



Build Green NH Newsletter

www.buildgreennh.com

April 2010

Our mission is to promote, educate and support the practice of green building and remodeling in New Hampshire by creating a meaningful yet flexible standard for building and remodeling techniques and materials.

In This Newsletter:

- Reduced Air Infiltration and Theory of Open Building
- Message from the chair of BGNH
- Grants to businesses and non-profits for energy efficiency upgrades
- BGNH and NH Utilities collaborate to promote National Green Building Standard
- Energy Efficient Lighting, Window ratings, Energy Codes, Contractor Listings

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April 2010 Build Green NH Council Meeting - Reduce Air Infiltration & Open Built System

Carleen Goguen from [Associated Concrete Coatings](#), Award Winner Contractor of Energy Efficient and Thermal Moisture protection, along with Ken Lynch from [Tremco Barrier Solutions](#) will present "Methods to Reduce Air Infiltration", discuss new air sealing Energy Code updates and introduce innovative products for weather barrier applications. In addition Ted Benson from [Bensonwood Homes](#), an internationally known contributor to cutting edge construction methods for Post and Beam construction, will present the next generation "Theory of Open Building". [Learn More](#).

April 20th, 2010 - 3:00 pm - 5:00pm ▪ NH Institute of Art 148 Concord Street- Rotunda Manchester, NH 03104 ▪ [Register](#)



Dear BGNH Members and Others:

A year and a few months since the birth of the Build Green NH Council and I cannot believe how successful we have become as the go to entity for residential energy conservation as it pertains to construction practices, materials and information. All of this possible by the hardworking volunteers that belong to the fast growing BGNH council. This month we unveil our enhanced website www.BuildGreennh.com. Building on the hard work of the original steering committee, Judi Farr, Realtor, GREEN, EcoBroker, CGP has worked her magic to optimize the site. Do you have a news brief you want to share with the world? Send it to erfischer@buildgreennh.com and our Social Media guru Megan Donati of 3W Design will post it on Twitter and Facebook. As the ladies improve our presence in cyberspace, several other council members toil to codify our operating procedures, work on other public relations techniques, strategically plan BGNH for the next 5 years and bring you the best in educational opportunities to build your knowledge base and business.

Way behind the scenes is Beth Fischer, our BGNH Program Manager (erfischer@buildgreennh.com), always attempting to move this organization forward to greater heights while building a sustainable institution for the future. It truly takes the efforts of all kinds of individuals with all kinds of talents to make this machine work. If you see something that needs to be addressed and want to help, contact Beth or myself and we will put it into the mix. Be careful though because once you join us you are on for quite a successful ride....

Thanks again and hope to hear from you soon,

Rick Bouchard

603-644-2122 ▪ rick@queencityremodeling.com

SHOW ME THE \$\$

Enterprise Energy Fund

Promoting energy efficiency through loans and grants to New Hampshire businesses and nonprofits



The Enterprise Energy Fund is a low-interest loan and grant program available to businesses and nonprofit organizations to help finance energy improvements and renewable energy projects in their buildings. The goals are reduction of energy costs and consumption and promotion of economic recovery and job creation. [Learn more about the program](#)



The Home Builders and Remodelers Association of New Hampshire, (HBRANH), an affiliate of National Association of Home Builders, (NAHB) is one of the state's largest trade associations dedicated to the growth of the building industry, to provide affordable housing for all income levels and to build a positive image for the building industry. Build Green NH (BGNH) is a council of HBRANH.

[Join Build Green NH](#)

Build Green NH and NH Electric Utility Collaboration on National Green Building Standard

Collaborating with [Build Green NH](#), the New Hampshire electric utilities are pleased to announce the support of the [NAHB Green Building Standard](#) by offering incentives to assist customers in completing building projects that incorporate specific Energy Star and NAHB Green Building Standard components into their projects. The New Hampshire electric utilities understand that the NAHB Green Building Standard is another important tool for promoting efficiency and environmental responsibility throughout the state of New Hampshire and NAHB National Green Building Standard is a perfect compliment to the existing Energy Star Homes program by looking at all aspects of a construction project including site development, resource efficiency, and indoor environmental quality.

Contractors and developers will appreciate the NAHB Green Building certification when the time comes to sell that new project and potential buyers will have the added benefit of owning a certified home. Individual homeowners who choose to have their project certified by the NAHB Green Building Standard will enjoy knowing their home has been completed with minimal impact to the environment and also provides a healthy living space for their family.

For 2010 the New Hampshire electric utilities will be providing an incentive that pays one hundred percent of the NAHB National Green Building Standard verification costs for each project. Additionally, each successfully completed home project that is registered with NAHB will receive an additional five hundred dollar incentive. This incentive will assist any additional costs incurred by the contractor or homeowner during the NAHB Green Building Standard certification process.

When you are ready to start your next construction project and wish to have the project certified by NAHB Green Building Standard and Energy Star Homes program simply **click on your utilities logo for more information to enroll your project.**



[nationalgrid](#)



Calculating Payback on Energy Efficient Lighting Purchases

Energy saving light bulbs are more sophisticated than traditional bulbs so they cost more. But since they also use less electricity and last longer, they save money and reduce air pollution and landfill waste over time. How do you determine if a more expensive energy saving bulb is a smart investment?" Using Table 1, this question is quick and easy to answer. Using current electricity rates and daily burn time assumptions, the **Annual Cost per Watt of Electricity** for residential customers in New England is calculated. To determine payback you factor in the watts saved by an energy efficient light bulb and its price.

Table 1

| State | \$ Rate /kWH | Hours Per Day | | | | |
|------------|--------------|---------------|--------|--------|--------|--------|
| | | 2 | 3 | 5 | 8 | 12 |
| ME, RI, VT | \$0.15 | \$0.11 | \$0.17 | \$0.28 | \$0.44 | \$0.66 |
| NH | \$0.16 | \$0.12 | \$0.18 | \$0.29 | \$0.47 | \$0.70 |
| MA | \$0.17 | \$0.13 | \$0.19 | \$0.31 | \$0.50 | \$0.74 |
| | \$0.18 | \$0.13 | \$0.20 | \$0.33 | \$0.52 | \$0.79 |
| | \$0.19 | \$0.14 | \$0.21 | \$0.34 | \$0.55 | \$0.83 |
| CT | \$0.20 | \$0.15 | \$0.22 | \$0.36 | \$0.58 | \$0.87 |

Example:

- You can switch from 100 watt old-fashioned bulbs to 23 watt CFLs (compact fluorescent lamps) in 2 table lamps next to a sofa;
- You'll save 154 watts per year (2*(100-23)); Suppose these lamps are routinely on every evening for 3 hours;

- In the table, note that in NH a watt costs \$0.18 per year;

$$\text{\$0.18} \times 154 \text{ watts} = \text{\$27.72 Annual Electricity Savings.}$$

If you can buy a pair of quality CFLs for \$8, your electricity savings will pay back your investment in less than four months. If these bulbs have an average rated life of 12,000 hours, you'll still have thousands of hours of life remaining after payback, during which you'll boost the return on your \$8 energy efficient light bulb purchase every time you turn on your lamps.



By Peter Ellinwood, Co-Owner, [GreenPoma.com](#)



New Hampshire adopts new Energy Code Effective April 1, 2010

The State Building Code Review Board has adopted the IECC 2009 with amendments. You may obtain a copy of the basic code [here](#). In short: all new buildings and structures or portions thereof and additions or alterations to existing buildings that provide facilities or shelter for public assembly, educational, business, mercantile, institutional, storage and residential occupancy, as well as those portions of factory and industrial occupancies designed primarily for human occupancy within New Hampshire shall comply with the minimum design and construction requirements, as set forth in the energy code. Build Green NH member GDS of Manchester will offer code workshops under an grant from NH OEP. ▪ [Click here for more information](#)

Upcoming Events:



- April 7, 2010 • 4:30pm - 6:00pm
LaVallee/Middleton Building Supply
44 Railroad Avenue Meredith, NH
Energy-efficient Windows and Doors
Energy-efficient Insulating Concrete Forms
- April 13, 2010 • 3pm - 6pm • Manchester, NH
BGNH Steering Committee
[Event details and registration](#)
- April 14, 2010 • 4:30pm - 6:00pm
Lowe's 1407 Lake Shore Road Gilford, NH
A walking tour of energy-efficient lightning fixtures for the home
Details at 603-224-8033
- April 14-15, 2010 • Boston, MA
Residential Design and Construction 2010
[Event details and registration](#)
- April 20, 2010 • 8:30 am - 3:30 pm • Keene, NH
Energy Code Workshop
[Event details and registration](#)
- April 20, 2010 • 8:30am - 5:30pm • Concord, NH
EPA Lead Paint Safety Certification Class
[Event details and registration](#)
- April 20, 2010 • 3:00 pm - 5:00pm • Manchester, NH
Build Green NH Council Meeting
Reduce Air Infiltration & Open Built System
[Event details and registration](#)
- April 27-28, 2010 • Manchester, NH
2nd Annual Conference
Heating the Northeast with Renewable Biomass: A Bold Vision to Make It Happen
Hosted by Biomass Thermal Energy Council
[Event details and registration](#)
- May 4, 2010 • 8:30 am - 3:30 pm • Keene, NH
Energy Code Workshop
[Event details and registration](#)
- May 5, 2010 • 6pm - 9m • Manchester, NH
Financing Solutions for Renewable Energy Projects
[Event details and registration](#)
- May 16 - 18, 2010 Raleigh, NC
NAHB National Green Building Conference
[Event details and registration](#)
- May 18, 2010 • 8:30 am - 3:30 pm • Concord, NH
Energy Code Workshop
[Event details and registration](#)
- May 20, 2010 • 8:30 am - 3:30 pm • Concord, NH
Energy Code Workshop
[Event details and registration](#)



[Join Build Green NH](#)

Green Building Resources:



Calling All New Hampshire based Sustainable Energy Vendors and Installers!

NHSEA has partnered with [New England Carbon Challenge](#) to create the Vendor & Incentives index (working title). This index takes energy resources from across the web and gathers them into a single searchable web tool. The result is a customized report—tailored to the eligibility and interests of the participant—detailing all the federal, state and utility incentives, as well as rebate and financing options available for residential energy audits, upgrades and renewable projects. Our tool also generates a customized report identifying people and organizations that can provide these services (vendors).

We want your business to be a part of this important resource. Go to [nhresidentialenergy.org](#) and enter your business into our database. (Be sure to check out our Terms of Use and Instructions for some helpful hints on filling out the form.)

Thank you for your participation! For more information contact Madeline@nhsea.org. Thanks to a generous \$10,000 grant awarded to NHSEA by the Otto Haas Foundation, NHSEA will continue to bring you the educational events and workshops that you depend on us for. For more information on these events and others please see our [on-line events](#)



International Green Construction Code

A first draft of the International Green Construction Code was released by the International Code Council (ICC) for public comment on March 15. This new model green building code is intended to integrate with existing I-Codes, such as the International Building Code and International Energy Conservation Code, to create a new regulatory baseline for green construction and "accelerate the construction of high-performance green buildings across the United States," says the ICC.

NAHB partnered with the ICC in 2007 to develop the National Green Building Standard (ICC 700), which was the first standard for residential green building to be approved by the American National Standards Institute (ANSI). Like the National Green Building Standard, the newly released International Green Construction Code (IGCC) includes requirements for energy and water conservation and efficiency, land use and development, and a remodeling component.

Importantly, the IGCC will apply to all buildings, including residential. If adopted by a jurisdiction as a mandatory green code, the IGCC will require all single-family and multifamily housing to comply with the National Green Building Standard, except that designers will have the option of using either ICC 700 or the provisions of the International Green Construction Code for high-rise multifamily buildings. Public comments are due by May 14 and hearings will be held in Chicago on Aug. 14-22. After that, the proposed IGCC will be subjected to a full cycle of code development hearings in 2011, with the first published edition due in early 2012. NAHB's Construction, Codes & Standards staff will be covering the development of the IGCC to ensure the interests of home builders are addressed.

[The March 22 edition of Nation's Building News](#) has more details.

Resources to help remodelers sort through the maze of national and local retrofit-related developers

The American Recovery and Reinvestment Act (ARRA) of 2009 was just the first step in a developing federal policy toward energy efficiency and sustainable housing. So far, of the \$787 billion funded by the ARRA, only about \$283 billion has been paid out, making it likely that most of the balance will come into play this year. In addition, pending energy and job-related legislation is likely to direct even more money to the struggling housing industry.

The landscape is constantly changing, so we've introduced this Home Performance section, as well as a planned Home Performance e-mail newsletter and website, to keep track of developments and direct you to resources that can help you take advantage of remodeling-related programs. Here are some of the issues we're currently tracking.

- **Home Star.** Sometimes referred to as "cash for caulkers," Home Star is an energy retrofit package attached to a jobs bill currently making its way through Congress. The program's Silver Star track is prescriptive, like the Stimulus Bill, and offers incentives for improvements such as adding insulation, sealing air leaks, and replacing light bulbs. The Gold Star track offers graduated incentives tied to improved performance (actual or modeled) for retrofits recommended through an energy audit and undertaken by accredited professionals.

- **Certification.** Making energy retrofits is more complex than it looks. If improperly installed, measures such as air sealing and adding insulation can do more harm than good, resulting in problems ranging from elevated indoor humidity and mold to poor indoor air quality and even back-drafting of carbon monoxide through combustion appliances. Much of the federal energy money will be tied to pre- and post-retrofit testing performed by accredited energy auditors trained by the Building Performance Institute (BPI), the Residential Energy Services Network (RESNET), or similar programs; installer certifications are also being developed.

- **Financing.** Federal funding will give energy retrofits a jump-start, but long-term success depends on a sustainable financing model. One solution, called Property Assessed Clean Energy (PACE), has been operating in Berkeley, Calif., for about two years and is being adopted by other California communities; another, called Pay As You Save America (PAYS America), has been operating for more than 10 years in six demonstration projects in three states. Both programs reduce a homeowner's up-front investment to zero, but in different ways. PACE amortizes the cost through a charge added to the property tax; PAYS America works through utilities, which guarantee the homeowner a reduced utility bill while applying most of the energy savings to repay the loan. What makes these programs innovative is that the repayment mechanism is linked with the property, not the property owner.

- **Business models.** Traditionally, performance contracting has been the realm of energy auditors and weatherization contractors. But with 130 million existing American homes, a good portion of the retrofits will need to be performed by full-service and replacement contractors. The challenge is to find a way to successfully integrate energy retrofit work into existing businesses. Promising business models are emerging, but it is by no means a done deal.

Remodeling By Sal Alfano • RemodelingMag.com



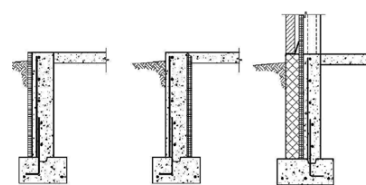
Structural Engineer: Friend or Foe?



Schematic section of heat loss potential through cold-formed steel roof truss overhangs

Finding out why many buildings don't perform thermally as well as their energy model had predicted has been a topic of much debate lately. Modeling systems, building rating systems, and occupant operations have been identified as possible culprits. In addition, we must take a critical and humble look at the design and construction of the buildings themselves—especially to identify any significant flaws in our logic of building envelope design.

What has your structural engineer done for you lately? If your answer is something like: "A structural engineer doesn't have anything to do with a building's energy efficiency, so I keep their services and involvement limited, and focus on the things that you know matter to your building project"—read on. This article explores the ways in which an energy-conscious structural engineer can help a team if that person is integrated early enough and closely enough in the design process. • [Read the whole article](#)



Foundation Insulation on the outside face, inside face, and sandwiched side

By Jim D'Aloisio • [NortheastSun](http://NortheastSun.com)

Business NH Magazine is seeking applications for its third annual Lean and Green Awards. The 2010 Lean and Green Awards will spotlight sustainable NH businesses in three categories: a green practices award for processes instituted by your company to create more environmentally sound business practices and based on the size of your company, a product/service award, and a green structure award.

Winners will be featured in the August 2010 issues of Business NH Magazine and there will be a celebration of the winners in September. Previous winners include Sullivan Construction, a Bedford firm, Acorn Organic Salon, a micro business in Dover, and Wire Belt Company of America, a manufacturing firm in Londonderry.

So whether you make bread, conveyer belts, buildings or provide technology to maximize fuel efficiency-just to name a few previous winners-we want to hear about what you're doing to better your business or organization and the planet. The deadline to apply is April 23. Applications are only being accepted online. Click [here](#) to apply.



Are you an Associate Member? Have you considered going green?

BGNH Public Relations Committee is looking for a leader to coordinate and FUN EVENTS. The Events Coordinator is part of the Public Relations team who are dedicated and pro-active in their efforts to education consumers about Green Building and BGNH program. This is an excellent opportunity to broaden your experience, meet business owners and customers, while promoting your own business. We are looking for a dedicated individual, who is organized, enjoys event planning and is interested in furthering the BGNH mission.

Contact: Carleen Goguen CGP - (603) 669-2780 carleen@concoat.com


BGNH Public Relations Chairperson
Home Builders and Remodelers Association of NH



Questions About Buying New Energy Efficient Windows?

In today's market, architects, builders and consumers are challenged by the many choices of window products. What is the best way to choose windows, doors and skylights for homes and offices? If you have questions about how to choose energy efficient windows, the National Fenestration Rating Council (NFRC) has the answers.

1. Look For The NFRC Label. NFRC is a nonprofit organization whose goal is to provide uniform, accurate information about the energy performance of windows, doors and skylights. In addition to publishing consensus standards (for consistent ratings)' NFRC administers a third-party certification and labeling program to provide the window buyer with verified product information. So look for an NFRC label on windows to compare products on a fair and equal basis.

| | |
|--|---|
|  Rating Center CERTIFIED | World's Best Window Co. Millennium 2000® Vinyl-Clad Wood Frame Double Glazing - Argon Fill - Low E Product Type: Vertical Slider |
| ENERGY PERFORMANCE RATINGS | |
| U-Factor (U.S./h-F) | Solar Heat Gain Coefficient |
| 0.35 | 0.32 |
| ADDITIONAL PERFORMANCE RATINGS | |
| Visible Transmittance | Air Leakage (U.S./h-F) |
| 0.51 | 0.2 |
| <small>Manufacturer certifies that these ratings conform to applicable NFRC procedures for determining whole window performance. NFRC ratings are determined for individual environmental conditions and specific product use. Consult manufacturer's literature for other product performance information. www.nfrc.org</small> | |

2. Compare Product Performance. The NFRC label provides information on how a window performs. The two most important energy ratings are *U-factor* and *Solar Heat Gain*. By reviewing the label information, consumers can make an informed choice about the product that is best for their individual situation.



3. Look For The ENERGY STAR Label.

The U.S. Department of Energy and the U.S. Environmental Protection Agency have developed an Energy Star designation for products meeting certain energy performance criteria. Since the energy efficiency performance of windows, doors and skylights can vary by climate, product recommendations are given for four climate zones: *mostly heating* zone (Northern), two *heating and cooling* zones (North/Central and South/Central); and a *mostly cooling* zone (Southern). For more information about ENERGYSTAR windows, see www.energystar.gov.



Strategies For Going Green (or 50 Ways to Leave Your Legacy)

Presented at NAHB, IBS January, 2010

Site Design

Incorporate efficient site design and development practices to reduce the environmental impacts of the building and to take advantage of the site to improve the energy performance.

- Assemble a team, identify goals and commit to achieving these goals.
- Select a site with goals in mind.
- Conserve natural resources of the site and preserve its natural terrain.
- Use native landscaping materials, preferably drought tolerant.
- Orient buildings to take advantage of the site's micro-climate. (Breezes, solar orientation, existing vegetation, and grading.)
- Minimize impervious surfaces and allow water to return to the soil - use pervious paving: pavers set in sand, porous concrete.
- Develop a construction debris recycling program.
- Develop storm water management to mimic natural hydrology.
- Orient streets and lots to optimize solar potential.
- Choose a site close to public transportation and public services.
- Minimize the building footprint (go vertical when possible)
- Use landscaping to reduce the heat island effect and protect buildings from northerly winds.

-Energy Efficiency/Building Envelope

Maximize the use of energy when designing and building a home. Reduce the carbon footprint of a home and evaluate long term benefits compared to initial savings. Build Quality!

-Resource Efficiency

Minimize the impact on the environment by using resource efficient materials and designs. Considerations when selecting materials should be given to the region, energy to create and transport, recycled content, durability, maintenance, and renewability.

-Indoor Air Quality

Promote a healthy environment for the building occupants through design and management of air flow, control of moisture and contaminants.

-Water Quality and Conservation

Design buildings to allow users to conserve water and natural resources by implementing water saving techniques and products.

-Education.

Educate the public about the design and construction of homes utilizing green principles. The education continues to the consumer to help ensure the green home is operated and maintained in an environmentally responsible manner. Being Green sells.



By John Binder, AIA
[KEPHART](#)



Do Business With A Member

- [Click Here](#) to view a list of Association Members.

For more information about finding a Certified Green Professional or to learn more about earning a Green Professional Designation, [visit Build Green NH](#)



Build Green NH
www.BuildGreenNH.com



Home Builders & Remodelers Association
of New Hampshire
"Building New Hampshire's Future"

The Housing Center
119 Airport Road
Concord, NH 0330

To submit an article for a future edition of the Build Green NH Newsletter, [email](#) or call 603-228-0351

[Click Here](#) to join the Home Builders and Remodelers Association of New Hampshire and Build Green NH.

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