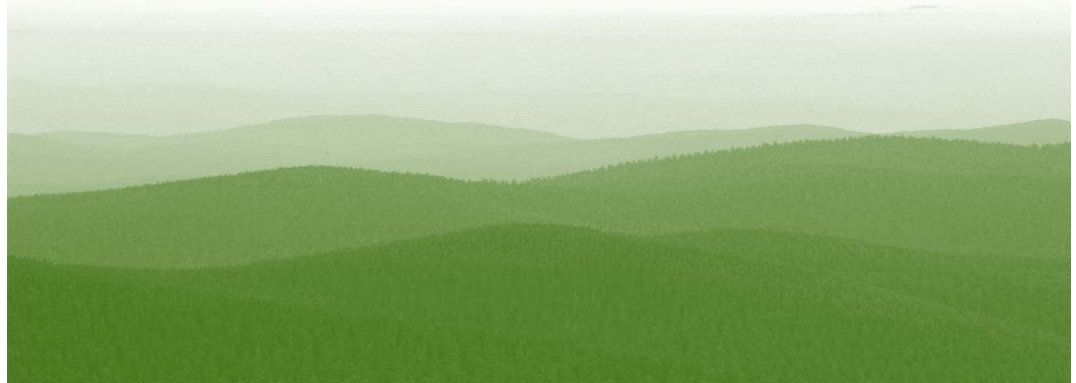


**WNCGBC**  
**2007 Issue #3**



**Inside this issue:**

WNCGBC News 2  
 Green Bus Stops and Social Committee 3  
 Updates  
 News and Noteworthy 4, 9  
 Green Home Renovation 5-6  
 Appalachian Sustainable Development 7-8  
 Green Holiday Tips and Upcoming Classes 9  
 Platinum Members 10

**WNC Green Building Council News**

The fall season has proven to be quite busy for WNCGBC. A new Outreach Coordinator, Candice Black, began in August. The Green Building 101 classes continue to be very successful. We are pleased that memberships continue to increase, allowing us to further our mission. We are excited to be working with Mountain Xpress again this year to publish the 2008 Green Building Directory, which will be released early next spring. For more information on listing your business in the directory, visit our website.

As the holiday season approaches, take a moment to reflect. Does Aunt Lilly really need yet another sweater? I think not. Instead, consider donating to Appalachian Offsets in someone's name. The donation will help support carbon offset projects in the WNC area. Another great gift idea is a WNCGBC Membership. As you know, there are several benefits of a membership, such as discounts on classes and tours. And while it may be tempting to drive to the mall, find a parking space and fight the crowds searching for the perfect gift, you can give either of these gifts by simply logging onto <http://www.wncgbc.org>!

**Your donations are making a difference!**

On September 11th, 2007, over 500 UNCA freshmen students replaced 5,500 incandescent light bulbs with the more energy efficient CFL's at the Asheville Housing Authority's low-income rental developments.

This project, funded by Appalachian Offsets, will offset over 1,600 tons of carbon dioxide!

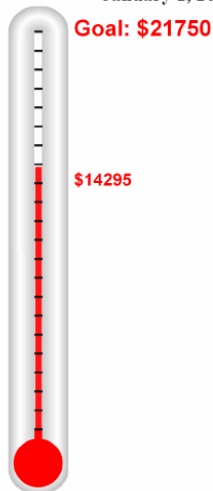
Appalachian Offsets is a nonprofit, voluntary carbon offset program to combat global warming through local renewable energy and efficiency projects in Western North Carolina. The program is a three step process. First, visit [www.AppalachianOffsets.org](http://www.AppalachianOffsets.org) and calculate your "carbon footprint". Second, reduce as much energy as you can and third, offset the rest.



A UNC-A student volunteer anxiously awaits to install CFL's.



Help us reach our goal of \$21,750 to offset 1450 Tons of Carbon by January 1, 2008



**HealthyBuilt Homes Update**



The number of homes certified as of 11/01/2007 is 97!  
 The number of homes in progress as of 11/01/2007 is 447!  
 For a list of all registered builders visit:  
[www.HealthyBuiltAsheville.org](http://www.HealthyBuiltAsheville.org)

## WNC News and Noteworthy



### WNCGBC Board Elections



Board elections will be held in December. If you are interested in joining the WNCGBC board, you can fill out the board nomination form. Forms will be emailed to members the first week in December and are due by December 16th. Voting will take place the following week and new board members will begin in January.



### Asheville and Black Mountain announce permit rebates for green buildings.

#### City of Asheville

SUSTAINABLE RESIDENTIAL FEE WAIVERS (Regular fees are paid in full then rebated on completion and CO issued or wit certification or rating submittal on completion and CO issued.)

- A. HealthyBuilt Home Certification \$100.00
- B. Energy Star Rating \$100.00
- C. Geo Thermal installation \$50.00
- D. Solar Panel installation \$50.00
- E. Wind Generator installation \$50.00
- F. Storm (Grey) Water Collection Device for reuse in yard sprinkler etc. \$50.00
- G. Residential Unit(s) 100% Accessible (type B beyond Code Requirements) \$100.00 per unit

#### Town of Black Mountain

Sec. 150.17 Building Permit Fees and Available Incentives to the environment and community development.

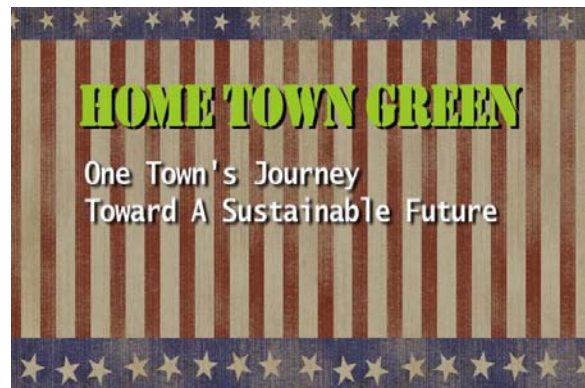
To encourage energy efficient, high performance and sustainable building practices, the Town will provide a \$500 dollar rebate for construction projects certified Bronze Level by the NC HealthyBuilt Homes Program or a Certified Level in any of the LEED rating systems.

### Home Town Green

After nine months of helping to promote energy efficiency and green building in Black Mountain, we have something to show for it. *Home Town Green: One Town's Journey Toward a Sustainable Future* was produced by American Green. The movie was funded by the NC State Energy Office and was created as part of a toolkit for municipalities to help them "green" their community. Our hope is that this will serve as a model for communities, small and large, throughout North Carolina to start down their own path in decreasing their environmental impact.

The 16 minute movie can be viewed at:

<http://www.americangreen.tv>



### The 2007 Solar and Green Home Tour

The 2007 annual tour a success. Over 150 participants toured the thirteen homes, one commercial business and wind turbine on this year's tour in the Asheville area. The tour was one of fifteen tours throughout North Carolina that highlighted a wide variety of renewable energy technologies, green building materials and innovative ways to build a more sustainable home or office. This year was the most successful tour to date, with almost two thousand participants throughout the state.



Mrs. Jones guides tour participants through the Earthship that she and her husband built in Marshall.

**...News cont. on page 8**

## Green Bus Stops



WNC Green Building Council recently received grant funding from the Community Foundation of Western North Carolina for two green bus stop shelters.

Green Bus Stops is a new program that provides bus stop shelters that demonstrate green building techniques. The program organizes local architects, contractors, and artists to donate their skills to

design and build unique bus stop shelters throughout the City of Asheville's transit system.

### Benefits of the program:

- Provide shelter for mass transit riders
- Showcase talent of local artists, designers, and builders throughout the city
- Demonstrate various green building products and techniques to the community

### Partners in the program include:

- City of Asheville
- WNC Green Building Council
- Asheville Building Convergence
- Green Bus Stops Community Advisory Board

The first two potential sites for this project are Clingman Avenue and Oteen.

Two local architecture firms are donating their time for the two pilot shelters, Padgett and Freeman and Samsel Architects. EcoBuilders and Cady/Guyton Construction are the two builders that have agreed to donate their time so far. The partners will be meeting soon to discuss the next steps for the project.

If you are interested in getting involved, we are still seeking building material donations as well as financial donation. If you would like more information or like to make a donation, please email: [greenbusstops@wncgbc.org](mailto:greenbusstops@wncgbc.org).

## Social Committee Event Updates

by Emily Coleman-Wolf

I hope you have had a chance to join us for some of the gatherings we have been part of in the past several months. We organized the annual meeting, the Green Ideas & Networking Presentations and participated in several community festivals. All of these events have given us a chance to focus on sharing knowledge about different green materials and practices. I'm looking forward to having this continue into the future. If you have any ideas or suggestions for presentations, feel free to pass them along. If you want to be more involved we'd love to have you.

### Green Ideas & Networking Presentations new day and location for 2008

Starting February we will be moving to The Buyer's Agent on Montford Ave (across from the Chamber of Commerce), 1<sup>st</sup> Wednesday of the Month. We will have presentations every month. Sorry folks, no social-only gatherings. I hope you join us at the new location for more fascinating topics. Check our calendar for upcoming topics and meeting times.

These presentations and gatherings have been really great. The first one on Crawl Spaces in July was very informative and got us off to a great start. The second presentation on Insulation in September was interesting with lots of questions. The third presentation on Radiant Floors in November was filled with lots of people. I know we've had a lot of interest in this topic. Alternating with these presentations have been Social-only gatherings. These have been a whole lot of fun. Bobo's is a great place to have this type of gatherings from the unique kinds of drinks to the great art on the walls - it sets a nice tone for getting to know people who are interested in green building also.

### Advanced Energy DVD Available



Advanced Energy has created an informative DVD of proper techniques for advanced framing, insulation and ductwork. Builders, carpenters, insulation and HVAC installers can pick up a copy of the DVD at the WNCGBC office.

## News and Noteworthy

### Your Role in Water Conservation

On October 19th, the City of Asheville requested a Phase I - Voluntary Measure for customers to conserve as much water as possible. This request led to an 11% decrease in system-wide water consumption or 2 million gallons per day reduction. Taking action to conserve water can easily become a daily habit all year through, regardless of if we are experiencing a drought or not.



In residential households, bathrooms account for almost 60% of water consumption. Below is a breakdown of the highest volume water consumption percentages throughout a home:

Toilet: 26.7%

Clothes Washer: 21.7%

Shower: 16.8%

Faucets: 15.7%

Leaks: 13.7%

Follow these basic tips to start conserving water in your home today.

- Don't let the water run needlessly when washing dishes, shaving, or brushing your teeth. Turning the water off while brushing your teeth can save 200 gallons of water a week for a family of four.
- Installing low flow showerheads and water faucet aerators can greatly reduce the gallons per minute of water used as well as reducing your energy cost
- Fix leaky faucets: Just one drip a second can waste over 2,000 gallons of water per year.
- Run the dishwasher or washing machine only when completely full.
- Use the garbage disposal minimally and compost instead.

These are just a few tips to get you started! Check out [www.wateruseitwisely.com](http://www.wateruseitwisely.com) to find 100 tips for conserving water.

(Sources:

[www.ashevillenc.gov](http://www.ashevillenc.gov), [www.wateruseitwisely.com](http://www.wateruseitwisely.com))

### LEED for Homes



After years of development, pilot and review, LEED for Homes launches as a full LEED for Homes program on November 8th at its annual GreenBuild conference in Chicago. LEED for Homes is a voluntary rating system, similar to the statewide NC HealthyBuilt Homes program that promotes the design and construction of high performance "green" homes.

The LEED Rating System is a nationally recognized standard for green building but has primarily focused on commercial construction until now. LEED certification recognizes and rewards builders for meeting high performance standards, and gives homeowners confidence that their home is durable, healthy, and environmentally friendly.

USGBC began the pilot test of LEED for Homes in August 2005. As of May 2007, about 375 builders representing 6,000 homes across the U.S. are participating in the pilot program, and over 200 homes have been LEED certified. Currently the Southface Energy Institute in Atlanta, GA is the provider for the LEED-H certification in our area. The WNCGBC plans to partner with Southface to provide the LEED-H certification in WNC until the USGBC solicits for more providers.

### California Aims for Zero Energy Homes

California energy regulators adopted a target that all homes built after 2020 produce at least as much energy as they consume to reduce demand for electricity and cut pollution tied to power generation.

The California Public Utilities Commission approved the guideline at a meeting in San Francisco. Homes would meet the goal through such measures as advanced insulation and solar power systems. The state also adopted a target that all new commercial buildings meet the zero-net-energy target by 2030, as reported by The Los Angeles Times on October, 19, 2007.

## Salvage Wood and Lead Hazards

Josh O'Conner, Lead Poisoning Prevention Program Volunteer

The three "R's", reduce, reuse, and recycle are an integral component of green design. Estimates predict that as much as 35% of landfill waste stems from building construction. Using architectural salvage materials provides an opportunity to reduce waste generation during a renovation and an outlet to reuse materials discarded from other projects. Aside from environmental implications, architectural salvage can be an excellent way to save money on a construction project and can add a personalized touch to a living space.

There are, however, inherent risks that should be taken into account when using architectural salvage in a building project. Lead-based paints can be introduced into an otherwise lead-free building if proper precautions are not taken. Consumers of architectural salvage need to be aware of potential health risks associated with these products and understand how and when they can be used safely. In children, exposure to lead has been associated with reduced IQ, slowed body growth, hearing problems, behavior or attention problems, failure at school, and kidney damage. Although lead exposure is often believed to be problematic only for children, adults can experience symptoms such as muscular weakness, headache, abdominal pain, memory loss, and reproductive impairment.

Architectural salvage can still be incorporated into a building project safely if special care is taken to prevent creating a lead hazard. Lead-safe practices include:

- Ask your architectural salvage supplier if they check their products for lead.
- Ensure that all materials that could potentially contain lead are inaccessible to children and pets.
- Look for materials that have been stripped of previous coatings and are ready to be resurfaced, but know that stripped wood may still contain some lead.
- Avoid using salvage materials in areas where they could abrade and create lead dust (don't use materials as windows or doors).
- Have ceramic or enamel plumbing fixtures re-glazed prior to installation.
- Don't use salvaged plumbing fitting (such as faucets) in applications that will supply drinking water.



The Lead Poisoning Prevention Program offers courses in lead-safe work practices.

Website: <http://www.unca.edu/eqi/lpp>

E-mail: [leadprevention@yahoo.com](mailto:leadprevention@yahoo.com)

## Case Study: Green Home Renovation

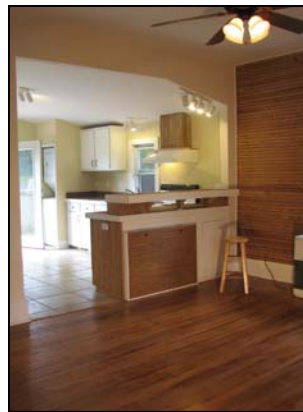
When Miriam Allen purchased the 1915 two bedroom, one bath house on 197 Michigan Ave, she knew she



wanted to complete a green home renovation. This was her third remodel, but her first experience with a green remodel. Her mission was "not just to "Green" the house, but to

demonstrate to the community of house flippers in Asheville that if you do it the right way, you'll sell faster and make more money in the end. And oh yes, people will think you're "cool."

Miriam hired Marcus Renner of Appropriate Building Solutions, Inc. as a consultant, and later as a contractor, to help green the home. They determined the tasks ahead by listing what needed to be done in these seven categories; structure, energy efficiency, interior finishes, indoor air quality, HVAC and landscaping. Next the decisions were made for each category to determine what were priorities and how



much the budget would cover.

Below, Miriam and Marcus take us through a list of items that they did to complete the green home renovation.

Most of the wood in the home was in good structural condition. The original oak shakes were covered by a metal roof at some point and that probably saved most of the house. There was a chimney at the bottom of a roof valley and water penetrated the roof because of collected debris and rotted the kitchen from roof to floor. The chimney was removed and the kitchen had to be rebuilt. The entire brick "curtain and pier" foundation had to be replaced with block and we created a sealed crawl space with a sump pump.

## Green Home Renovation Continued...

We insulated the entire home. Holes were cut at the top of the walls and cellulose insulation was blown in, the stud cavities are insulated to R-14. Cellulose was also used in the attic, blown to R-45.

Great attention was paid to air sealing. Caulk or foam was used to air-seal any cracks or holes in the building envelope anytime part of the structure was accessible during construction. On the interior the "Air Tight Drywall Approach" was used to seal the drywall from air leakage. (doors, windows, outlets, etc),

Next the All the existing windows were replaced with Low-E, Energy Star rated replacement windows. The windows installed relatively easily and the interior and exterior trim didn't have to be removed.

Two Solar Thermal Air Panels were hand-built by Marcus, which heat the bedrooms in the daytime. Currently they are set up for passive flow, but Marcus and the new owners plan to experiment with photovoltaic fans as the weather gets cold. Primary heat is provided by the existing stand alone fuel oil Monitor heater. At one time you could use Biodiesel for Monitors but because of some problems it is no longer recommended.



The home had an entirely new plumbing system installed and the water heater and all pipes were insulated. All the fixtures came with low-flow or were fitted with aerators. A water off-setting bag was placed in the toilet tank.

Electricity use was lowered with an energy star refrigerator and compact fluorescent bulbs throughout the home.

Indoor air quality was addressed in a number of ways; Formaldehyde-free OSB was used for the new sub-floor required in the kitchen and any fiberglass insulation was formaldehyde free. All construction adhesives and paint are volatile organic compound (VOC) free. It was pleasant to work in the house because there was never the "new house smell", which, like the "new car smell" is the off gassing of toxic chemicals.

The bathroom and kitchen range hood were power vented to the outside, assuring that (with use) water vapor would be evacuated out of the building envelope.

Where possible, existing wood was used for the interior trim, the built-in bar and collapsible table. All new trim

material is FSC certified. The original floor in a bedroom was not salvageable and bamboo was installed over it.

For Miriam, the recycling was the most impressive thing: "The bricks from the original foundation were used for landscaping and for a patio at Marcus's house. All usable wood was de-nailed, cleaned and re-used where possible. Original interior doors were scraped, cut and re-used. The cabinets were from another remodel job where the builder was going to take them to the dump and the washer/dryer was on its way to the dump from another job site. The toilet, front door, stove and all the tiles used in the house were from the Habitat for Humanity Home Store in Asheville."

Materials on site were salvaged where possible as Miriam explains; "The original heart pine floors, which were in terrible condition, were salvaged. The old ceiling tiles were used to insulate the bathroom walls as a sound barrier (you can't hear the shower in the room next to bathroom). The original pine bead board on the interior walls was used as decorative trim throughout the house. As an added local accent, the kitchen cabinet knobs were all made by a local river district artist. "The waste was so minimal that we never even got a dumpster. Instead we just stored everything in the back yard in categorized piles until we could figure out how to use the materials or give them away. Only four pickup truck loads of completely unusable/un-recyclable were taken to the dump." Says Miriam.

Currently there is not a green certification program, such as Healthy Built Homes, for existing building in North Carolina. But, when the improvements were compared to green remodeling programs that exist elsewhere the home scored very high.

The "greening" of the remodel was relatively easy. All the products used were locally available and sound building science did the rest.

There were a lot of people wanting to see the house because they had allergies and were concerned about indoor air quality, they wanted a low maintenance house, or just wanted a green built home because they were well informed about the issue. Ultimately, the people who purchased the house were looking for an in-town green built home with enough land to have a small urban farm. The 730 sq ft house sold for \$178,000, which equates to \$244/ sq ft. There is definitely a market for Green homes in our area.

Miriam Allen can be reached at [littleonerecords@hotmail.com](mailto:littleonerecords@hotmail.com)

Marcus Renner can be reached at 828-713-3346 or [marcus@abuildingsolution.com](mailto:marcus@abuildingsolution.com)

## Introducing Appalachian Sustainable Development

Written by Nick Safay of ASD

Forests are an essential component in the web of life on our planet. They sustain the life of an incalculable



number of plant, animal and insect species in addition to the human population. Our forests produce oxygen, absorb carbon dioxide, prevent soil erosion, purify water and

influence regional and global climate. Unfortunately, today almost half the planet's original forests have disappeared. This is due, in large part, to irresponsible logging and land clearance schemes for the sake of agriculture and development. This process, known as deforestation, involves the cutting down, burning and ultimate destruction of forests. The actual rate of deforestation is difficult to determine, but NASA's Earth Observatory estimates that an area the size of North Carolina is deforested every year to the point of no return.

Where is all the wood that is harvested from the forestland going? Most certainly there is a need for the products generated by the Forest Products Industry; thousands of paper and wood products are necessary for everyday needs in communication, construction, education, and packaging. The United States is the world's leading producer of lumber and wood products used in residential construction and commercial wood products. The US is also the world's leading consumer of paper and paperboard products.



With so much demand for these important products the Forest Products Industry faces an increasing challenge to supply this demand without compromising the amount of forestland worldwide. In the 1980s forest policy began to increase its concern for long-term effects on issues such as biodiversity, productivity, and

sustainability. In this rise of sustainable forestry, the government and environmental groups have created various policies intended to encourage reforestation and sustainable forest management.

Forest certification has been widely praised as a beneficial means to promote sustainable forestry within the industry. Forest certification is a process that determines if forest management on a property meets predetermined economic, environmental, and social standards and ensures that the chain-of-custody in the cycle of a wood product is tracked back to the forestland it came from.

The World Bank/WWF Alliance for Forest Conservation and Sustainable Use has backed forest certification from all points around the globe, but to really know where your wood products are coming from and enhancing the economy around you: buy local!

That's where Appalachian Sustainable Development's Sustainable Woods program comes in.

### About Appalachian Sustainable Development and its Sustainable Woods Program

In its sustainable forestry program, Sustainable Woods, ASD recognizes that the strength of the local economy is closely linked to the long-term health and productivity of our forests. Rather than simply viewing this resource as a short-term commodity, we see our forests as long-term investments. Through proper stewardship, quality forest products can be periodically obtained while at the same time enhancing our natural environment, protecting air and water quality, conserving biodiversity and wildlife, and providing recreational opportunities.

### Program Goals and Strategy

The goals of the Sustainable Woods program are to:

- Improve the quality of forest practices on private lands and encourage local processing of forest resources in order to add value and create jobs
- Provide outreach, education, and technical assistance for the conservation and sustainable use of private forest lands
- Develop the capacity to locally process logs into kiln-dried lumber and other value-added forest products

Develop markets for sustainably-produced forest products

### How ASD Sustainable Woods Program Works

#### Sustainable Forest Management Plan

ASD provides landowner assistance by contracting with a (Continued on page 8.....)

## Appalachian Sustainable Development continued...

developing a management plan that meets the objectives the landowner identifies for their property and the standards established by ASD.

After the management plan is met, the forester begins marking the timber to be harvested. We practice selective low grading logging methods. This is a process that chooses trees reduced in health, or are beginning to rot. By keeping larger, healthier trees, the forest regenerates successfully and the landowner can count on harvesting again fifteen years later.



### Low-Impact Logging Methods

ASD promotes the utilization of both animal-powered and mechanized logging systems and practices that minimize environmental impacts while guaranteeing the long-term health, integrity, and

productivity of the forest.

Due to a shortage in loggers practicing animal-powered systems, not all of the boundaries are logged with these methods. Some areas that have rugged terrain or steep inclines are not feasible for these loggers either.

### Processing the Logs

The Sustainable Woods Processing Center is located in Castlewood, VA, thirty minutes from our offices in



Abingdon, VA. Once the logs arrive, they are scaled for volume and graded for quality. The ends are coated with wax to prevent checking and then stored on our log yard.

ASD contracts with a portable band-mill owner for sawing the logs into lumber and other products. After sawing, the lumber is carefully stacked for air-drying. Once the lumber's moisture content drops below thirty percent, the boards are ready to be loaded into one of our dry kilns.

The Processing Center is proud to use hardly any energy at all for the drying process. One kiln is solar powered and the other, just built last year, is fueled by the by-products of the sawmill. Our kiln's unique design dries the wood to 6 - 8% moisture content using solar power and wood waste heat.

### Milling & Products

Sustainable Woods works with a network of local millers who produce our products. Currently Sustainable Woods offers beautiful Tongue & Groove flooring, a vast array of trim and moldings, amazing paneling commonly used with our poplar and red oak species, siding, green lumber, rough and sawn lumber that provide many cabinet and other woodworkers with gorgeous hardwood materials. Only offering hardwoods, but these are species with colorful characteristics; ash, beech, cherry, hickory, maple, poplar, walnut, red and white oak.

### Support Sustainable Forestry!

So, when you're out buying wood for your next project, PLEASE know where your wood is coming from! Most of the large retail giants support clear cutting and selective high-grading practices that diminish forest health. Look for certification logos like the Forest Stewardship Council, Green Tag Party, American Tree Farm System and Sustainable Woods. This allows you to know which wood products come from forests that have been well managed and rigorous economic, environmental and social standards have been met. Sustainable Woods offers all this from forests that are practically in your own back yard.

## News and Noteworthy cont...

### **Arby's Installs Solar Hot Water Heaters**

**Fletcher, NC – November 29, 2007** – When The Winning Team, a North Carolina-based Arby's franchisee, decided to take a major step towards being an environmentally responsible provider of fast food they needed an innovative solution that would fit within a rigid operational budget.

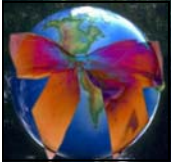
Thanks to Appalachian Energy's RESCO™ model, The Winning Team's 33 restaurants will switch from conventional natural gas hot water heaters to solar powered hot water heaters with no up-front capital cost. A total of 132 solar panels will produce hot water for the restaurants, even on cloudy days. Appalachian Energy's engineers monitor the system online from their North Carolina headquarters.

By going solar The Winning Team is cutting its bill for natural gas by approximately \$12,000 annually, and reducing greenhouse gases by around 100,000 pounds.

For more information, go to:  
<http://www.appalachianenergy.com>.



## Greening Your Holiday 101



As the holiday season approaches, we can all make simple changes that can make a positive impact on the environment. Here are just a few tips...

### Light up with LED Lights



LED holiday lights are now available at many stores. LED lights use 90% less electricity than standard holiday lights and they are rated to last anywhere from 50,000 to 200,000 hours. The cooler-burning LED bulbs are also more fire-safe. The US

Department of Energy reports that if all conventional incandescent Christmas lights in the country were replaced with LED lights this season, annual energy savings would total two billion kilowatt-hours—enough energy to power nearly 200,000 homes for an entire year.



### Offset your holiday travel

Whether you are boarding a plane or driving this holiday season, consider offsetting your travel. You can calculate your carbon footprint by going to <http://www.appalachianoffsets.org>. It is estimated that if each family reduced holiday gasoline use by just one gallon, we would reduce greenhouse gas emissions by one million tons!



### Recycle Your Tree

Don't let your tree end up in a sitting in a landfill. Christmas trees can often be picked up curbside or brought to your local landfill where it will be made into mulch.



### Reduce, Reuse, Recycle

Each year between Thanksgiving and New Year's household waste increases up to 25%. This adds up to about 1 million extra tons of waste a week for five weeks! You can reduce your use of shopping bags by using your own reusable bags. You can reuse newspaper and old holiday cards to decorate packages instead of using wrapping paper. You can reuse boxes for gifts and if you send holiday cards, purchase holiday cards made from recycled paper.

## Upcoming Classes

### Green Building 101: HealthyBuilt Homes Orientation Training

Tuesday, December 6th, 1:00 pm to 5:00 p.m.

All interested homebuilders and building professionals are invited to a half-day introduction to the NC HealthyBuilt Homes (HBH) Program, a statewide green builder program for residential building professionals administered by the WNC Green Building Council in partnership with the NC Solar Center.

You will learn the benefits, building guidelines and process for you to be a participant in the NC HBH Program. The NC HBH Program provides visibility and certification of homes for residential builders who practice sustainable, high performance building practices. The program also provides third party assistance in learning about and marketing HealthyBuilt Homes.

This event is required orientation to the NC HBH program for all builders who wish to build NC HealthyBuilt Homes

### Green Building 101 and 201 Classes for Spring 2008

We will be increasing the number of classes we offer each month as well as introducing the Green Building 201 Series. The 201 series classes will be two-hour classes focusing on specific topics in depth. Visit our calendar for more information.

### Green Building 101: Intro to Green Building

Tuesday, January 15, 2008 from 1:00 pm to 5:00 pm

### Green Building 201: Moisture Management

Tuesday, January 29th from 10 a.m.-12:00 p.m.

### Green Building 201: Indoor Air Quality; VOC's and Formaldehyde

Tuesday, January 29th from 1:00 pm-3:00 pm

### Green Building 101: Green Building Products: Structural

Wednesday, Feb. 13th from 1:00 pm to 5:00 pm

### Green Building 101: Heating and Cooling (HVAC) Systems

Thursday, Feb. 21st from 1:00 p.m. - 5:00 p.m.

For more information or to register, visit:  
<http://www.wncgbc.org/events/calendar.php>

## Special Thanks to Platinum Members of the WNCGBC!



145 Cane Creek Industrial Park Dr.  
Fletcher, NC 28732  
828-684-3211, 866-813-7323  
info@appalachianenergy.com

Appalachian Energy was formed in 2001 with the vision of providing clean renewable energy to the citizens of Western North Carolina. Today the company is not only an energy producer but also a solar manufacturer specializing in solar thermal systems for residential and commercial application. Our commitment to a clean and energy independent future as well as providing the best value to our customers continues to lead our efforts.

<http://www.appalachianenergy.com>



69 Bingham Rd  
Asheville, NC 28806  
828-253-0483  
slinton@deltechomes.com

Deltec Homes has been producing energy-efficient, round homes for 40 years. Our homes are panelized in a controlled environment and provide a sustainable, high-performance, low-waste structure that is of exceptional quality. We build homes responsibly by minimizing environmental impact and providing a home that is healthy to live in and highly energy efficient.

<http://www.deltechomes.com>



P.O. Box 18569  
Asheville, NC 28814  
1-877-ICF-BILT  
energywisejeff@earthlink.net

EnergyWise Walls and Foundation Company is an insulated concrete form (ICF) installation company. ICF walls are a great way to build the basement and exterior walls of your home. ICF walls help to create a very energy efficient, strong and safer home. Whether you are contractor or building your own home we would like to be your ICF installation specialist and help to enhance the performance and quality of your green built home.

<http://www.logixicf.com>



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828-258-5258

[ncdwellings@bellsouth.net](mailto:ncdwellings@bellsouth.net)

NC Dwellings, Inc. is a design/ build firm with offices in Asheville and Charlotte, NC, focusing on single family residential and light commercial projects. We believe that anyone and everyone deserves to live/ work in something beautiful, both aesthetically and functionally. In addition to our high standards of design and construction, we take a firm stance in the principles of green design and healthy building, as is evident in our work now and work to come. We are passionate about what we do because we truly believe that we can make a difference for the better.



114 Executive Park  
Asheville, NC 28801  
828-225-4341  
rbrady@blackrocksurveying.com

Blackrock Surveying and Land Design, PC provides land surveying services to Western North Carolina. Our services include topographic surveying for home or subdivision design, construction staking of home and site layouts, boundary determination and relocation, subdivision designs carried from concept to completion, elevation certification for properties near flood prone areas, and consultation regarding a property's potential use. We promote urban infill and site redevelopment throughout WNC and work with city and county planning departments in hope of finding a property's best use.

<http://www.blackrocksurveying.com>



456 Fairview Forest Dr.  
Fairview, NC 28730  
828-628-6436, 828-230-4469  
earthtonebuilder@bellsouth.net

We are a leading 'green building' company committed to the highest standards in construction quality and sustainable, healthy living.

<http://www.earthtonebuilders.com>



PO Box 1528  
Arden, NC 28704  
828-693-8562  
malcolm@morgankeefe.com

Morgan-Keefe Builders is a custom home builder specializing in luxury lakefront and mountain estates. For more than 25 years, superior craftsmanship, attention to detail, and excellent client service have made MKB one of the most sought after luxury home builders in the Carolinas. More than 100 MKB homes are found in the region's most prestigious residential and golf communities including Bright's Creek, Balsam Mountain Preserve, Cashiers, Champion Hills, The Cliffs communities, Highlands, Lake Lure, Lake Toxaway, and Reynolds Mountain.

<http://www.morgankeefe.com>



1550 Hendersonville Rd. #102  
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Kitchens + Design [studiosnaideronc@aol.com](mailto:studiosnaideronc@aol.com)

From its inception, Snaidero has dedicated its resources to product research and innovation activities involving the most prestigious names in international design, to develop new technologies with low environmental impact. At the manufacturing level the company strives to control and recycle waste by using toxic free and eco-friendly materials in both production and packaging. Snaidero is one of the few companies to be awarded the International Environmental Certification. At our showroom, our design services and products not only include Snaidero kitchens, our sister company, Studio Italiana features Alta kitchens, Poliform closet systems and a wide array of furniture and lighting. We specialize in whole house design with emphasis on contemporary.

[www.snaidero-usa.com](http://www.snaidero-usa.com)