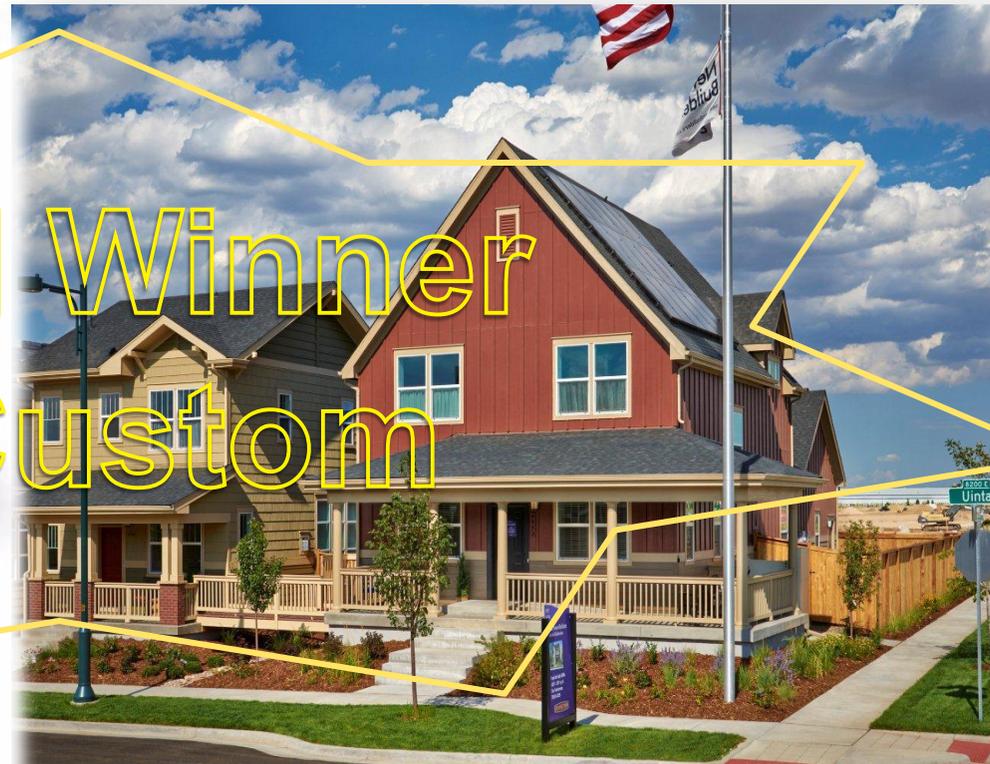


New Town Builders

Denver, CO



Grand Winner
for Custom





Excellence in Building Science Education

Andrew Patton McCoy, Ph.D.

Director/Associate Professor

Virginia Center for Housing
Research/ Department of Building
Construction, Myers-Lawson
School of Construction

Virginia Polytechnic Institute &
State University



Patrick Huelman

Associate Extension Professor
in the Department of
Bioproducts and Biosystems
Engineering

University of Minnesota





Thank You

For More Information:

buildings.energy.gov/challenge

e-mail Contact:

doechallengehome@newportpartnersllc.com