



# Build Green NH Newsletter

[www.buildgreennh.com](http://www.buildgreennh.com)

November 2009

*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:

- 1st Build Green NH® Certified Home
- Success of BGNH
- Anatomy of an Energy Audit
- BGNH Manager Hired
- What it means to build green
- Other Green Links

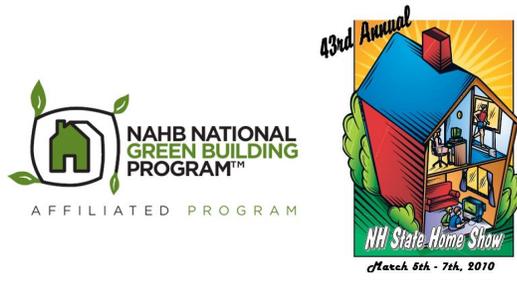
## Upcoming Events:

- 11/10/2009—**Green Building Council Monthly Meeting**—*Green Building Liability*  
Energy North Propane, Bow NH  
[Information](#)  
[Directions](#)

- 11/21/2009—**NHSEA's 3rd Annual Home Energy Conference**  
Plymouth State University  
[Register](#)  
[Information](#)  
[Directions](#)

- 12/2/2009—Residential
  - 12/9/2009—Commercial
- Going Beyond NH Energy Code Workshops**  
PSNH Energy Park, Manchester NH  
[About Workshops](#)  
[Register for Event\(s\)](#)  
[Directions to Energy Park](#)

**Coming Soon:** Lead Paint & BPI Certification  
Advanced Green Building Certification



Build Green NH ([www.buildgreennh.com](http://www.buildgreennh.com)) is a green building and remodeling program offered to home builders, remodelers and industry professionals to promote green building. It is the

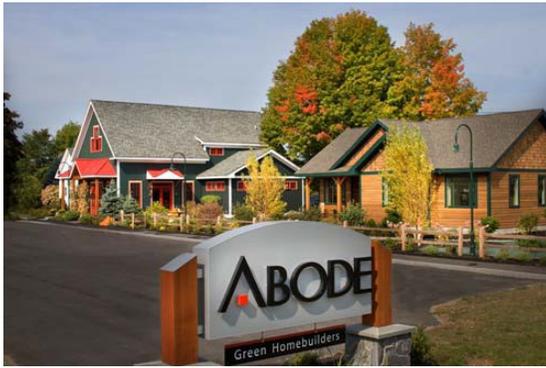
only nationally approved program for building homes to green and code-approved standards. Members of Build Green NH “dream green,” said Rick Bouchard, chairman of Build Green NH and president of Queen City Remodeling. Along with promoting green practices, the organization, which began in January, offers training and education opportunities for its members. Builders are seeing more and more interest from customers looking for more environmentally friendly practices, Bouchard said. Builders working under Build Green NH standards must also obtain third-party verification, ensuring homes are truly as green as builders say they are, Bouchard said. The initiative is part of the Home Builders and Remodelers Association of New Hampshire.



The HBRANH is one of New Hampshire's largest trade associations with a combined membership of over one thousand one hundred companies, employing over 60,000 citizens, involved in all aspects of the building industry.

The HBRANH is dedicated to the evolution and continued growth of the building industry, to provide affordable housing for all income levels, and to build a positive image for the building industry.

HBRANH, and its ten local associations, are affiliated with the National Association of Home Builders (NAHB), Washington, DC ([www.nahb.org](http://www.nahb.org)).



## FIRST BUILD GREEN NH® CERTIFIED HOME IN STATE UNVEILED AT ANNUAL NEW HAMPSHIRE PARADE OF HOMES®

The Home Builders and Remodelers Association of New Hampshire (HBRANH) announced the awarding of the first Gold Level certification under the new Build Green NH® program. The Build Green NH® program is modeled after the National Association of Home Builders' National Green Building Program™, the first ever residential green building standard in the U.S.

The program recognizes green building techniques and technologies in several areas, including lot preparation and design, resource efficiency, energy efficiency, water efficiency and conservation, occupancy comfort and indoor environmental quality, and operation maintenance and homeowner education.

The first certification was awarded to the model home of ABODE Builders of New England at its design center in Plymouth, NH at a special ribbon cutting event on Saturday, October 11th where attendees included Kendall Buck – Executive Vice President of HBRANH, Amy Ignatius, Director from NH Office of Energy & Planning, Ray Burton - Executive Councilor District1, State Senator Deborah Reynolds and State Representative Mary Cooney.



To learn more about ABODE, please visit [www.yourabodehome.com](http://www.yourabodehome.com).



## Whether WE DREAM GREEN dollars \$\$ or Embrace Green Building Practices, the current business climate is bright and sunny at Build Green NH®.

By Carly Goguen

In January of this year, the Build Green NH's program was established. Since then the growth in membership, certifications, sponsors and increase in public awareness has earned the program an additional \$178,000.00 in grant money. This has allowed us to hire a program manager. The decision to recognize green building, the green building standard and changes in the building industry as a whole is pivotal to NH leaders and HBRANH decision to lead our state in a new direction.



Many builders and building professionals have joined Build Green NH, as they recognize these changes. More work is needed to build a sustainable and suitable program for NH's building industry. As we enter the next phase, we are encouraged by home builder members who are interested in joining our program during the early design and planning process. As we begin to explore these changes that affect our businesses and industry, the door remains open to any HBRANH member interest in becoming involved and positioning their company.

The success of Build Green NH is in part, due to the efforts of members, like you. Our BGNH council members are the driving force that has shored up the program and made possible the opportunity to request

additional funding. Their understanding of the marketplace has made it possible, to not only educate, though this is major goal, but to now implement a bold marketing strategy. Efforts are now underway to begin the process to reach consumers interested in learning more about the benefits of purchasing a certified green built energy efficient home.

It is our also our intention to reach out to ECO brokers, Certified Green Real Estate Professionals and others to requester their talents and their wisdom. Join us as we discuss and consider a favorable approach in qualifying and educating the home buying consumer.

As a member of the HBRANH unique opportunities lay ahead. Unlike building professionals in other states; our members have the advantage of a cohesive and successful statewide effort. BGNHs efforts are designed to reach out to our local communities, business leaders and the home buying consumers. In doing so this program and its council members are fast becoming known throughout NH as the # 1 respected source for certified green built homes, green building education, green building professionals and a guide to green home building and remodeling resources.

We look forward to casting our bright and sunny success on your business. *Learn more.* Contact HBRANH regarding our latest book by Matt Belcher a developer and builder. "Build it Green and Save." This book is an easy to read, educational piece that may answer most of your questions and concerns.

*Carly Goguen, a Certified Green Professional, is the Public Relations Chair of Build Green NH. Carly is a Building Envelope Specialist, and the Marketing Manager of Associated Concrete Coatings, Inc. [carleen@concoat.com](mailto:carleen@concoat.com) 603-669-2780*



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## **Anatomy of an Energy Audit**

By Paul Button



What are the goeey, internal parts of an energy audit? Think of an energy audit as a home inspection except that an energy auditor focuses on where the building is wasting energy. The primary tool an auditor uses is the Blower Door which is an adjustable frame that is fitted into an exterior door and carries a fan.

The fan sucks the air out of the building and that air is replaced by outside air. Using a thermal camera, the auditor can pinpoint the areas of infiltrating air and document it for the contractor that will come along and air seal those leaks.

The blower door tests for CFM (cubic feet per minute) flow at an industry standard pressure setting. This CFM number can be used to compare one building to another for leakiness. The leakier the building, the more fuel it will waste. The blower door sets a threshold, floor, or baseline for where the building is on the day of the test. This gives a starting point that can be used to see how much progress was made during a weatherization or remodel effort.

During the audit the auditor looks at health and safety issues in the building by focusing on the furnace or boiler, and any other combustion appliances, like a fuel-fired hot water heater, or a gas or propane dryer to determine the CAZ (Combustion Appliance Zone) and if there is sufficient air coming in to support the proper combustion operation of the device.

Tests are done to calculate the air flow when every ventilation device in the house is running and all the combustion appliances are fired. The combustion appliances are trying to breathe air from the inside of the house and the fans are pulling it out. The auditor actually tries to make the fuel-fired water heater fail! This test will pretty much dictate how tight the building can get and not cause problems of back drafting. If there

is inadequate air then an air intake mechanism is prescribed as part of the recommended actions. Tests are also done to make sure there is not leakage into the building from the combustion device which could cause death of the occupants.

Finally, the auditor will determine the types and levels of insulation in the attic, walls, and basement. This can be determined through conversation with the client, visual inspection, thermal camera imaging and experience. The final auditor's report assembles all the information gained from the audit including the blower door and combustion zone results and suggests energy saving measures to install based on a cost/benefit ratio, return-on-investment, or payback estimate as well as a list of qualified vendors the consumer can choose from to perform the work.



*Paul Button has been performing energy audits for 5 years having completed upwards of 500 audits. In a previous life, Paul was a Mechanical Engineer for 30 years. Energy Audits Unlimited Home Is Where The Heat Is (TM) [www.energy-audits-unltd.com](http://www.energy-audits-unltd.com) Cell: 603 836 4402 Office: 603 617 2469*



## **BUILD GREEN NH PROGRAM<sup>®</sup> MANAGER HIRED TO PROMOTE THE FIRST NATIONAL GREEN BUILDING STANDARD IN NEW HAMPSHIRE.**

CONCORD, NH, August 3, 2009- [Build Green NH<sup>®</sup>](http://www.buildgreennh.com) welcomes Elizabeth Fischer as new program manager.

Elizabeth Fischer, of Dover, has joined the HBRANH as the new Build Green NH<sup>®</sup> Program Manager.

The position is funded by a grant from the New Hampshire Public Utilities Commission.

The Build Green NH<sup>®</sup> Program Manager is responsible for overseeing the association's expanded green building and energy efficiency educational curriculum to the building industry, to public officials, and to consumers, and expands on existing relationships with other stakeholders and develops new relationships.

The Build Green NH<sup>®</sup> program is affiliated with the National Green Building Standard, the first and only ANSI (American National Standards Institute) -approved green building rating system, making it the benchmark for green homes. Home builders and remodelers now have a much more expansive third-party rating system that they can use with NAHBGreen, the voluntary, market-driven [NAHB National Green Building Program](http://www.nahb.org).

Ms. Fischer's extensive background includes:

- Contract lobbyist for HBRANH - 1987- 1989
- HBRANH president - 1994
- New Hampshire Housing Finance Authority Board of Directors - 1986 - 2000
- Founding Member: Granite State Property Managers Association
- Real Estate Broker, builder

HBRANH president, Mark Pederzini, GMB, CGB, CGP, CAPS, stated, "Having the Build Green NH Program Manager on board will allow the HBA to expand its class offerings so more home builders and remodelers can obtain the [Certified Green Professional \(CGP\)](http://www.buildgreennh.com) designation, learn more about energy efficient construction techniques, and building science."

Pederzini said, "With the expansion of our education programs through our Construction Institute of New Hampshire more building professionals and more home buyers will understand the environmental benefits of green homes and their potential to reduce carbon emissions.

*Ms. Fischer can be reached at 603-491-0077, [erfischer@buildgreennh.com](mailto:erfischer@buildgreennh.com).*

## What it means to build green

*Reprinted from HIPPO.*

How companies improve energy efficiency and more in homes and offices

By Jeff Mucciarone [jmucciarone@hippopress.com](mailto:jmucciarone@hippopress.com)



There are national green standards. There are LEED standards. There are EnergyStar standards. There are standards on top of standards, but what it really comes down to is constructing more energy-efficient buildings that preserve air quality with less environmental impact.

“Green covers a lot of areas,” said John Ela, CEO of modular home builder Epoch Homes in Pembroke. “It starts with minimizing the use of resources, both in building and operating a home. A very energy-efficient, well-insulated home is a part of green building. Offering faucets and fixtures that minimize wasted water. An element of green is offering a heat recovery system. Proper ventilation providing good air quality.... It covers a lot of areas.”

The National Green Building Certification Program and LEED (Leadership in Environmental and Energy Design), a program of the United States Green Building Council, are point-scoring systems that allow for trade-offs to achieve a green home allowing consumers to quantify the building’s greenness. “People can pick and choose what is important to them,” Ela said.

Rick Bouchard is the chairman of Build Green NH ([www.buildgreennh.com](http://www.buildgreennh.com)), an affiliate program of the National Association of Homebuilders carrying a tag line of “We Dream Green.” As of January, Build Green NH works under national green standards, the only code-approved building and remodeling standards in the country. The program allows builders and remodelers to learn about green building techniques, Bouchard said. Interest among builders is growing; Bouchard said Build Green NH certified more than 30 green professionals in the last year.

“State and city governments are very, very heavily into energy-efficiency,” Bouchard said. There are federal and state programs available to homeowners looking to improve the efficiency of their home. Utility companies are even offering rebates to help customers improve efficiency. Builders will test homes to give owners an idea of where their energy weak points are, Bouchard said.

“Yet the consumer is really not aware of all the stuff,” Bouchard said, adding Build Green NH has received grant money to educate consumers about green building. “The consumer is not aware of all the tremendous amounts of money available.”

There are four levels of green performance for homes through Build Green NH: emerald, gold, silver and bronze. There’s also a third-party verification process to make sure homes are as efficient as builders claim, Bouchard said.

Bouchard said while the economy is challenging for all right now, going green is becoming more cost-effective for people.

Steven Reddy, a green builder with Zetland Homes in Hopkinton, said prices are coming down in the green world.

“We’re able to build a pretty aggressive Energy Star home with several green features for about 5 percent more,” Reddy said. “When we start talking about oil at \$2.50 per gallon or even natural gas, that has a pretty quick payback, usually under five years. After that, the money goes in the pocket.”

Zetland Homes got involved in green building in 2007 when it constructed a demonstration green home. Reddy said it was the second home in New Hampshire to be built under LEED. LEED has been around for commercial and industrial projects since about 2000, but LEED for homes is fairly new. Energy Star guidelines are solely concerned with energy efficiency, while LEED encompasses all aspects of building, Reddy said.

Epoch Homes has a different take on building homes — it builds all its homes in house — a process Ela says is inherently greener. Epoch Homes has been building modular homes in a green fashion since before it was even called green. It all began with a housing project in the late 1990s in Cambridge, Mass. Today, the company has built more than 4,000 homes across New England. It recently finished a dormitory project at Montserrat College of Art in Beverly, Mass.

“Since then, we’ve continued to try to push the envelope and try new technologies,” Ela said, adding modular homes have a green advantage since they’re built in a more efficient, controlled factory environment.

Every project Zetland does has a green component. Zetland constructs homes all over New Hampshire. It built a home in Meredith this year that was the second built under the Build Green NH program. Today, indoor air quality is receiving more attention. Green standards have to form a connection between tightening up a home to prevent air leakage and still allowing proper ventilation to prevent mold, Reddy said.

That’s part of how green building has become almost a primer in thinking about homes in terms of a system. In that way, green building is slightly different than traditional building. Green building is a little more difficult as it requires a systems-based approach to construction, Ela said.

*“You’re building a system rather than just a box,” Ela said, and that requires training.*

Elaine Bello, director of interior design at Berard Martel Architecture in Bedford, said a window itself isn’t going to make a home or building energy-efficient. The building’s efficiency is reliant on the whole package.

Ela said green building has started slow. People weren’t interested in the initial investment green building required. But now, Ela said, people are seeing the social, economic and environmental benefits — and they’re starting to see benefits in resale value.

Reddy is seeing more interest in deep energy retrofits — taking a house right down to the studs and putting in modern insulation. He said it is more expensive but the payback is fairly quick.

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## Other Green Links

Peterborough’s Nubanusit Neighborhood and Farm ([www.peterboroughcohousing.org](http://www.peterboroughcohousing.org)) was recently named one of Natural Home magazine’s top 10 greenest co-housing developments in the country. The 29-home community conserves farm fields, riverfront and woodlands, while each individual home is LEED-certified. The community relies on a wood pellet boiler for heat and builders utilized low-toxicity building materials and implemented fresh-air ventilation systems.



Shelter-Kit ([www.shelter-kit.com](http://www.shelter-kit.com)), a Tilton-based company specializing in kit homes, launched a green home kit that provides a framework for customers to gain points toward the National Green Building Certification Program.

The green kit allows customers to customize their homes to their own needs while implementing the green aspects that are important to them.



The New Hampshire Sustainable Energy Association ([www.nhsea.org](http://www.nhsea.org)) works to promote renewable energy as a way to reduce dependence on foreign oil. Clay Mitchell, president of the board of directors, said it's going to take a wide spectrum of initiatives to address creating more sustainable energy in this country. The organization, which has broad membership, acts as a resource for residents, professionals and legislators by providing workshops, open houses and legislative alerts. "We need a revolutionary change in how we think about energy," Mitchell said.

The New Hampshire Energy and Climate Collaborative ([www.nhcollaborative.org](http://www.nhcollaborative.org)), a public/private partnership, stemmed from Gov. John Lynch's Climate Change Policy Task Force. The 29-member Task Force developed initiatives aiming at Lynch's goal of having 25 percent of the state's energy come from renewable sources by 2025. The Task Force released a plan in March that contained 67 recommendations for reducing greenhouse gas emissions. The primary purpose of the Collaborative is to track and facilitate implementation of the Task Force's recommendations. It includes representatives from business, public entities, nonprofit organizations and educational institutions. The Collaborative is also looking to reduce greenhouse gas emissions by 80 percent below 1990 standards by 2050.

#### New Hampshire Energy and Climate Collaborative



The New Hampshire Dept. of Environmental Services is obviously full of green initiatives. Visit [des.nh.gov](http://des.nh.gov) to learn about them. One unique Pollution Prevention Program initiative is NH Green Slopes, which helps ski areas reduce environmental impacts.



The New Hampshire Carbon Challenge has morphed into the New England Carbon Challenge ([necarbonchallenge.org](http://necarbonchallenge.org)), a joint initiative of the University of New Hampshire and Clean Air-Cool Planet. They provide services and support to households and communities that want to reduce residential energy consumption, said co-director Denise Blaha. Their online carbon calculator, called the New England Carbon Estimator, offers "practical, real-world ideas" for reducing energy consumption. It usually only takes about 15 minutes to go through this online form and about a half hour to implement the changes, yet an average household saves about \$750 per year through this exercise, she said. NECC can link households together, so a church or school or bowling league can show their collective efforts. Many town energy committees are using NECC as an outreach piece, so towns don't need to invent a new program. They are charged a nominal \$50 fee to participate, but using the site is effectively free to households. There are between 80 and 100 local energy committees in New Hampshire. About 296 towns are taking the Carbon Challenge in New England, and probably about 200 New Hampshire towns have at least one household taking part, she said.

Because of a RGGI fund grant through the NH Public Utilities Commission, NECC is going to be rolling out new tools over the next couple years or so. One allows households to find reputable vendors and contractors near them for related energy-saving products or work. The UNH Cooperative Extension and New Hampshire Sustainable Energy Association are partnering. Another tool will identify monetary incentives available to households. NECC is also developing a tool that will identify homes around you that use renewable energy systems and are willing to offer tours. Many people want to "take the vendor out of the equation," and talk with people who actually use photovoltaic, for example, Blaha said. The NHSEA's October Green Building Open House is successful, but only happens once a year, Blaha said.



Clean Air-Cool Planet ([www.cleanair-coolplanet.org](http://www.cleanair-coolplanet.org)) started out in the Northeast in 2000 and has offices in Portsmouth, but has programs of national and international reach, Bill Burtis said. It advises corporations and communities on energy-efficiency and renewable energy programs.

CA-CP recently received RGGI funding to help 48 New Hampshire communities form or augment local energy committees, he said. CA-CP's other area is contributing to federal policy and legislation through its climate policy center in Washington, D.C., Burtis said.



New Hampshire Energy Efficiency incentives and programs compiled by [DSIRE](http://www.dsire.com): DSIRE is a comprehensive source of information on state, local, utility, and federal incentives and policies that promote renewable energy and energy efficiency. Established in 1995 and funded by the U.S. Department of Energy, DSIRE is an ongoing project of the N.C. Solar Center and the Interstate Renewable Energy Council.



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